

BLUE ENERGY LTD (BUL)

Emerging CSG Player Progressing Commercialisation Options

SPECULATIVE

21 October 2011

Share Trading Info

ASX Code	BUL
Current Share Price (cps)	10.0
Trading Low/High (Rolling Year) (cps)	6.0 - 13.5
Mkt Capitalisation (undiluted) \$m	72.2
Cash (as at 30 Jun 2011) (\$m)	14.9

Issued Capital (m)

Total Ordinary Shares	722.5
Unlisted Options	16.9
Performance Rights	8.9
Total Diluted Securities	748.3

Board of Directors*

Peter Cockcroft	Non Executive Chairman
John Phillips	CEO & MD
Dr Paul Massarotto	Non Executive Director
Heung Bog-Lee	Non Executive Director
Karen Johnson	Non Executive Director

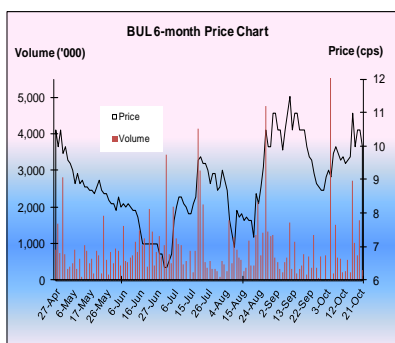
* Further details on Page 24

Major Shareholders

ANZ Nominees Ltd	15.7%
Stanwell Corporation	12.1%
KOGAS (Australia) P/L	8.7%
Merrill Lynch (Australia) Nominees	7.5%
ASPAC Mining Ltd	2.8%

Important Disclosure

Investors should be aware that Blue Energy Ltd is a corporate client of Alpha and that Alpha will receive a consultancy fee from Blue Energy Ltd for compiling this research report



EXECUTIVE SUMMARY

Blue Energy Ltd (ASX Code: BUL) has a large exploration acreage portfolio in three major hydrocarbon-producing basins – Surat, Bowen and Cooper – and in two emerging basins – Galilee and Maryborough, located onshore on the east coast of Australia. The company is presently focused on three assets within its portfolio; its primary asset being ATP 814P, as well as ATP 813P in the underexplored Galilee Basin and three permits in the Maryborough Basin.

At ATP 814P, BUL currently has independently-assessed resources of 2,036PJ Contingent Resources and 39PJ 3P. The company is focused on the conversion of this resource into reserves and has a target to achieve 3,000PJ of 3P reserves by year end 2014.

Commercial Options for ATP 814P are Emerging

These include:

- Participation in the Export LNG market.** BUL could become a potential supplier of gas to both the major and small-to-mid-scale Gladstone (export) LNG projects over the next 3-5 years in line with the commencement of 1st LNG sales.
- Supplying gas to address potential reserves shortfall for existing LNG projects.** While all of the four major Gladstone LNG projects have secured both gas supply and offtake agreements, the level of current 2P reserves may be insufficient to meet the initial plant capacity for each of the major LNG projects.
- Selling gas into the domestic market.** Two factors supporting this short-term option include the positive outlook for short and long term domestic gas prices and the prospect of selling gas to coal mine operators in the northern part of the Bowen Basin, which has over 30 operating coal mines as well as other mines in different stages of planning and development.
- Diesel Substitution.** BUL is investigating options for a small-scale domestic LNG production plant, for the supply of LNG (as a substitute for diesel) to the transport sector for use in mine haul trucks, road transport trucks and coal trains, as well as for remote power generation. This option has the potential to be highly viable, given the push towards lower-cost, lower-emission engines, lower and more stable LNG prices (in comparison to diesel) and the cost benefit (from the transport operator's perspective) of converting from diesel to gas engines.

Strong Outlook for Gas Prices

The best-case scenario for gas prices in Queensland over the longer term indicates that new contract prices are expected to rise substantially from 2013, to over \$8/GJ in most markets and maintainable at this level until growth in LNG production stops in the mid-2020s.

Access to Funding Supported by Strategic Partnerships

BUL has strategic alliances for the development of its domestic and export market strategies, with Stanwell Corporation (Stanwell) and Korean Gas Corporation (KOGAS), respectively. BUL's agreement with Stanwell involves supplying 8.5PJ of gas annually for more than 25 years, while KOGAS has been given an option to farm-in to ATP 814P and ATP 813P up until 28 February 2012.

Instructively, both Stanwell and KOGAS are major shareholders of BUL, with Stanwell holding 12.1% of the total shares on issue and KOGAS holding 8.7% (diluted from an initial 10% stake acquired in May 2009). Further, BUL's alliance with KOGAS allows BUL to leverage KOGAS's financial strength and its prime position in the global LNG industry. KOGAS is the world's largest LNG importer and currently operates three LNG terminals. It is a 15% equity participant in the Gladstone LNG (GLNG) project, for which it has also executed offtake agreements.

BUL retains sufficient funds to continue with the dewatering of existing pilot production wells. The cash balance as at 30 September 2011 was \$12 million, supported by an institutional placement of \$6 million in March 2011 that attracted three new institutional investors, including Matthews Capital Partners P/L as a substantial shareholder. The estimated cash burn rate for the current quarter is \$3-4 million, as BUL are drilling two wells. The balance sheet is debt free.

Gaining a Better Understanding of the Galilee Basin

BUL's permit in the Galilee Basin, ATP 813P, is located in an underexplored basin that has the potential to backfill LNG trains, as well as be the next basin to supply gas to the domestic market. The large players in the Galilee Basin include AGL, Origin, China National Offshore Oil Corporation (CNOOC) and Mitsui.

There is currently no CSG production from the Galilee Basin, however, the first demonstration of sustainable gas flow rates occurred in October 2011 at the nearby Galilee Gas Project, owned by Galilee Energy (ASX: GLL). As a first step towards obtaining a resource, BUL will need to undertake further coring in order to, firstly, expand the resource base areas in between its existing five wells and secondly, to select a suitable location for a pilot production test well.

Significant Shale Gas Potential at Maryborough Basin Permits

A report by the US Energy Information Administration (EIA) published in April 2011 identified the Maryborough Basin as one of four sedimentary basins in Australia with significant shale gas potential, with a risked recoverable resource figure calculated for the Maryborough Basin of 23 trillion cubic feet (TCF).

BUL and its JV partner, Adelaide Energy, are presently assessing the potential of a shale gas target identified approximately 10 years ago and intend to commence exploration in late 2011/early 2012 (subject to all permits being granted), targeting CSG and, in particular, shale gas potential in the permit area.

1. ASSET OVERVIEW

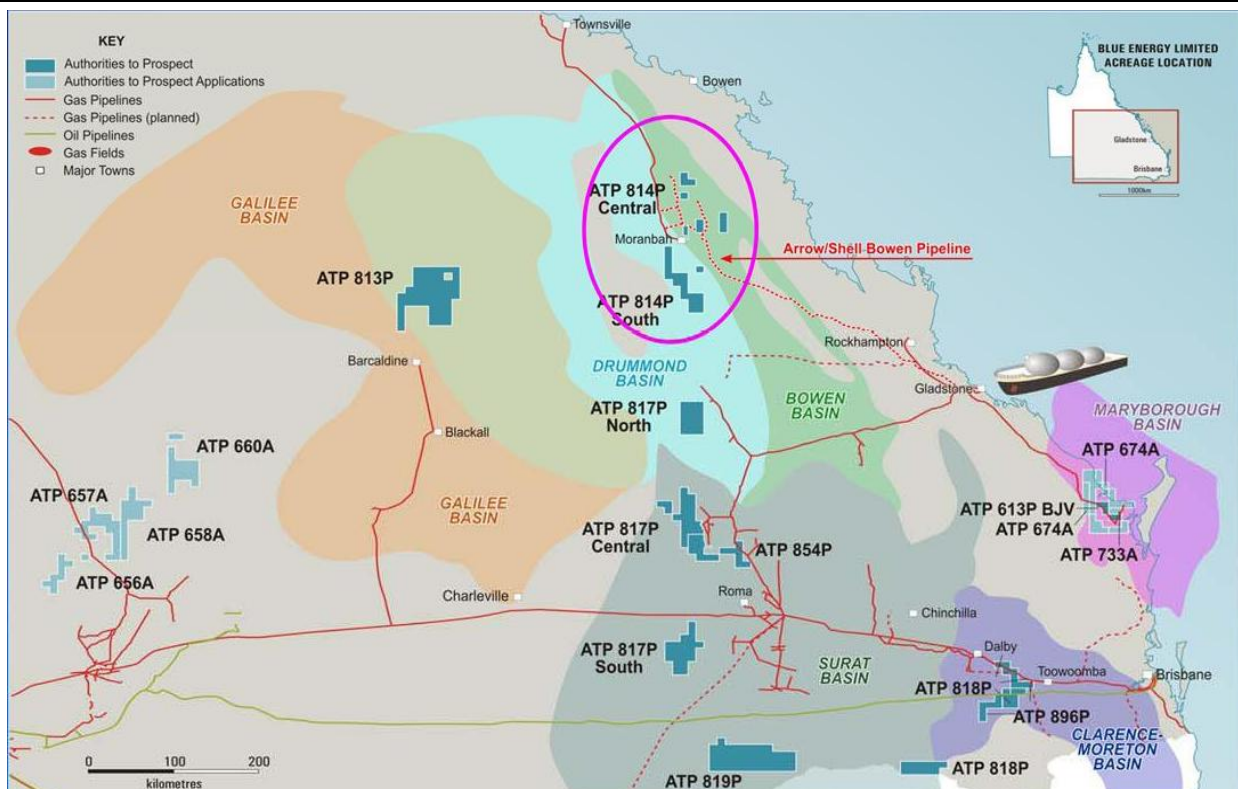
BUL has around 21,000km² of permits under license in five sedimentary basins on the east coast of Australia. Except for permits in the Maryborough Basin, BUL is the 100% owner and operator of all its permits. The majority of permits are located to existing and proposed gas transmission lines.

The company's principal asset, ATP 814P, consists of seven disconnected blocks spanning ~2,200km² in the Bowen Basin and is an underexplored permit relative to surrounding acreage.

The Bowen Basin is a major coal producing basin, delivering both steaming coal and high quality coking coal to the global and domestic markets, and is poised to become a primary source of feed gas for Arrow Energy's Gladstone LNG project.

In the Surat Basin, the company's permits are adjacent to Shell/Arrow; Santos/Gladstone LNG and Origin/ Australian Pacific LNG upstream gas supply projects and in the Cooper Basin, BUL's application areas give exposure to the emerging shale gas play of Beach, Drillsearch/BG, and Santos as well as conventional gas plays.

Figure 1: Location of BUL's Permits in Bowen, Galilee and Maryborough Basins



Source: BUL

2. ATP 814P (BUL: 100%) – Bowen Basin

2.1 Overview of Permit

ATP 814P consists of seven disconnected blocks covering the Bowen Basin from the south of Moranbah to Newlands and lying approximately on a North-South trend over a distance of around 250 kilometres. This area is one of the largest coal mining areas in Australia. BUL is the operator of this permit and is midway through its 12 year term.

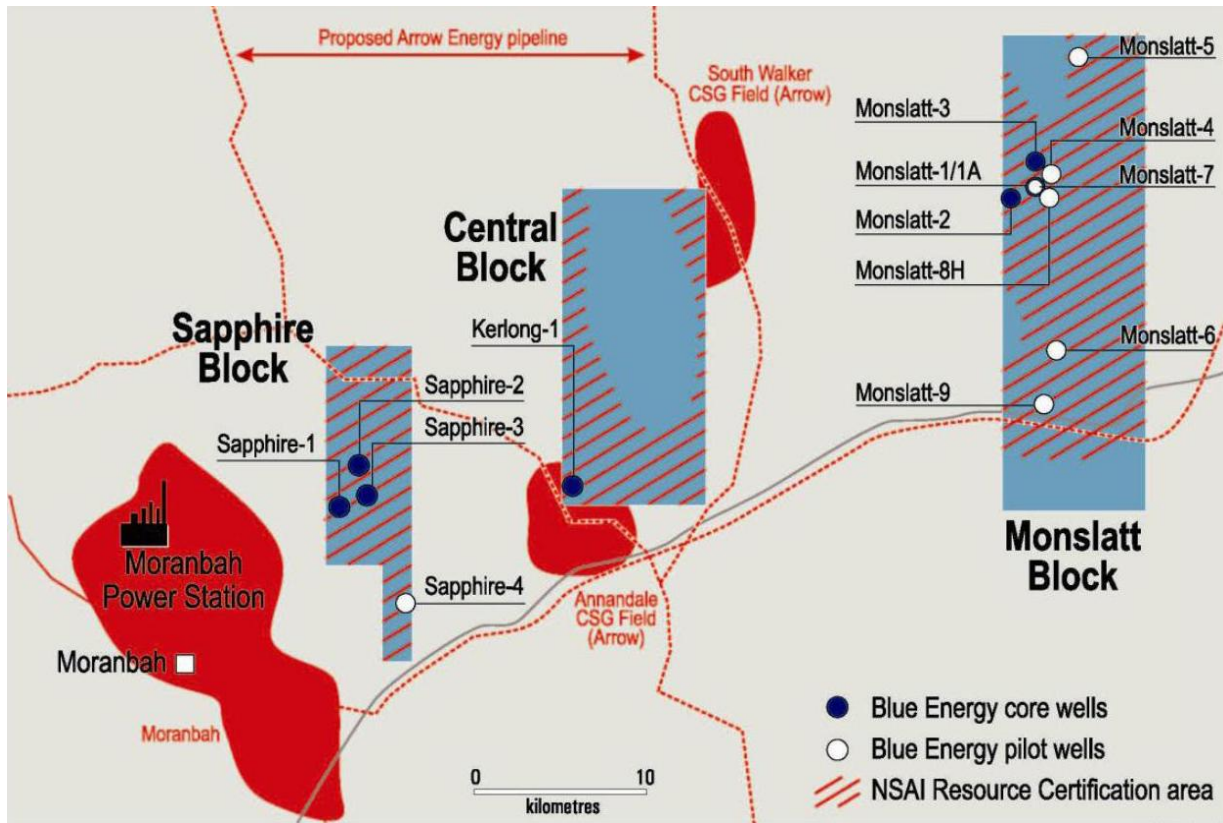
BUL commenced exploration within ATP 814P in August 2008, with exploration activity presently centred on three blocks, the Sapphire Block, Central Block and the Monslatt Block. Initial exploration included the drilling of two core wells in the Sapphire Block and three core wells in the Monslatt Block.

Three of the seven ATP 814P blocks are located directly east of the Moranbah CSG Field, operated by Arrow Energy (a JV between Shell and PetroChina). The Sapphire Block in the western part of ATP 814P is directly adjacent to the Moranbah Gas Project, with the Central Block likely to contain extensions of the Annandale CSG Field (which extends across the western border of the Central Block) and the South Walker CSG Field (located in between the Central and Monslatt Blocks).

The main targets for CSG exploration in ATP 814P are the Late Permian coal sequences, namely the Rangal/Bandanna Coal Measures, Fort Cooper Coal Measures and Moranbah Coal Measures. All of these sequences occur variously within the blocks comprising ATP 814P. There is established CSG production from all these formations in the vicinity of ATP 814P, most notably the Moranbah Gas Project. Highly prospective coals of the Moranbah Coal Measure sequence were identified from initial drilling in the Monslatt Block.

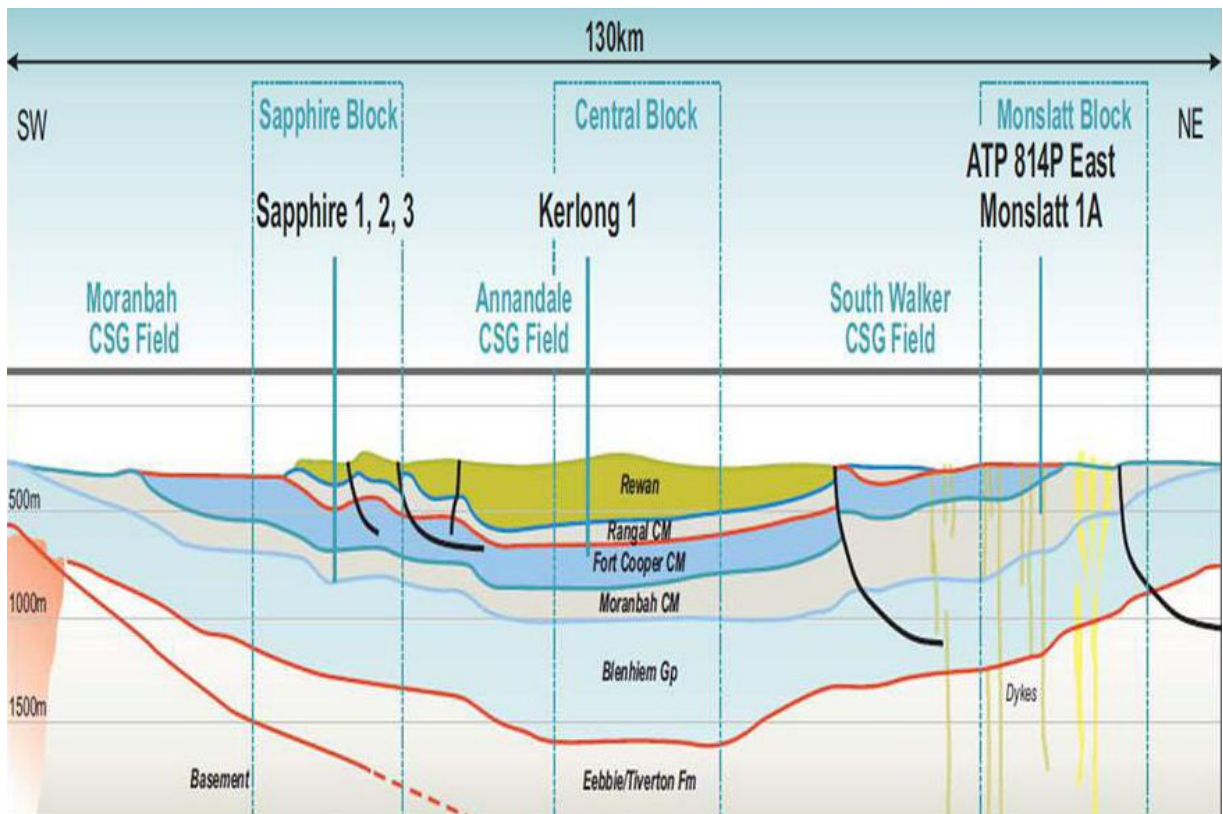
The Moranbah Coal Measures in the Monslatt Block can be intersected between 300 metres and 800 metres, which is considered ideal for CSG development. The coals are thick, extensive and have high gas content. In addition, core holes have been drilled in the Central and Sapphire blocks, however the deep potential of the Moranbah Coal Measures in the Sapphire Block and Central Block have yet to be tested.

Figure 2: ATP 814P Location Map



Source: BUL

Figure 3: Basin Cross Section of Sapphire, Central and Monslatt Blocks



Source: BUL

2.2 Overview of Bowen Basin

The Bowen Basin, an area rich in coal and gas deposits, extends southwards from Collinsville (near Bowen) to Emerald and Moura (west of Bundaberg). Its area is estimated to be between 60,000km² and 75,000km², over a length of about 650 kilometres.

Its geological structure forms part of the larger Bowen – Gunnedah – Sydney Basin structure. The geographic area of this combined structure is huge, extending for several thousand kilometres from Central Queensland to south of Sydney. The Bowen Basin contains three main coal bearing formations (the Moranbah Coal Measures, Fort Cooper Coal Measures, and Rangal Coal Measures). Large scale coal mining operations are conducted in the Moranbah and Rangal Coal Measures, whereas all three formations are prospective for CSG.

Coals of the Bowen Basin are believed to contain ~10x less volume of water per unit of gas than those of the Surat Basin.

Arrow Energy holds several large exploration tenements that together cover about 8,700km² of the northern Bowen Basin between Glenden in the north to Middlemount in the south. Arrow commenced limited exploration in 2000, which led to development of the Moranbah Gas Project supplying gas to Townsville.

2.3 Monslatt Block

The Monslatt Block is currently assessed by Netherland, Sewell and Associates (NSAI) to contain 1,295PJ of Contingent Resources (recoverable). The initial drilling campaign at ATP 814P was undertaken in the Monslatt Block, where no solid CSG dataset was available, but where a regional geological assessment by BUL suggested that the Moranbah P seam (which is productive in Arrow Energy's permits to the west) would be well developed and in a suitable depth window for CSG. To date, BUL have drilled five pilot¹ wells in the Monslatt Block.

The Monslatt 1 well was drilled as a stratigraphic test of the block and identified that a thick P seam was indeed present and contained observable gas. This initial well was quickly followed up by Monslatt 1A, 2 and 3 core holes. These wells intersected not only the P seam but the Goonyella Upper, Middle and Lower seams. In total, an average net coal of 35 metres is intercepted in the block.

The core obtained from the coals was also assessed for gas content and the P seam returned a world class 23m³/tonne (raw) gas content with average composition of 95% Methane.

Gas content from other coal intersections in the wells was also relatively high, ranging from 12-20m³/tonne. In addition, carbonaceous shales were sampled and yielded up to 10m³/tonne (raw) in some intervals.

Adsorption isotherm analysis on the P seam indicated that the coal was fully gas saturated and therefore would require minimal pressure reduction (dewatering) to initiate gas flow.

After the dataset obtained from initial coring provided BUL with an initial Contingent Resource (3C) estimate from NSAI, additional drilling

¹ A pilot test involves drilling a small number of wells (usually between two and five) in close proximity, then producing gas and water for such time as to confirm production rates and volumes.

was then commenced to establish the real extent of the resource. Accordingly, Monslatt 5C and 6C were drilled as stratigraphic wells in the north and south of the permit and confirmed the coal's presence and thicknesses. These two wells were also drilled for stratigraphic control for pilot production wells Monslatt 5P and 6P which along with Monslatt 4P and 7P have been used as locations to test productivity of the main P seam target.

Monslatt 5P, 6P and 7P (drilled with air through the P seam) were flow tested and free flowed gas to surface from the P seam. This confirmed the fully gas saturated nature of the P seam over the majority of the permit suggested by the core data.

2.3.1 Monslatt Data Instrumental in Resource Upgrade

BUL received its initial resource estimate for Monslatt from NSAI in March 2010, which included a 3C Contingent Resource of 3,411PJ (GIP) and a Prospective Resource of 3,630PJ (GIP). The process of converting Contingent Resources into Reserves began in July 2011, when NSAI revised its assessment of the Sapphire Block in ATP 814P and identified 39PJ of 3P reserves within the Fort Cooper and Rangal Coal Measures in the Sapphire Block.

The additional drilling data from Monslatt (Monslatt 4, 5C, 5P, 6C, 6P and 7P) was also provided to NSAI for assessment, who revised the resource estimate to reflect this additional data. NSAI's revised resource estimate, provided in February 2011 is highlighted in Table 1.

Table 1: NSAI Resource Estimate for ATP 814P

Permit/Block	Gas in Place (GIP)	3C Contingent Resource
ATP 814P	GIP	Recoverable
Sapphire Block	1,206PJ	311PJ
Central Block	2,669PJ	457PJ
Monslatt Block	3,143PJ	1,259PJ
Total ATP 814P	7,018PJ	2,063PJ

Source: BUL

2.4 Outline of Recent Operations at Monslatt Block

- The dewatering of Monslatt 5P and Monslatt 7 is continuing, Water production at Monslatt 5 has continued to increase and has reached the capacity of the pump installed. The dewatering process will continue with a work over commencing, which will see a higher capacity pump installed.
- At Monslatt 4 and Monslatt 6, planned work includes placing the wells on pump and commencing dewatering. Currently, potential simulation programs for these two wells are the subject of a Government regulatory review.
- Drilling at Monslatt 9 reached a total depth of 1,006 metres. Monslatt 9 is located in the southern part of the Monslatt Block and in close proximity to a sealed main road. The well design will allow completion as a pilot production well. Well results report high gas content (up to 25m³/tonne) and thick coal seams (up to four metres). The coal seams correlate with the nearest wells, Monslatt 6C and 6P. Further, coal samples from the

carbonaceous shales within the lower Moranbah Coal Measures are being assessed for gas content and parameters.

- BUL are confident that, based on interpretation of preliminary data, that this well will add to the current GIP and Contingent Resources for the Monslatt Block by extending the southern limit. The company plans to expand the number of pilot production test wells at Monslatt from three to six by the end of this year.

2.4.1 Sapphire and Central Blocks

Sapphire 2 and 3 coreholes were drilled in the Sapphire Block and resulted in 40 metres of net coal intersections in the Rangal Coal measures. Gas contents of up to 14m³/tonne (raw) were recorded.

The Sapphire 4 combination core production well is being drilled in the southern part of the Sapphire Block as a follow-up test of the reserves in the Rangal and Fort Cooper Measures as well as a test of the deeper potential of the Moranbah Coal Measure sequence.

Similarly, the Central Block contains both Contingent Resources and Prospective Resources in the Rangal and Fort Cooper Measures, while the deeper Moranbah seems have yet to be evaluated. The Rangal Coal Measures were targeted in the Central Block with the drilling of the Kerlong 1 well in July 2010. Drilling intersected at depth (approximately 750 metres), a total of 20 metres of coal averaging 15m³/tonne (raw). BUL are planning a new drilling program at the Central Block in the next 12 months to test the resources in the Rangal and Fort Cooper Measures.

2.5 Future Plans for ATP 814P

Activity in ATP 814P is now centered on establishing commercial gas flow rates from the P seam. This will enable conversion of the current contingent resource status of the P seam to reserves.

The forward plan for the Monslatt Block is to delineate the resource with additional seismic data acquisition and subject to the conversion of these resources to reserves, finalise initial commercialisation options for the resource and commence planning for a field development plan. A significant part of this process involves obtaining regulatory authorities for lodgement and grant of a Production License (PL).

Seismic acquisition has commenced in the Monslatt Block, with approximately 25 kilometres of 2D seismic to be undertaken in order to improve the BUL's understanding of the geological structure that exists within the Monslatt Block.

As part of the progress towards commercialisation of the gas resource in ATP 814P, BUL has entered into a non-binding Memorandum of Understanding (MoU) with an experienced international electricity generator (undisclosed) for the supply of 6-10PJ of gas per annum over a 20 year period. It is envisaged that the gas will be supplied from the ATP 814P permit and will be utilised for power generation.

2.6 Commercial Options for ATP 814P

2.6.1 Potential Supplier of Gas to Gladstone Export LNG Projects

There are presently four major JV groups seeking to establish export LNG projects in Gladstone, Queensland. Table 2 outlines each of the four major export LNG projects at Gladstone, as well as a 5th LNG project, Gladstone LNG Project (Gladstone LNG)², which is a mid-scale LNG project with a planned LNG production of 3Mtpa, proposed for Fisherman's Landing.

Table 2: Outline of Major Gladstone LNG Projects

LNG Project	Companies	Initial Capacity	Planned Capacity	Gas Source	FID	1st LNG Sales
		# Trains x Mt/train	# Trains x Mt/train			
Queensland Curtis LNG (QCLNG)	BG Group/ QGC Ltd*	2 x 4.25	3 x 4.25	QGC	Nov 2010	2014
Gladstone LNG (GLNG)	Santos, Petronas KOGAS, Total	2 x 3.6	3 x 3.6	Santos CSG Fields	Jan 2011	2015
Australian Pacific LNG (APLNG)	Origin/ConocoPhillips China Petroleum Corp.	2 x 4.5	4 x 4.5	Origin Energy Fields	July 2011 (1st train)	2015
Arrow LNG	Shell/ Petro China	2 x 4.0	4 x 4.0	Arrow Energy	Awaiting EIS approval in 2012/13	
Fisherman's Landing (Gladstone LNG/FLLNG)	LNG Ltd/China National Petroleum	1 x 1.5	4 x 1.5	Independents	2012	2014 - Subject to gas supply

Source: Company Reports, Alpha Securities Estimates

* A subsidiary of BG Group

The four major Gladstone LNG projects are:

1. **Queensland Curtis LNG (QCLNG):** Operated by Queensland Gas Company, a subsidiary of BG Group
2. **Gladstone LNG (GLNG):** Operated by Santos
3. **Australian Pacific LNG (APLNG):** A consortium between Origin Energy, ConocoPhillips and Sinopec
4. **The Arrow Energy LNG Project (Arrow LNG):** Owned in a 50-50 joint venture by Royal Dutch Shell and China National Petroleum Corporation (PetroChina).

Two of the major projects, QCLNG and GLNG, have reached final investment decisions (FIDs) and are committed to constructing the first two trains of their respective projects. The project schedules suggest that QCLNG's trains will start up in 2014 and 2015 and that GLNG's trains will start up in 2015 and 2016.

APLNG reached FID in July 2011 for the project's first train and infrastructure to support a second train and expects to reach FID for the second train in 2012.

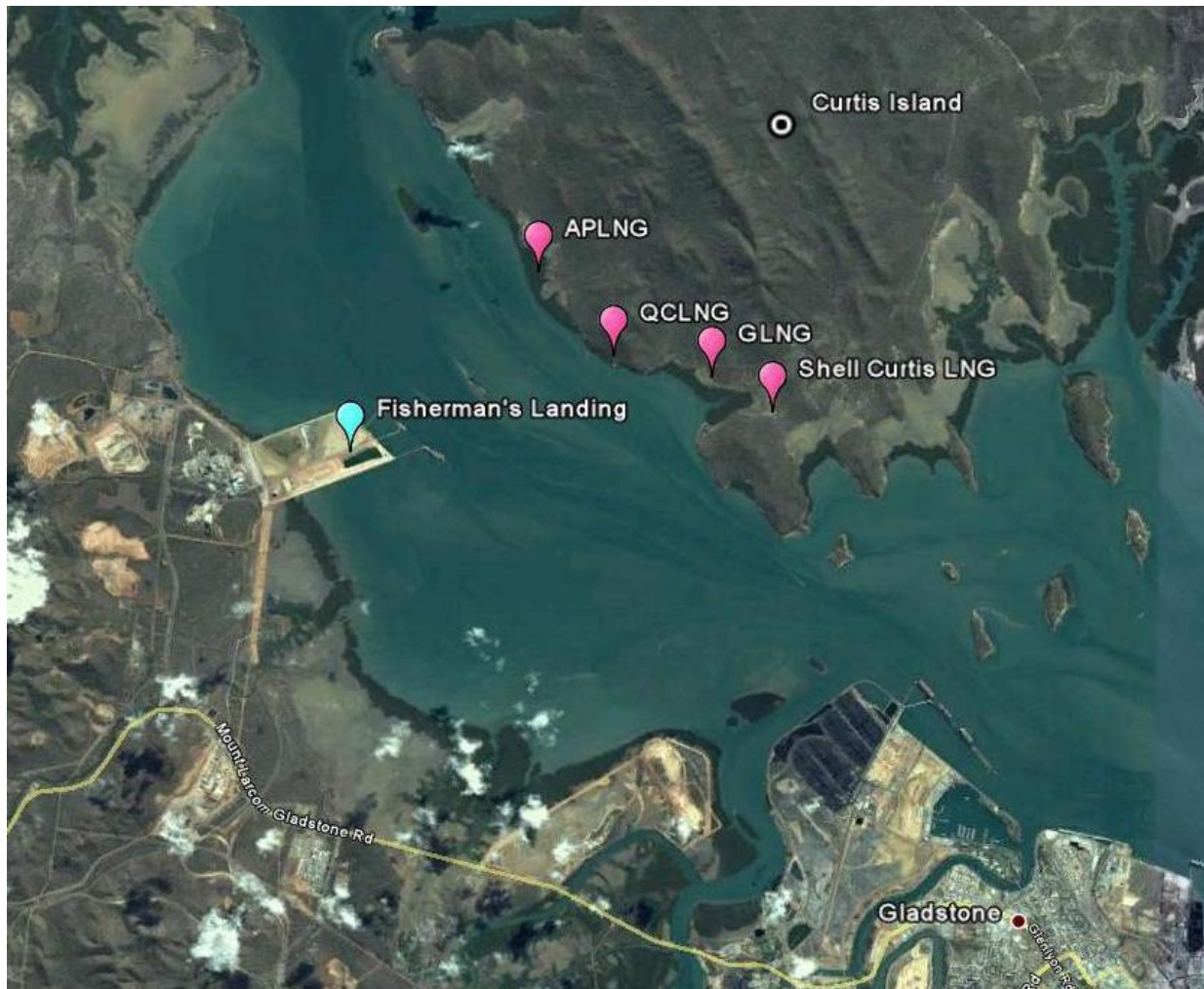
The Arrow LNG Project is also under development with an environmental impact statement (EIS) being prepared.

The FLLNG site is located around established infrastructure, whereas the other four Gladstone LNG projects will require significant capital to connect supporting infrastructure (i.e. pipes) and to prepare shipping channels. For example, the APLNG project will require a marine crossing to be constructed to connect to Curtis Island (at present, a Greenfield site).

² Operated by a wholly owned subsidiary of LNG Ltd (ASX: LNG). The Project is also known as Fisherman's Landing LNG (FLLNG)

Figure 4 highlights the location of the five Gladstone LNG projects. The distance from the edge of the FLLNG site to the QCLNG site is approximately three kilometres.

Figure 4: Location of Competing Gladstone LNG Projects



Source: Google Earth, Alpha Securities

In addition to the major LNG projects, there are a number of smaller LNG projects (i.e. less than 3Mtpa) with potential medium-term gas supply requirements. These include:

- LNG Limited's LNG Project at Fishermans Landing:** The project is operated by Gladstone LNG Pty Ltd, a subsidiary of LNG Limited. On 28 January 2011, LNG Limited announced an agreement with Huanqiu Contracting and Engineering Corporation (HQCEC) - a subsidiary of China National Petroleum Corporation - for HQCEC to acquire a 19.9% stake in the company pending government approvals. Exports were initially projected to start in 2012; this has been revised to 2014, with the date conditional on the project securing gas supply.

The LNG train size for the FLLNG project (1.5Mtpa) is much smaller than the LNG train sizes for the four major Gladstone LNG projects, which range from 3.6Mtpa to 4.5Mtpa. Interestingly, it is estimated that to commence production at a

3.6Mtpa LNG plant would require over 200JT/day of gas, ramping up to over 580TJ/day at full production. In comparison, FLLNG requires only 85TJ/day to commence production, ramping up to 240TJ/day at full capacity.

- ***Abbot Point LNG Project:*** Energy World Corporation proposes to develop an LNG export plant at Abbot Point and/or Hay Point in Queensland. The initial phase of the project will involve four LNG trains of 0.5Mtpa each and potential expansion to a total of 5Mtpa. The project involves building a pipeline linking Abbot Point and Hay Point to the Bowen Basin and eventually through to Cooper Basin.
- ***Southern Cross LNG Project:*** The project is operated by Impel LNG, a wholly owned subsidiary of Galveston LNG. It is planned to be an open-access service to export LNG from Curtis Island near Gladstone, enabling gas producers not involved in LNG production projects to export their gas to international markets. The project involves three trains, each with a capacity of 0.7Mtpa to 1.3Mtpa. The first train was originally scheduled to start up in 2013.

2.6.2 Supply Gas to Address Reserves Shortfall for Existing LNG Projects

While all of the four major Gladstone LNG projects have secured both gas supply and offtake agreements, the level of current 2P reserves may be insufficient to meet the initial plant capacity for each of the major LNG projects.

Notwithstanding, each of the major JV LNG groups has significant gas resources that could be converted into reserves, but the key issue is whether the majors are able to **efficiently** convert their resources into reserves, or whether it would be more economic for them to purchase confirmed reserves instead. In this context, the opportunity for BUL is to grow its reserves (currently 39PJ of 3P) to a level (around 1,500PJ of 2P reserves) that could attract interest from the major Gladstone LNG players.

Table 3 estimates the reserves (2P) required for each of the four major Gladstone LNG projects, as well as the Gladstone LNG project. This analysis assumes that 60PJ pa is required per 1Mtpa LNG train and that the reserves required are over a 20-year contract.

Table 3: Estimated 2P and 3P Reserves Shortfall for Gladstone LNG Projects

LNG Project	Initial Capacity (Mtpa)	Reserves		Estimated Shortfall	
		2P	3P	2P	3P
QCLNG	8.5	8,480	9,804	(1,720)	(396)
GLNG	7.2	5,638	7,720	(3,002)	(920)
APLNG	9.0	11,218	15,561	418	3,861
Arrow LNG	8.0	6,639	10,380	(2,961)	(20)
Gladstone LNG	1.5	-	-	(1,800)	(1,950)

Source: Company Reports, Alpha Securities

* Reserves as at 30 June 2011

2.6.2.1 Global LNG Demand on the Rise

The LNG market represents about 9% of the global gas market. LNG is the primary source of supply in countries with no domestic gas, such as Japan, Korea and Taiwan, and a supplementary source in other countries, including the US, many European countries, China and India.

The LNG import markets are made up of the three broad regions of Asia, Europe and the Americas. The growth region is in Asia, with traditional LNG importers Japan, Korea and Taiwan recently joined by strong growth from China and India. Demand for gas in China is projected to increase annually by an average of 6-7%, with demand from India, Brazil and the Middle East expected to grow by 4-5% per year.

According to *World LNG to 2020*, the profile of LNG import markets is changing dramatically - linked to a strong trend in favour of gas within national energy profiles, low LNG import prices, and the deregulation of energy/gas markets in Europe and Asia. The net effect is for demand expansion in existing import markets and the emergence of a number of new sources of LNG demand.

According to Wood Mackenzie Consultants, China's demand for LNG may increase 48% to 46Mtpa in 2020, up from a previous estimate of 31Mtpa from the end of 2009. In addition, Wood Mackenzie forecast that China's gas demand may rise to 43 billion cubic feet a day in 2030 from 9 billion cubic feet a day in 2010, with the strongest growth expected prior to 2020. To meet the increasing demand, China is expected to boost LNG purchases by about 65% in 2011, from imports of 5.5Mt in 2009, according to Facts Global Energy.

2.6.3 Sell Gas into Domestic Market

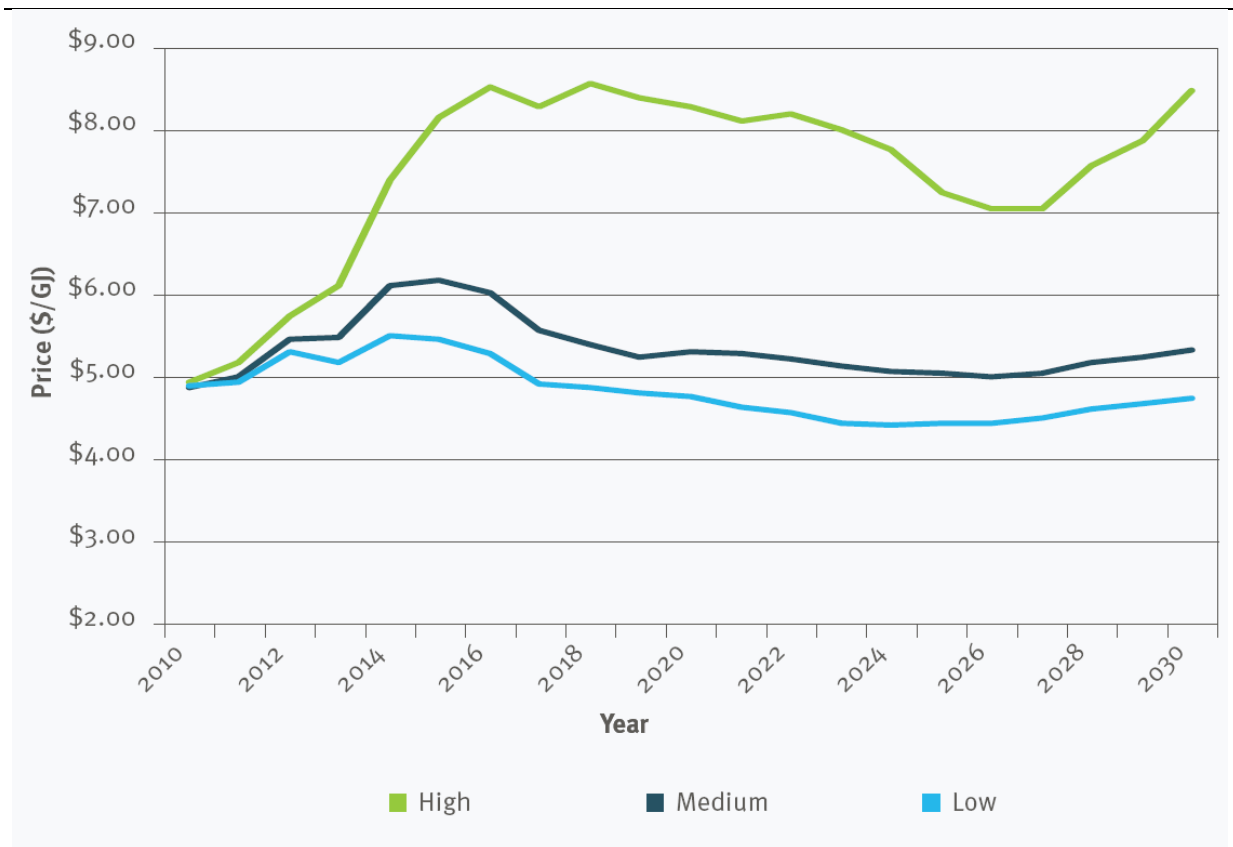
In August 2008, BUL entered into a Gas Development Alliance Agreement with Stanwell Corporation, a Queensland Government owned corporation. Under this agreement, BUL is expected to supply 8.5PJ of gas to Stanwell for over 25 years for a gas fired power project. The alliance with Stanwell provides an opportunity for BUL to commercialise domestic gas through the stability of a Government-owned corporation.

There are two factors that make the option of selling gas domestically an attractive one: the positive outlook for short and long term domestic gas prices and the prospect of selling gas to coal mine operators in the northern part of the Bowen Basin, which has over 30 operating coal mines as well as other mines in different stages of planning and development.

1. According to the Annual Gas Market Review 2011, the best-case scenario for domestic gas pricing is that new contract prices are expected to rise substantially from 2013, to over \$8/GJ in most markets and maintainable at this level until growth in LNG production stops in the mid-2020s. At that point, prices temporarily fall by \$1-2/GJ, but then rise back to former levels owing to reserves depletion.

A medium-case scenario is that new contract prices are expected to rise initially to approximately \$6/GJ, but then ease to \$5/GJ as reserves growth outpaces growth in exports after 2018.

Figure 5: New Contract Gas Prices in Queensland (All Scenarios)



Source: Annual Gas Market Review - 2011

- While existing coal mines in the northern Bowen Basin are well serviced by rail roads and electricity networks, an expected growth in demand from new coal mines means that both will require upgrades. As one of a group of CSG players in the Bowen Basin uncommitted to one of the major Gladstone LNG projects, BUL is in a position to supply gas to any new electricity generation facilities built as part of the development for new coal mines in the Bowen Basin.

It is likely that Arrow Energy or BG Group, who are players in two of the four major Gladstone LNG projects, will not commit to supplying any further gas to the domestic market, as it is in their interests at present to maximize their gas reserves for their respective Gladstone LNG projects.

Table 4: 3P Reserves not yet tied to a Major Gladstone LNG Project

Company	Basin Location	Current 3P Reserves (PJ)	Target 3P Reserves (PJ)
Bow Energy (BOW)	Bowen	2,752	6,200
Molopo (MPO)	Bowen	836	
Westside Corp (WCL)	Bowen, Galilee	472	
Blue Energy (BUL)	Bowen, Galilee, Surat	39	3,000

Source: Company Reports

2.6.4 Diesel Substitution

BUL is investigating options for a small-scale domestic LNG production plant, for the supply of LNG (as a substitute for diesel) to the transport sector for use in mine haul trucks, road transport trucks and coal trains, as well as for remote power generation. LNG production from small-scale plants (<200 tonnes/day) is increasing, with four plants operating in Australia at present.

The appeal for BUL in establishing a small-scale LNG plant would be increased margins as a result of converting road or mine haulage fleets from diesel to gas engines, or where high diesel costs are rendering current remote diesel-fired power generation largely uneconomic.

The economic viability of a small-scale LNG operation is also enhanced with the onset of the Carbon Tax, which strengthens the case for the transport operator to substitute high-cost, high-emission fuels with lower-cost, lower-emission gas. It is estimated the LNG releases up to 20% less greenhouse gas compared to diesel.

In addition, LNG prices, apart from being considerably lower than diesel gate prices, are typically very stable, thereby allowing transport operators to accurately budget for fuel costs, which is much more difficult to do with diesel due to its volatile price.

3. ATP 813P (BUL: 100%) – Galilee Basin

3.1 Overview

BUL's permit in the Galilee Basin - ATP 813P - covers a large area of 4,139km² and is located in the central Galilee Basin in central west Queensland. The company is the operator and holds a 100% interest in the permit for a period of 12 years. In comparison to the Surat and Bowen Basins, there is currently no CSG production from the Galilee Basin.

The main CSG play in the Galilee Basin is the Late Permian Betts Creek Coal Measures which are the time equivalent coal measures of the Bandanna and Rangal Coal Measures of the Bowen Basin and the Toolachee Formation of the Cooper Basin. As such, these have extensive and thick coal measures and offer good CSG potential. To date, BUL has drilled five CSG coreholes to assess the potential of the Late Permian coal sequences that are known to be present in the Galilee Basin.

Petroleum exploration in the Galilee Basin began as early as 1959 and continued to the mid-1970s. This phase of exploration was focused on the deep sandstone reservoirs of the Galilee Basin, with wells penetrating up to 2,000 metres of section. More recently, Enron and then Galilee Energy undertook exploration for CSG potential. Over the course of its exploration history, there has been minimal exploration activity for conventional oil and gas, a factor attributable to the basin being poorly serviced by gas infrastructure (*see Figure 1 on Page 3*), with the gas-fired Barcardine Power Station sourcing gas from the Wallumbilla to Ballera pipeline to the south. To date, there have been no major discoveries made.

The renewed interest in the Galilee Basin, evident by the large amount of exploration activity planned over the next few years, is attributable to increased exploration and development activity for CSG.

In 2008, BUL drilled its Carolina 1 well and, following encouraging results, undertook an expanded CSG exploration program to assess the potential of the Late Permian sequence. Accordingly, BUL drilled four CSG coreholes across the southern portion of the permit. These were:

1. Kanaka 1 - Spudded in December 2009 and drilled to a total depth of 1,300 metres,
2. Stainburn Downs 1 - Drilled to the south west of Kanaka 1,
3. Myross - Spudded in February 2010 and
4. Ballyneety 1 - The latest well in the initial exploration phase.

Following completion of the initial program, a dataset was sent to independent Dallas-based resource assessment specialist Netherland, Sewell and Associates (NSAI), who identified considerable Contingent Resources, as well as a large Prospective Resource in parts of ATP 813P. NSAI provided a resource assessment of 554PJ of 3C Contingent Resource (recoverable) together with a further 1,142PJ of Prospective Resource (recoverable).

The Contingent Resources have been identified principally around the existing five wells drilled by BUL, whilst the Prospective Resource relates to some of the inter-well areas, but does not include the majority of the permit area. This resource assessment relates to approximately 25% of the ATP 813P permit area. The potential of the remaining 75% of the permit will be addressed with future drilling.

Table 5: 3P Resource Estimate for ATP 813P

Permit/Basin	Gas in Place	3C	Prospective
		Contingent Resource	Resource
		Recoverable	Recoverable
ATP 813P - Galilee Basin	3,407PJ	554PJ	1,142PJ

Source: BUL ASX Announcement 29 June 2011

3.2 Competing Projects in the Galilee Basin

3.2.1 Introduction

The pace of development that has taken place towards the establishment of a resource base in the Galilee Basin has potential positive implications for BUL's ATP 813P permit.

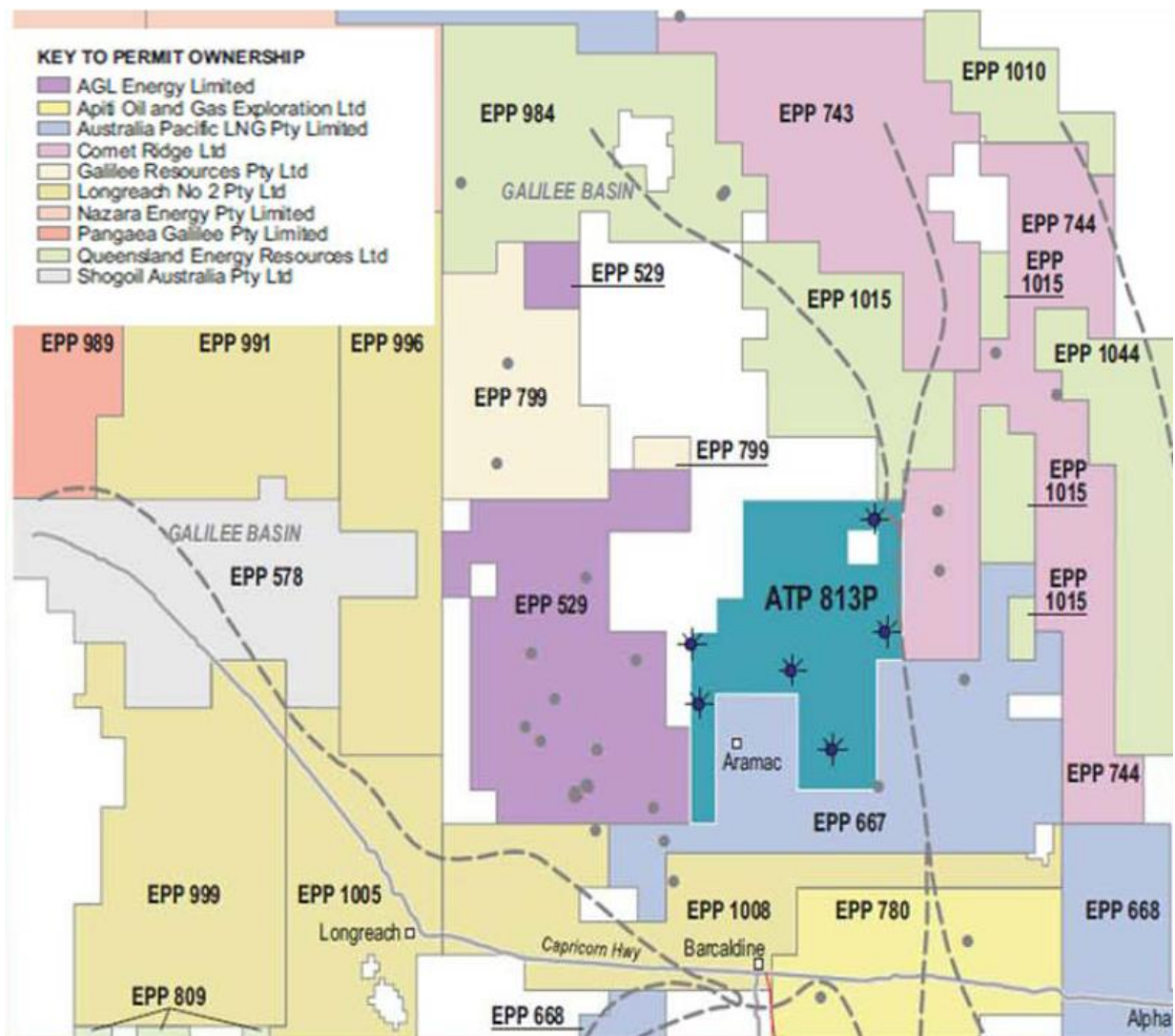
A number of operators of permits adjacent to ATP 813P have, in recent times, announced resources for their permits that have led to the emergence of a resource base in the central part of the Galilee Basin. To date, approximately 3,800PJ of Contingent Resource has been independently assessed from acreage adjacent to ATP 813P.

More broadly, increased competitor activity in the Galilee Basin will result in better conversion of Prospective Resource to Contingent Resource and Reserves, as well as a greater understanding of the required infrastructure for gas utilisation.

3.2.2 Key Players in the Galilee Basin

The large players in the Galilee Basin include AGL, Origin, China National Offshore Oil Corporation (CNOOC) and Mitsui. Aside from the fact that there is currently no CSG production from the Galilee Basin, the first demonstration of sustainable gas flow rates occurred in October 2011 at the Galilee Gas Project (see section on Galilee Energy below). Further reports of sustainable gas flow rates are anticipated in the medium term based on the current level of CSG exploration activities by competitors.

Figure 6: Map of Competing Permits in the Galilee Basin



Source: BUL Presentation, August 2011

1. Galilee Energy/AGL JV

Galilee Energy (ASX Code: GLL) holds two highly prospective coal seam gas and hydrocarbon tenements in the Galilee Basin in central Queensland through subsidiary, Galilee Resources. The tenements, ATP 529P and ATP 799P, cover approximately 9,000km².

The Galilee Gas Project, ATP 529P, is held in a 50/50 joint venture with AGL Energy Limited under which AGL is the operator. ATP 799P is wholly owned and operated by Galilee.

In June 2011, the Galilee Gas Project obtained its first CSG resource estimate for ATP 529P, which is summarised in Table 6. The resource covers only part of the tenement (450km²).

Table 6: Resource Estimate for GLL's ATP 529P

ATP 529P (GLL: 50%)	Type	Gas (m ³)	MMSCF	PJ
Best estimate Contingent Resources	2C	~7 bill	247,791	259
High estimate Contingent Resources	3C	~ 29.5 bill	1,042,923	1090

Source: Galilee Energy ASX Announcement 30 June 2011

Current drilling activity is being undertaken at the Glenaras Pilot with a view to obtaining a resource upgrade for the Galilee Gas Project. In early October 2011, AGL, as the operator of ATP 529P reported the project's first gas discovery - and the first measurement of a gas flow from a CSG pilot in the Galilee Basin. The Glenaras 6 well, part the Glenaras close-spaced five-spot production pilot, started to flow at a steady rate of approximately 54 Mscf per day for a period of four days before the well was temporarily shut down for maintenance. Glenaras 6 is a cased and fracture stimulated well that accesses the R3 to R7 coal seams of the Betts Creek Beds.

2. Exoma Energy

Exoma Energy Ltd (Exoma, ASX Code: EXE) holds five petroleum exploration permits in the Galilee Basin totalling approximately 27,000km². Within this total area, there are approximately 13,000km² underlain by some 250 metres of Permian-aged coal measures at depths ranging from 700 metres to 1200 metres. A large proportion of the coal measures contain more than 20 metres of coal that has CSG potential. Exoma is of the view that the coals within the permits held by the company could contain a resource of up to 86 TCF of CSG GIIP (Gas Initially In Place).

On 8 December 2010, Exoma Energy Limited executed a Farm-in Agreement with one of China's leading integrated energy companies, China National Offshore Oil Corporation (CNOOC). Under the terms of the farm-in, CNOOC acquires a 50% participating interest in Exoma's ATP 991, 996, 999, 1005 and 1008 permits located in the Galilee Basin by contributing \$50 million towards exploration and appraisal expenditure during the Farm-in period, expiring on 31 August 2013.

3. Comet Ridge

Comet Ridge Ltd (ASX Code: COI) has a 100% interest in two adjacent permits on the eastern flank of the Galilee Basin, ATP 743P and ATP 744P. These permits have a combined area of 12,991km².

Comet Ridge has drilled five wells in these two permits since the company was awarded the permits in late 2009. The most promising results were obtained at Hergenrother-1 and Gunn-1 in the south west of ATP 744P, where net coals of 16 metre thickness were intercepted. Gas contents of 4.0 to 4.5m³/tonne dry ash free (DAF) were recorded in this area, and drill stem testing has confirmed that the coals are permeable.

In November 2010, Comet Ridge announced a Contingent Resource Certification by NSAI covering only the south-western leg of ATP 744P, known as the Gunn Project Area. Table 7 outlines the Contingent Resources attributable to Comet Ridge in the Gunn Project Area.

Table 7: Resource Estimate for ATP 744P (COI: 100%)

ATP 744P - Gunn Project Area Resource (PJ)	2C Contingent Resource	3C Contingent Resource	Prospective Resources
Contingent Resources	67PJ	1,870PJ	597PJ

Source: Comet Ridge

Comet Ridge has approximately 2,500PJ of Contingent and Prospective Resources certified in the Gunn Project Area alone, with the remainder of ATP 743P and ATP 744P relatively underexplored. Comet Ridge are working towards moving a large part of the certified Contingent Resources and Prospective Resources in the Gunn Project Area into the Reserves category and expanding its exploration activities further across ATP 743P and ATP 744P to gain additional Contingent and Prospective Resources.

3.2.3 What does BUL need to do to obtain a resource at the Galilee Basin?

The main challenge for any energy project in the Galilee Basin will be the significant investment required in infrastructure to access markets, given the location of the Galilee Basin and lack of gas infrastructure. Another potential challenge is the administration and management of overlapping tenures. Overlapping tenure issues potentially include coal mining, underground coal gasification, geosequestration and geothermal. Given these challenges, a viable project is likely to require both a significant resource base and an above average current gas price.

As a first step towards obtaining a resource, BUL will need to undertake further coring in order to, firstly, expand the resource base areas in between its existing five wells and secondly, to select a suitable location for a pilot production test well.

BUL is one of eight foundation members of the Galilee Basin Operators' Forum, which first met in April 2010. Each of the eight companies hold Authorities to Prospect for Petroleum (ATPs) in the Galilee Basin, granted under either the *Petroleum & Gas (Production & Safety) Act 2004* or the *Petroleum Act 1923*.

The group has engaged international energy consultants RPS Group to undertake a baseline water assessment report. This report is intended to provide the framework for the development of a hydrogeological model for the Galilee Basin, by establishing the data currently readily available and providing a regional understanding of the aquifers and their use for bore water supplies.

4. MARYBOROUGH BASIN PERMITS

4.1 Overview

BUL is currently earning a 75% interest in three Maryborough Basin permits from Adelaide Energy Ltd by conducting a farm-in work program at the three permits. BUL, the operator of the permits, is currently farming-in to one permit, ATP 613P, and the JV is awaiting the award of two larger application areas (ATP 674A and ATP 733A), following successful negotiation of Native Title Agreements with traditional owner representatives.

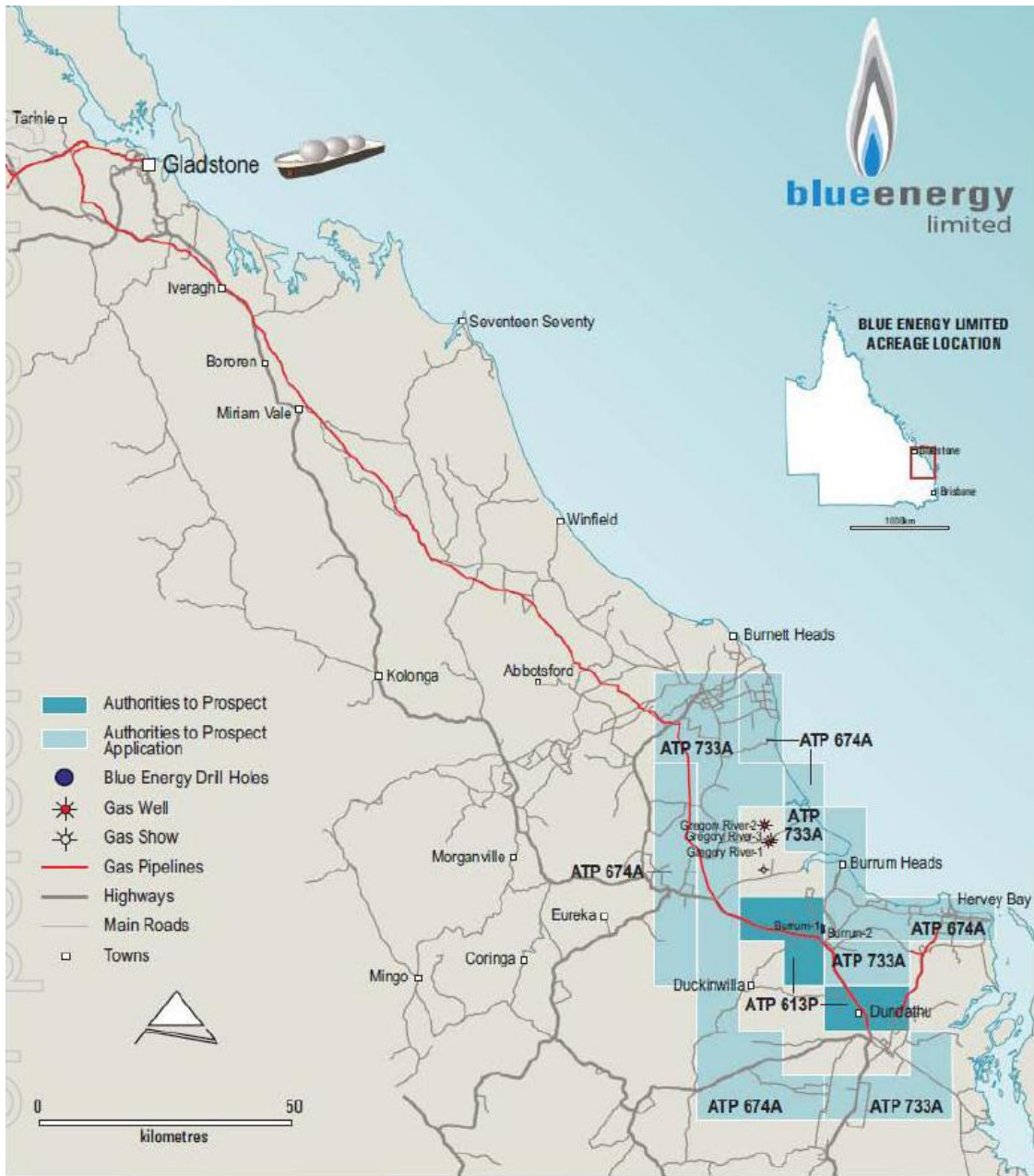
The Maryborough Basin lies in the Maryborough/Bundaberg region of Queensland. Environmental Authorities for these two application areas have been issued by the Queensland Government and the joint venture is awaiting permit grant by the Queensland Government. The three permits will cover an area of 2,940km².

The Maryborough Basin is an underexplored basin in regards to hydrocarbons and given it is located approximately 150 kilometres south of the Gladstone LNG export region, is ideally suited for both the SE Queensland domestic and the developing export LNG market in Gladstone. While early exploration focused on conventional gas, more recently, there has been recognition of the shale gas potential of the Maryborough Formation by the US Energy Information Administration (EIA). Only five conventional oil & gas exploration wells have been drilled in the Maryborough Basin. No shale activity has been reported.

CSG and shale gas plays were identified after the most recent conventional gas drilling program, conducted approximately 10 years ago, recorded a small gas flow from a shale section, before being plugged and abandoned. This suggests that there is a credible shale gas target to be pursued, although the shale gas play in the Maryborough Basin is presently unquantified.

BUL and Adelaide Energy are presently assessing the potential of a shale gas target, in conjunction with CSG and conventional gas targets, with a view to determining a possible drilling location once groundwater, environmental studies and consultation are completed. Both parties intend to commence exploration later in 2011 (subject to all permits being granted), targeting CSG and, in particular, shale gas potential in the permit area.

Figure 7: Location Map of BUL's Maryborough Basin Permits



Source: BUL ASX Announcement 5 July 2011

4.2 Maryborough Basin Assessed by EIA as Having Significant Shale Gas Potential

A report by the US Energy Information Administration (EIA) published in April 2011 identified the Maryborough Basin as one of four sedimentary basins in Australia with significant shale gas potential, with a risked recoverable resource figure calculated for the Maryborough Basin of 23 trillion cubic feet (TCF). The EIA paper and supporting report by Advanced Resources International (ARI) reviewed 48 sedimentary basins in 32 countries.

EIA have commented that the Maryborough Basin has two potential shale gas targets in the Cretaceous Maryborough Formation. EIA contend that the Maryborough Formation (up to 2.6 kilometres thick) is:

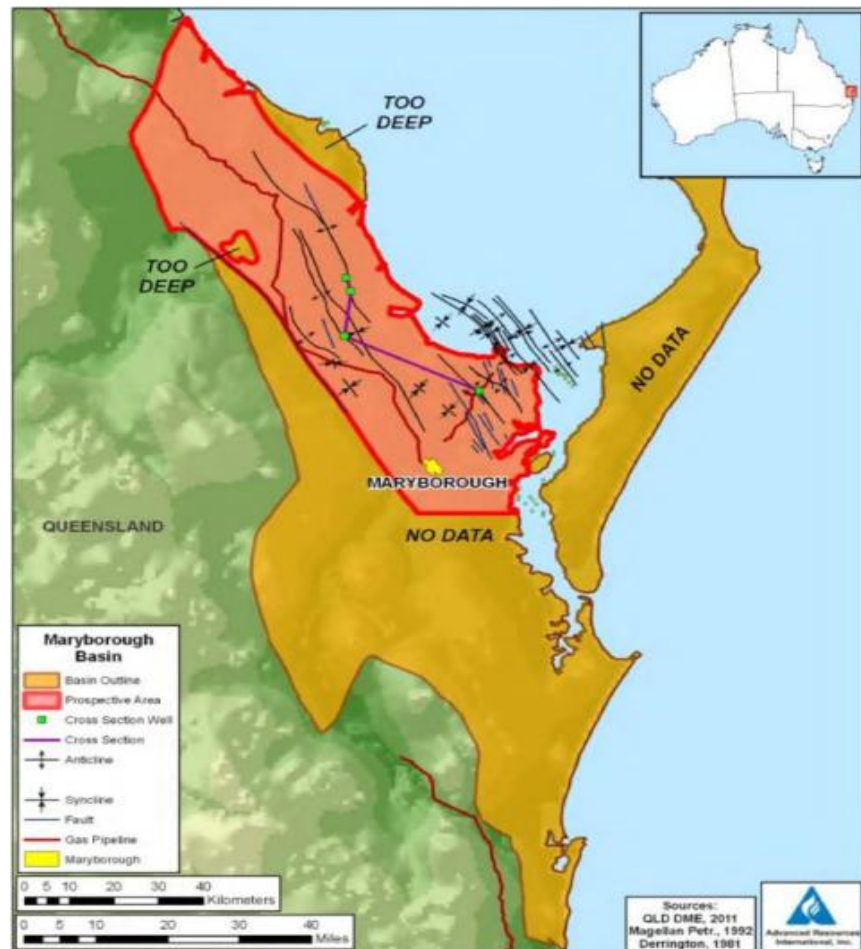
- i) The most prospective shale gas target in the Maryborough Basin.
- ii) The only definitely marine unit in the basin, consisting primarily of mudstones, siltstone, and sandstone, with minor conglomerate, limestone, and coal.

According to the EIA report, the most prospective sub-units within the Maryborough Formation are the Goodwood Mudstone, Woodgate Siltstone, and Cherwell Mudstone members, which have been described as a monotonous series of mudstones with minor shales and siltstones that characterise the marine portion of the Maryborough Formation.

ARI evaluated only the northern portion of the Maryborough Basin where geologic data exist. Key observations include:

- Approximately 1,540mi² could be prospective for shale gas development, using standard minimum depth (6,000 feet).
- Additional area in the poorly constrained southern half of the basin may be prospective.
- Completable shale intervals in the basal shales of the Maryborough Formation (Cherwell and Goodwood mudstones) have an estimated resource concentration of approximately 110 Bcf/mi². Risked completable gas in-place is estimated to be 77 trillion cubic feet (TCF), with risked technically recoverable resource of 23 TCF.

Figure 8: Location and Shale-Prospective Map for Maryborough Basin



Source: EIA - World Shale Gas Resources: An Initial Assessment

Figure 9: Location and Shale-Prospective Map for Maryborough Basin

Basic Data	Basin/Gross Area	Cooper Basin (46,900 mi ²)	Maryborough Basin (4,290 mi ²)	Perth Basin (12,560 mi ²)		Canning Basin (181,000 mi ²)	
	Shale Formation	Roseneath-Epsilon-Murteree	Goodwood/Cherwell Mudstone	Carynginia Shale	Kockatea Fm	Goldwyer Fm	
	Geologic Age	Permian	Cretaceous	Upper Permian	Lower Triassic	M. Ordovician	
Physical Extent	Prospective Area (mi ²)	5,810	1,555	2,180	2,180	48,100	
	Thickness (ft)	Interval	0 - 1,800	300 - 3,000	300 - 1,500	300 - 3,000	300 - 2,414
		Organically Rich	500	1,250	950	2,300	1,300
	Depth (ft)	Net	300	250	250	230	250
Average		6,000 - 13,000	5,000 - 16,500	4,000 - 16,500	3,300 - 16,500	3,300 - 16,500	
Reservoir Properties	Interval	8,500	9,500	10,700	10,000	12,000	
	Reservoir Pressure	Moderately Overpressured	Slightly Overpressured	Normal	Normal	Normal	
	Average TOC (wt. %)	2.5%	2.0%	4.0%	5.6%	3.0%	
	Thermal Maturity (%Ro)	2.00%	1.50%	1.40%	1.30%	1.40%	
Resource	Clay Content	Low	Low	Low	Low	Low	
	GIP Concentration (Bcf/mi ³)	105	110	107	110	105	
	Risked GIP (Tcf)	342	77	96	100	754	
Risked Recoverable (Tcf)	85	23	29	30	229		

Source: EIA - World Shale Gas Resources: An Initial Assessment

5. BOARD OF DIRECTORS

DIRECTOR	BACKGROUND
<p>Peter Cockcroft <i>Non Exec Chairman</i></p> <p><i>Interest in BUL:</i> 149,178 ord shares; 4m unlisted options</p>	<p>Mr Cockcroft has extensive international gas industry experience, having held management and executive positions in many countries with companies such as Shell, BHP, Premier Oil and others. Mr Cockcroft has also worked with the national oil companies of Indonesia and South Korea, and as a special advisor to the Prime Minister of Timor-Leste. He has recently been advising the Indonesian authorities on the formation of a coal seam gas fiscal regime.</p> <p>Mr Cockcroft is internationally recognised as a Distinguished Lecturer on Risk for the Society of Petroleum Engineers, Life Member of SPE, Life Member of South East Asian Petroleum Exploration Society, Graduate of AICD Mastery program, Certified Petroleum Geologist, and a Member of the Institute of Directors in the UK. He has previously held board positions in Australia, Indonesia, India, Kuwait and US. He has authored in excess of 30 papers in the energy sector.</p>
<p>John Phillips <i>CEO & MD</i></p> <p><i>Interest in BUL:</i> 54,799 ord shares; 5.967m unlisted options</p>	<p>Mr Phillips joined Blue Energy as Chief Operating Officer in May 2009 prior to his promotion to CEO in April 2010. He subsequently joined the Board of Blue Energy in June 2010. Mr Phillips has 26 years experience in the oil and gas industry, which has involved both CSG and conventional oil & gas, in a variety of petroleum basins both domestically and internationally. He has gained extensive operational experience through his involvement with Delhi Petroleum, Esso, Conoco, Petroz and Novus, culminating in his role as Chief Operating Officer with Sunshine Gas, where his role included taking a lead in initial studies for the SUN LNG Project with Sojitz Corp and the Reserves Certification process and FEED study for CSG developments.</p>
<p>Dr Paul Massarotto <i>Non Exec Director</i></p> <p><i>Interest in BUL:</i> 1.507m ord shares; 1.2m unlisted options</p>	<p>Dr Massarotto holds a PhD in Chemical Engineering from the University of Queensland where he is a Principal Research Fellow developing and leading research programs to maximise CBM production and reserves. He has acted as an expert witness and consultant to the CSG industry and has published over 50 papers. Dr Massarotto has in excess of 40 years experience, covering senior technical, drilling and operational management in the international oil & gas and infrastructure industries, including Mergers & Acquisitions.</p>
<p>Heung Bog-Lee <i>Non Exec Director</i></p> <p><i>Interest in BUL:</i> NIL</p>	<p>Mr Lee, the Nominee of Blue Energy's major shareholder, Korea Gas Corporation (KOGAS), has over 20 years' experience in LNG projects including E&P Businesses in Myanmar, Timore-Leste, Iraq and in several CIA countries. He is currently Managing Director of KOGAS Australia P/L.</p>
<p>Karen Johnson <i>Non Exec Director</i></p> <p><i>Interest in BUL:</i> NIL</p>	<p>Ms Johnson, appointed to the Blue Energy Board on 30 September 2011, has over 20 years of accounting related experience, holding senior roles specialising in audit, assurance, technical consulting and financial accounting engagements within Chartered Accounting firms and American Express Inc.</p> <p>She brings excellent investigation, analysis and report writing skills combined with strong technical accounting knowledge and a superior understanding of Australian Accounting and Auditing Standards and has previously provided corporate governance consultancy to many organisations. Karen is currently Director - Audit and Assurance with Whitehills Business Advisers & Chartered Accountants based in Brisbane.</p>

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