

31<sup>st</sup> July 2019

## QUARTERLY ACTIVITIES REPORT

To 30<sup>th</sup> June 2019

**Blue Energy Limited (ASX: "BUL")** is pleased to report on activities during the June 2019 quarter across its exploration acreage in Queensland and the Northern Territory in which the Company's key gas and oil projects are located.

### Key points on latest progress

- Successful capital raising of A\$5.6 million (gross) in June
- Drilling adjacent to Blue's Bowen acreage in Qld yields breakthrough gas flow rates
- Pipeline Survey Licence awarded to Blue - funding discussions with Northern Australia Infrastructure Facility underway for Bowen Basin export line
- Federal Election result sees Senate cross bench focused on East Coast gas prices and new supply from development of the northern Bowen Basin
- Total corporate gas resources across acreage = 4,179 PJ<sup>+</sup>
- Gas Sale Agreement discussions continue
- Cash position – A\$6.2 million as at 31 July 2019 (post capital raise)
- The Company has zero debt

*\* Please refer to the Listing Rule 5.42 Disclosure on page 14*

### Capital Raising

During the June quarterly period, Blue Energy conducted a well supported Capital Raising, in two phases. Firstly, an oversubscribed placement of 93,333,334 ordinary shares at \$0.045 per share was made to institutions and sophisticated investors, raising \$4.2 million before fees.

Following the Placement, a Share Purchase Plan was offered to eligible shareholders to invest up to \$15,000 shares at \$0.045 per ordinary share. The SPP raised \$1.42 million and a total of 31,555,465 shares were issued to those eligible shareholders who participated.

### Adjacent Permits

Scout information obtained by Blue Energy suggests that several new wells drilled this year in the Moranbah Gas Project area and adjacent Production Licences (Operated by Arrow Energy) within the Moranbah area in central Queensland, have exceeded gas flow rates of 4 million standard cubic feet per day (mmscfd). It is Blue Energy's view that this will have a material positive effect on gas development economics for the Bowen Basin.

### Pipeline Survey Licence award

Blue was awarded a Pipeline Survey Licence (PSL 2037) to investigate an alternate route to market from Moranbah. Blue is engaged with the Northern Australia Infrastructure Facility (NAIF) to look at funding of a single large diameter gas export trunk line out of the Bowen Basin.

## **Proven Basins**

### **Bowen Basin, Queensland**

#### **ATP814P (Blue Energy 100% and Operator)**

During the period, Blue was granted (through its subsidiary, Galilee Pipelines Pty Ltd) the Pipeline Survey Licence for PSL 2037 (see Figure 1), which allows Blue to undertake desktop studies for route selection together with some limited on ground survey work. The strategy for this route into the Northern Denison Trough province (and then into Wallumbilla) is to investigate the shortest and quickest route to market.

Administrative tenure matters pending on ATP814 include the four Production Licence Applications (PLA) lodged by Blue Energy which are with the Queensland Government and are progressing. Renewal of the underlying ATP is also on foot with the Government, as are the four Potential Commercial Areas applications to cover the remaining resource base in the permit. These tenure activities are being undertaken in parallel with the ongoing commercial negotiations.

The permit currently has 2P reserves of 71 PJ<sup>+</sup> and 3P reserves of 298 PJ<sup>+</sup> (as independently estimated by Netherland, Sewell and Associates (NSAI)). As mentioned above, there is also significant upside within the other constituent blocks comprising the Permit with a combined 3,248 PJ of Contingent Resources estimated by NSAI.

The broader Northern Bowen Basin Gas Province has a discovered resource of approximately 15,000 PJ of gas which is sufficient to underpin the east coast domestic gas market for the next 30 years, based on current market conditions. Blue's component of this estimate is currently 3,248 PJ.

Development of this Basin-wide resource and a single large diameter multi-user gas trunk line connection to the south would provide security of supply for east coast manufacturers and with additional supply, will put downward pressure on prices. The additional gas available would also promote expansion of industry in the greater North Queensland region. In this regard, Blue has received Queensland Government approval of the Pipeline Survey Licence 2037 from ATP814P to the Wallumbilla connection near Rolleston.

Scout information obtained by Blue Energy suggests that several new wells drilled this year in the Moranbah Gas Project area and adjacent Production Licences within the Moranbah area have exceeded gas flow rates of 4 million standard cubic feet per day (mmscfd). The previous best rates of 2 mmscfd were recorded when CH4 Pty Ltd operated the Moranbah Gas Project. These new results have a material positive impact on the economics of gas production in the North Bowen Basin gas province. They also indicate that Permian Coals in the Northern Bowen Basin are capable of the higher flow rates that are seen elsewhere in the Permian sequences, like in the Fairview Coal Seam Gas (CSG) Field (for example), which underpins gas supply to the GLNG facility on Curtis Island at Gladstone.

The March 2019 release of the Australian Energy Market Operator's (AEMO) '*Gas Statement of Opportunities*' shows from company provided data that the Bowen Basin is the lowest cost gas province for the development of 2C resources. This therefore highlights the Bowen resource as

the quickest and lowest cost solution to the long-term structural gas supply problem for Australia's east coast. (Table 1)

<b>Production Costs - AEMO GSOO 2019</b>				
<b>\$/GJ</b>				
<b>Basin</b>	<b>Project</b>	<b>2P</b>		<b>2C</b>
		<b>Developed</b>	<b>Undeveloped</b>	
Bass	Bass	2.85		5.92
Bonaparte	Blacktip	3.07		
Sydney	Camden	2.40		
Otway	Casino Henry Netherby	2.30	4.50	4.00
Clarence Moreton	Clarence Moreton			9.00
Cooper Eromanga	Cooper Eromanga	2.95	6.25	7.00
Galilee	Galilee			9.70
Gippsland	GBJV & Turrum & Kipper	2.50	5.15	7.30
Gippsland	Gippsland - Non GBJV			8.00
Gunnedah	Gunnedah			7.40
Otway	Halladale/Black Watch/Speculant	4.90		
Ironbark	Ironbark		6.50	8.00
Gippsland	Longtom & Sole	3.20	5.60	5.70
Amadeus	Mereenie	2.99	4.88	7.40
Otway	Minerva	2.10		
Moranbah	Moranbah - Arrow (Shell/Petrochina)	3.10	6.66	5.15
Otway	Otway Gas Project	2.65		7.40
Surat & Bowen	QLD CSG - APLNG	2.16	4.42	7.34
Surat & Bowen	QLD CSG - Arrow (Shell/Petrochina)	3.31	5.33	7.42
Surat & Bowen	QLD CSG - GLNG (Santos et al)	2.88	6.67	9.28
Surat & Bowen	QLD CSG - Other	3.74	6.34	8.71
Surat & Bowen	QLD CSG - QCLNG	2.54	4.77	7.26
Surat & Bowen	Surat-Bowen-Denison	2.80	5.85	7.00

← Lowest cost

Table 1: AEMO GSOO March 2019 (associated worksheets), showing development costs for 2P and 2C gas reserves and resources in A\$/Gj

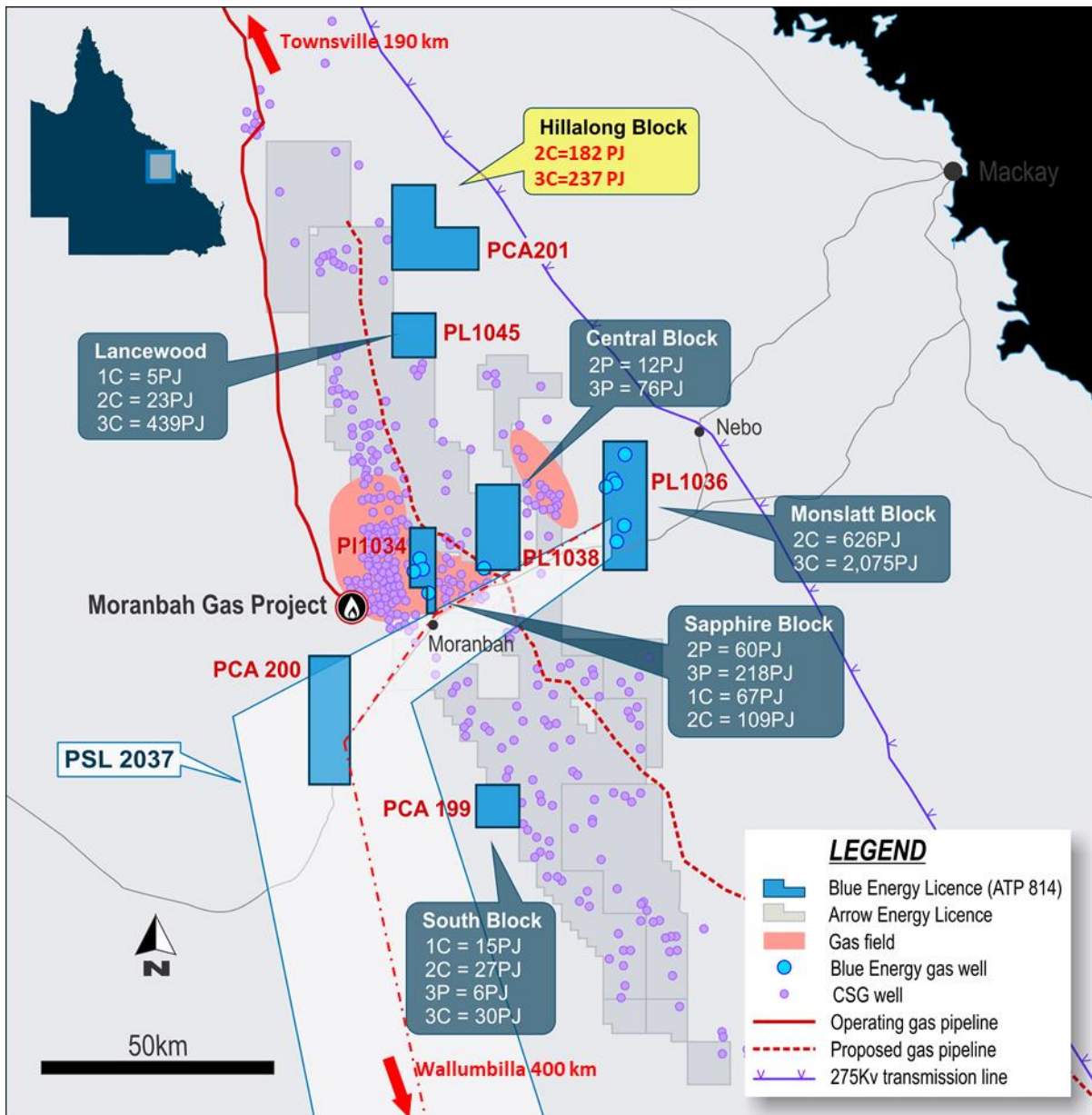


Figure 1: ATP814 Bowen Basin Queensland showing PL, PCA and PSL Applications

## Surat Basin, Queensland

### ATP854P (Blue Energy 100% and Operator)

Blue has four Potential Commercial Area Applications (PCA's) over the permit which will secure the acreage and allow work to be undertaken to grow gas reserves and resources in parallel to the continued marketing of the gas resources to potential buyers.

Jemena's PSL 2033 for the proposed pipeline linking the Galilee Basin to Wallumbilla overlays ATP854 and is conveniently located for Blue Energy to potentially utilize for gas export across the ATP in due course.

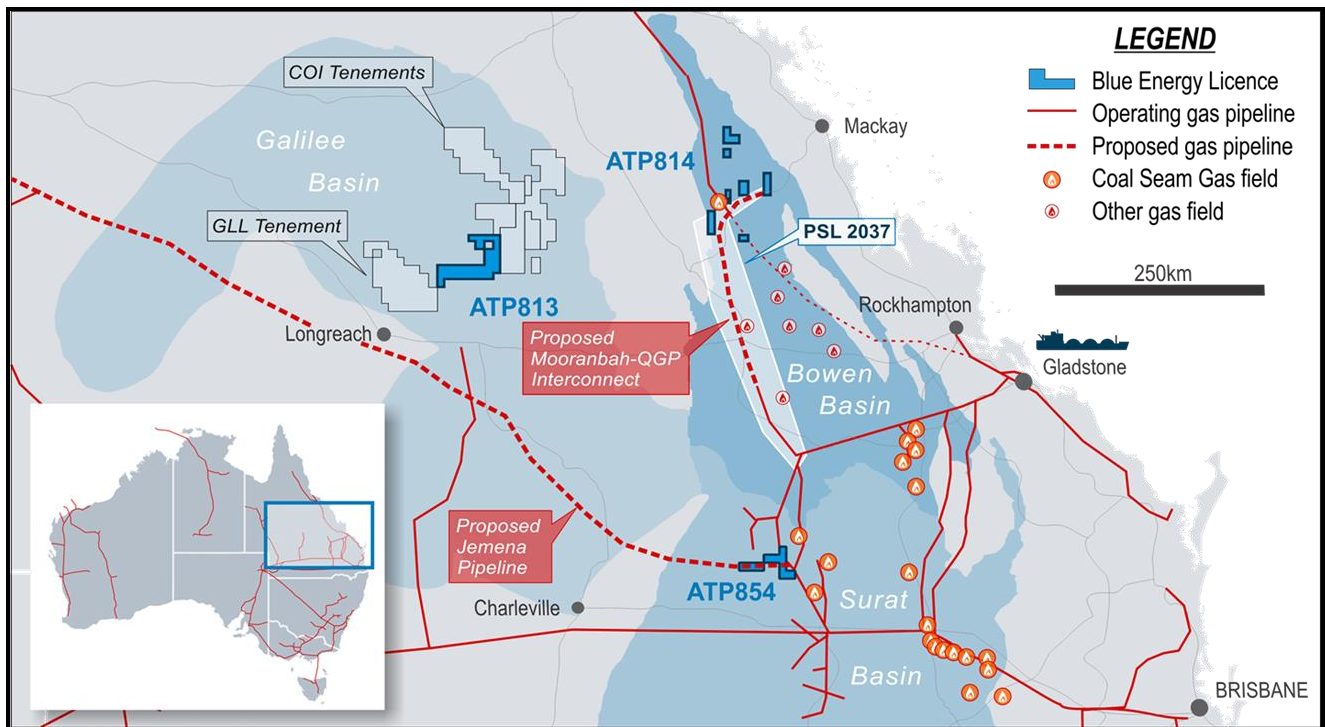


Figure 2: Pipeline routes impacting ATP854P, ATP813P and ATP814P

## Cooper Basin, Queensland

### ATP656P, 657P, 658P and 660P (Blue Energy 100% and Operator)

Blue has lodged renewal applications for these permits and is awaiting responses from the Qld Government.

## Emerging Basins

### Greater McArthur Basin (Northern Territory)

#### (various permits and equities levels - Blue Energy Operator)

The Northern Territory Government has now legislated many of the 135 recommendations from the Pepper Inquiry. Codes of Conduct have been released governing the way the oil and gas industry must now operate in the Territory. These Codes were required (by the Inquiry) to facilitate the re-commencement of exploration activities within the Beetaloo Basin but after which would then flow onto the broader oil and gas tenements outside the Beetaloo Basin. The main Beetaloo Basin Operators, Santos and Origin are “road testing” the new Government approvals process for Environmental Management Plans plus the approvals process to drill, frac and test oil and gas wells, which now sit in two different Government Departments. If Origin and Santos can successfully drill, frac and test their wells this dry season, it will go some-way to establish the new process as effective, and give the broader industry some confidence that the new legislation and approval process is navigable in a reasonable timeframe given the restricted drilling season in the Territory (the March to October dry season).

A suspension of Work Program activity on Blue’s three awarded tenures in the Northern Territory (EP 200, 205 & 207) is in force until February 2020.



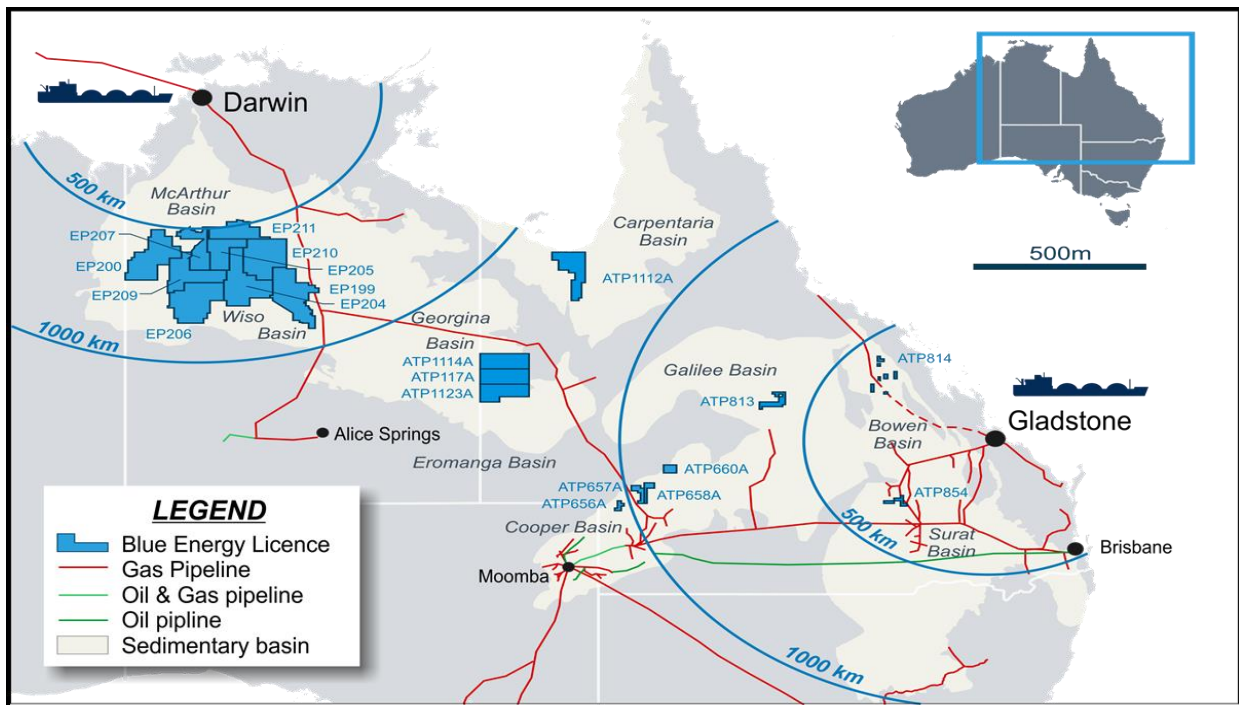


Figure 2: Blue Energy's acreage portfolio highlighting the large McArthur Basin position in the NT

## Galilee Basin (Queensland)

### ATP813P (Blue Energy 100% and Operator)

Applications for Potential Commercial Areas (PCA's) have been lodged with the Qld Government together with an application to renew the ATP. These applications are on foot with the Qld Government. The activity conducted by Blue Energy to date has resulted in the delineation of 838 PJ (net to Blue Energy) of Contingent gas Resources within the Betts Creek CSG play in ATP813P.

Whilst there has not been any commercial gas production from any tenement in the Galilee Basin to date, recently drilled wells in the Glenaras Coal Seam Gas Pilot by Galilee Energy Ltd are on production test (in ATP 2019, adjacent to Blue Energy's ATP813P – see Figure 3). This will provide proof of concept and de-risk the broader play to give confidence for Blue to conduct appraisal activities on its gas discoveries (838 PJ) already made in ATP813P.

In other activity, Comet Ridge and Vintage Energy have commenced drilling o a second conventional appraisal well to their Albany 1 well of last year. Success in this well will open up a new play for the Basin to augment the existing CSG play.

## **Commentary**

The Federal Election result on May 18, 2019, has provided continuity of Government (Federal) with respect to Energy (whether you believe there is an effective current energy policy or not). However, the reality is that the States control the levers for facilitating onshore exploration activity and development of new gas supply. The ACCC has for many years recommended more new gas supply be developed to alleviate chronic price and supply issues for east coast domestic gas users. The ACCC has also called out foreign controlled companies for exacerbating the supply issue by “gas warehousing” reserves and resources on the east coast – a scenario some might argue facilitates the ability for these entities to play the arbitrage on the price differential between the domestic price and the North Asia spot LNG price.

Equally, electricity generation is in the hands of the States. Whilst Federally there is a reluctance to allow uncontrolled amounts of renewable energy to be introduced into the National Energy Market (NEM), the States are continuing the headlong rush to bring high levels of de-stabilizing, asynchronous, intermittent and subsidised electricity into the grid. This is presumably in the belief that more renewables will reduce CO<sub>2</sub> emissions in Australia to such an extent that average global temperatures will be reduced (which is patently absurd) and we will avoid catastrophic weather (like floods, droughts, cyclones, snow, sea level rise, coral bleaching, ocean acidification and a plethora of other non-weather related social issues and purported extinctions). What other possible reason would some State Governments have to ensure some investors profit from taxpayer subsidised renewable schemes? The concept of free electricity from renewables, which has been touted by some of Australia’s leading journalists recently, is an absolute fallacy. South Australia has more than 50% of its electricity supplied by wind and solar, yet it has the highest retail electricity prices in the world, and which is causing the increase in energy poverty at an alarming rate for our most vulnerable people. Why is this not the headline, and those responsible called to account?

In any event, gas is setting the cost of electricity at peak demand times and gas fired generation (synchronous) is required to stabilise the grid plus back up the inherently intermittent wind and solar. Therefore, if these aggressive wind and solar generation targets are to be fully met by the politicians, much more gas will be required.

## **Energy Trends**

It is obvious that a growing global population will require more energy to be sustained. It is equally clear that the provision of low cost reliable energy is the key to improving the standards of living for the impoverished across the globe (eg China’s transformation). With the current global population of 7.7 billion people using approximately 14 billion tonnes of oil equivalent energy in 2018 alone, the projected global population increase to 9.8 billion by 2050 will mean that the globe will consume about 22 billion tonnes of oil equivalent by 2050 (a 60% increase over 2018 consumption levels). The world will need significant growth in energy supply (exploration, discovery and production) to meet the projected demand.

In 2018, 85% of the total Global Energy consumption was from fossil fuel sources (oil, gas and coal). By contrast, only 4% of global energy consumption was derived from renewable energy sources (excluding hydroelectricity sources). So it is virtually impossible to get to a 100% renewable energy component to

energy consumption globally (but which is often espoused by the more fervent green political groups). To increase the energy demand by 60% by 2050 and expect it to come from 100% renewable sources, is complete fantasy. In addition, what is always overlooked is the emissions generated in the manufacture of the solar panels and wind turbines, that are the back bone of the climate zealots. The concrete, steel and aluminum for the wind turbine towers all generate CO<sub>2</sub> in their manufacture as well as the mining of the rare earth and other minerals for the turbine electrics and solar panels. Batteries are no better with the volumes of lithium and nickel mined (most of the lithium comes from Australia and China – which have vastly different environmental standards for mining).

As the developed world reduces (or at least flattens) its energy consumption through improved energy efficiency and migration of heavy manufacturing to lower cost labor settings, the reduction in total energy consumption in the OECD (together with fuel switching to lower emitting forms of energy) is resulting in reduced CO<sub>2</sub> emissions. The developing world, however, is now responsible for 59% of global energy consumption, which is a full 5.5 times greater than a decade ago. This being the case, and with the main emitters being excused from the COP Paris 21 emissions targets, it is near impossible for global emissions to be reduced at all, which may be a concern to some. What it does show, however, is the complete futility and economic suicide for Australia (at 1.3% of global CO<sub>2</sub> emissions) to be attempting to raise its CO<sub>2</sub> emissions reductions targets by adding more unreliable renewable energy (subsidised) capacity that will increase household power bills but do nothing to the global average temperature.

Developing countries gained 87.5 % of their energy from fossil fuel in 2018, compared to the developed world at 80%. So the claim by many of the virtue signaling “ethical investment” oriented financiers that coal and fossil fuels will be stranded assets, seems to be a gross exaggeration if not a misrepresentation of reality, at least based on the last decade of actual global energy data.

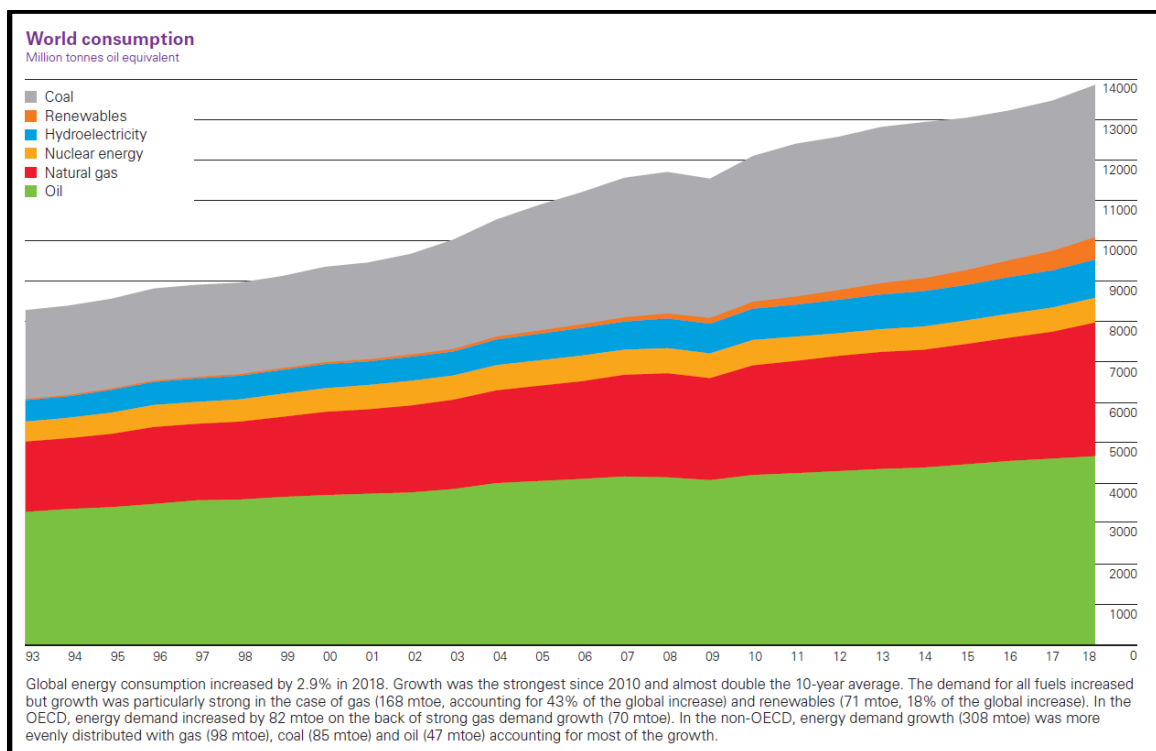


Figure 3: Global Energy consumption by fuel type (Source: BP Energy Outlook 2019)



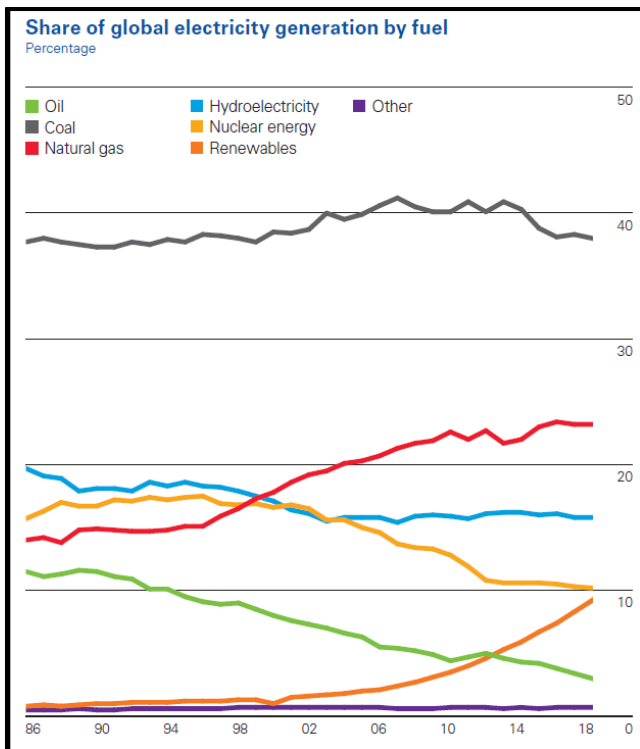


Figure 4: Electricity generation by fuel (Source: BP Energy Outlook 2019)

#### Energy-related carbon dioxide emissions billion metric tons

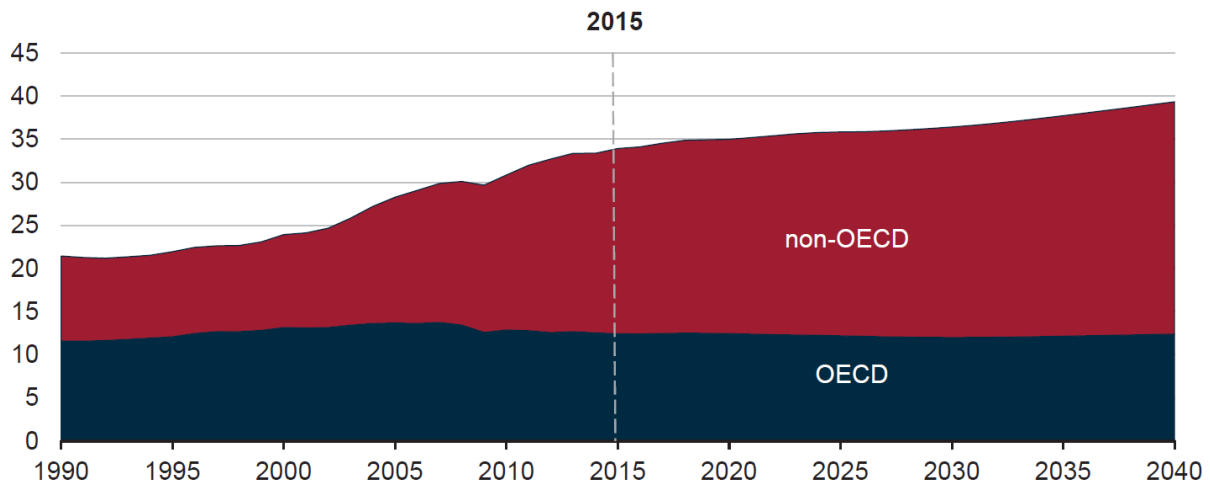


Figure 5: Comparison of OECD and Developing World (Non-OECD) CO<sub>2</sub> emissions from Energy usage. (Source: EIA 2018)

### East Coast Australian Gas Market

#### East Coast Supply and Demand

The AEMO gas statement of Opportunities released in March 2019, suggests that supply will be tight in 2022/23, with both new supply required and pipeline capacity constraints from Qld to the southeast Australian market being touted as issues. There still seems to be little recognition of the role of gas as complementary to solar and wind generation. With more de-stabilizing

renewable electricity coming in courtesy of Queensland and Victoria, more synchronous gas generation will be needed.

In addition to this un-recognised demand, small volumes of gas for domestic use are being brought to market with the small acreage releases by the Qld Government. However, the long-term 20 year contracts for manufacturing that underpinned growth in the 1970s – 2000 era have not been executed. So the problem seems to be just getting pushed out a few years at a time.

The risk for supply into the domestic market revolves around the decline in Gippsland production rates in Victoria, the movement of 2C to 2P reserves and 2P developed reserves and the recognition that the 2P reserve category is equivalent to only a 50:50 chance of recovery of that volume of gas. Without continued drilling activity targeting domestic gas volumes, the manufacturing and residential gas user sector will be reliant on the benevolence of the multinational LNG producers in Qld to supply short-term volumes into the domestic market.

Regional	Residential / commercial	Industrial	GPG	LNG	Regional gas consumption <sup>8</sup>
Queensland	< 1%	7%	2%	90%	1,380 PJ
New South Wales	42%	48%	10%	0%	116 PJ
South Australia	12%	27%	62%	0%	93 PJ
Tasmania	8%	51%	41%	0%	10 PJ
Victoria	58%	31%	11%	0%	212 PJ
Total	10%	14%	7%	68%	1,811 PJ

Table 2 : AEMO's 2019 Gas Statement of Opportunity shows the split of gas consumption (from 2018 data) by both state and sector. Note the low uptake of gas in Qld other than for LNG export, and the large reliance on gas and the impact gas shortages will have on the Residential, Commercial and Industrial sectors in both NSW and Victoria.

## **Global Energy**

### **LNG and Global Gas Pricing**

A recent report by Monaco-based LONG market intelligence group, Poten and Partners, has suggested that the second quarter 2019 (calendar) increase in LNG demand was driven by a 110% increase in European demand which has seen 2<sup>nd</sup> quarter demand grow to 86 million tonnes, an increase of 16% increase (quarter on quarter). Wood Mackenzie has nominated LNG Global demand for 2019 to be 351 million tonnes, an increase of 12% over 2018. New supply from the US, Australia and Russia is quenching this demand and keeping a balanced market for now. The LNG net back price in Wallumbilla is A\$6.11/Gj compared to the landed average spot LNG price in Japan of A\$11.46/Gj (June 2019).

China's LNG Demand seems to be strong still with Australia being the dominant supplier. Spot pricing remains relatively low, given adequate supply and modest oil price.

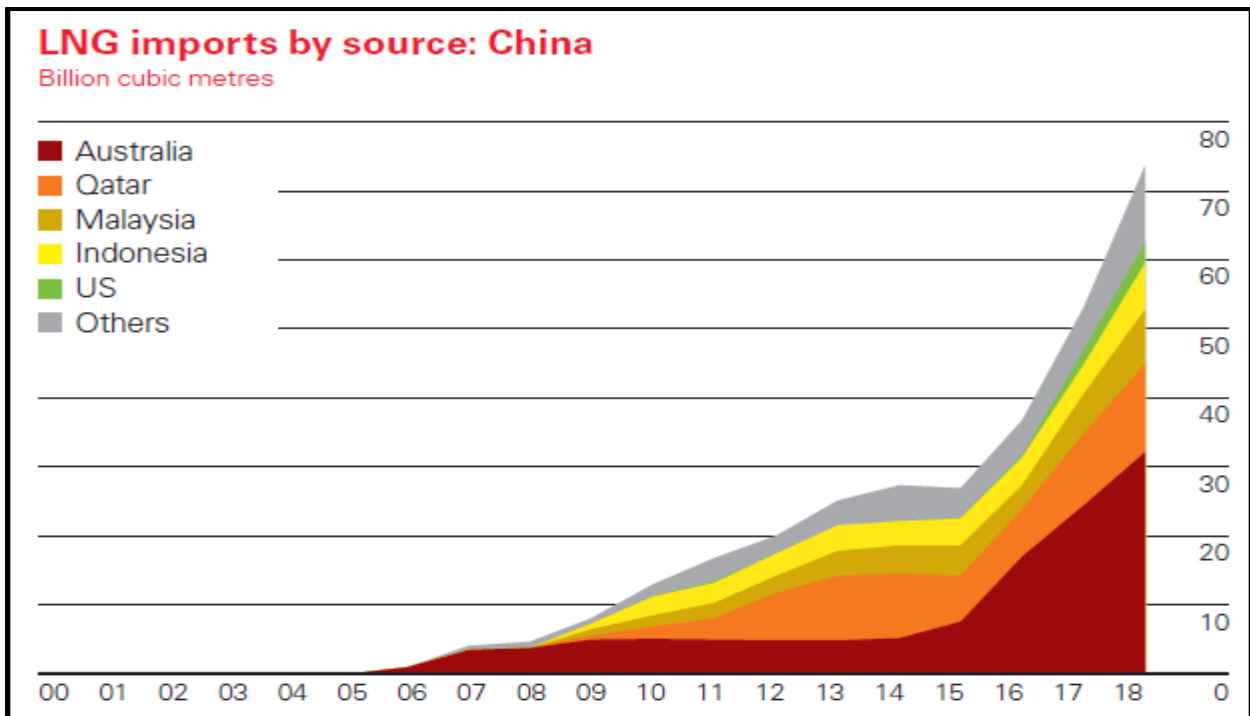


Figure 6: Chinese LNG Imports - Australia the dominant supplier (Source: BP Energy Outlook 2019)

## Oil price

Tensions in the Persian Gulf around US/Iran military brinkmanship are testing oil traders' nerves, as a disruption in the Straits of Hormuz would seriously constrain global oil supplies (10% of global supply) out of the region. Countering this threat of increasing oil price is the easing tension in the US/China trade war which should result in an easing of oil price. As a result, oil pricing is currently directionless.

## Corporate

### Cash Position

Cash on hand at 31 July 2019 (post capital raising completion) was \$6.2 million.

The Company has zero debt.

During the June period, Blue Energy conducted a Capital Raising exercise, in two phases. Firstly, a placement of 93,333,334 ordinary shares at \$0.045 per share was made to institutions and sophisticated investors, raising \$4.2 million before fees. Following the Placement, a Share Purchase Plan was offered to eligible shareholders to invest up to \$15,000 in ordinary shares at \$0.045 per share. The SPP raised \$1.42 million and a total of 31,555,465 shares were issued to those eligible shareholders who participated.

### Blue Energy Gas Reserves and Resources

Permit	Block	Assessment Date	Announcement Date	Methodology	Certifier	1P (PJ)	1C (PJ)	2P (PJ)	2C (PJ)	3P (PJ)	3C (PJ)
ATP854P		30/06/2012	19/03/2013	SPE/PRMS	NSAI	0	22	0	47	0	101
ATP813P		29/10/2014	30/10/2014	SPE/PRMS	NSAI	0	0	0	61	0	830
ATP814P	Sapphire	5/12/2015	8/12/2015	SPE/PRMS	NSAI	0	66	59	108	216	186
ATP814P	Central	5/12/2015	8/12/2015	SPE/PRMS	NSAI	0	50	12	99	75	306
ATP814P	Monslatt	5/12/2015	8/12/2015	SPE/PRMS	NSAI	0	0	0	619	0	2,054
ATP814P	Lancewood	5/12/2015	8/12/2015	SPE/PRMS	NSAI	0	5	0	23	1	435
ATP814P	Hillalong	6/02/2019	7/02/2019	SPE/PRMS	NSAI	0	0	0	182	0	237
ATP814P	South	30/06/2013	29/07/2013	SPE/PRMS	NSAI	0	15	0	27	6	30
<b>Total (PJ)</b>						<b>0</b>	<b>158</b>	<b>71</b>	<b>1,166</b>	<b>298</b>	<b>4,179</b>
<b>Total</b>						<b>0</b>	<b>27</b>	<b>12</b>	<b>199</b>	<b>51</b>	<b>714</b>

Table 3: Blue Energy net Reserves and Resources

### \*Listing Rule 5.42 Disclosure

The estimates of reserves and contingent resources noted throughout this Quarterly Activities report have been provided by Mr John Hattner of Netherland, Sewell and Associates Inc (NSAI) and were originally reported in the Company's market announcements 25 January 2012, 26 February 2013, 19 March 2013, 8 December 2015 and 28 February 2019. NSAI independently regularly reviews the Company's Reserves and Contingent Resources. Mr Hattner is a full time employee of NSAI, has over 30 years' of industry experience and 20 years' of experience in reserve estimation, is a licensed geologist and a member of the Society of Petroleum Engineers (SPE), and has consented to the use of the information presented herein. The estimates in the reports by Mr Hattner have been prepared in accordance with the definitions and guidelines set forth in the 2007 Petroleum and Resource Management System (PRMS) approved by the SPE, utilizing a deterministic methodology. Blue Energy confirms that it is not aware of any new information or data that materially affects the information included in any of the announcements relating to ATP 813P, 814P or 854P referred to in this report and that all of the material assumptions and technical parameters underpinning the estimates in the announcements continue to apply and have not materially changed.

## Petroleum Tenements Held

Table 4

Permit	Location	Interest Held Previous Quarter	Interest Held Current Quarter
ATP656P	Cooper Basin (Qld)	100%	100%
ATP657P	Cooper Basin (Qld)	100%	100%
ATP658P	Cooper Basin (Qld)	100%	100%
ATP660P	Cooper Basin (Qld)	100%	100%
ATP813P	Galilee Basin (Qld)	100%	100%
ATP814P	Bowen Basin (Qld)	100%	100%
ATP854P	Surat Basin (Qld)	100%	100%
ATP1112A	Carpentaria Basin (Qld)	100%	100%
ATP1114A	Georgina Basin (Qld)	100%	100%
ATP1117A	Georgina Basin (Qld)	100%	100%
ATP1123A	Georgina Basin (Qld)	100%	100%

*Permit	Location	Interest Held Previous Quarter	Interest Held Current Quarter	Comment
EP199A*	Wiso Basin (NT)	10%	10%	See Note 1
EP200*	Wiso Basin (NT)	10%	10%	See Note 1
EP205*	Wiso Basin (NT)	10%	10%	See Note 1
EP206A*	Wiso Basin (NT)	10%	10%	See Note 1
EP207*	Wiso Basin (NT)	10%	10%	See Note 1
EP208A*	Wiso Basin (NT)	10%	10%	See Note 1
EP209A*	Wiso Basin (NT)	10%	10%	See Note 1
EP210A*	Wiso Basin (NT)	10%	10%	See Note 1
EP211A*	Wiso Basin (NT)	10%	10%	See Note 1

Table 5

\*Exploration blocks Blue is farming into

Note 1: Subject to Farm in Agreement which upon completion of the seismic work program will result in Blue Interest becoming a 50% equity participant

Contact: + 61 7 3270 8800

John Phillips

Managing Director

Blue Energy Limited