

30th April 2020

# **QUARTERLY ACTIVITIES REPORT**

# To 31st March 2020

Blue Energy Limited (ASX: "BLU") is pleased to report on activities during the March 2020 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**

- Blue recommends Bowen Basin southern gas pipeline project to Federal and State Governments to unlock 15,000 PJ of discovered gas resource to mitigate impacts of the well-known East Coast domestic gas shortage, now identified in the AEMO Gas Statement of Opportunities (GSOO March 2020) report;
- Blue initiates Pre-Feasibility Study for Bowen Basin fast-start gas fired power generation project – to provide flexible, reliable and dispatchable electricity to a fragile North Queensland grid;
- Global oil prices crash as the COVID-19 induced recession reduces oil demand resulting in massive CAPEX reductions by oil and gas companies across the globe – with implications for gas supply in Australia;
- Discussions for Gas Sale Agreements ongoing with potential new Townsville gas users;
- Northern Territory (NT) oil and gas industry field activities suspended following access restrictions imposed by NT Govt due to concerns over COVID-19 impacts on remote communities;
- Total corporate gas resources position across all held acreage = 4,179 PJ<sup>+</sup>;
- Cash position A\$4.6 million as of 31 March 2020;
- The Company maintains nil debt.

# East Coast Gas Shortage now identified by AEMO report

Blue Management has been in active discussions with representatives of both the Federal and Queensland Governments to highlight the need for national energy infrastructure projects to ensure timely and reliable delivery of energy to domestic East Coast manufacturers and gas users. This is in light of the projected long-term East Coast domestic gas shortfall commencing in 2023, as identified by the latest AEMO GSOO March 2020 report. In those discussions, Blue has directed the Government's focus to Queensland's Northern Bowen Basin as the largest onshore, discovered gas resource that remains un-developed and un-connected to the east coast domestic gas market.

With post COVID-19 "shovel-ready' infrastructure projects critical to the national economic recovery, a single multi-user, 500 km Moranbah to Gladstone/Wallumbilla gas pipeline would be capable of delivering up to 300 terajoules (TJ) per day of gas to the domestic market and is the most advanced, sizeable gas resource that can be delivered to meet the short falls predicted by



AEMO. Government sanction and funding of the line is required to facilitate natural gas and energy field developments in the Northern Bowen Basin.

It is noteworthy that AEMO now forecasts southern state domestic gas supply shortfalls from the winter of 2023 onward, even accounting for the "2P undeveloped (committed)" blocks of gas reserves - see Figure 1 below. There is no consideration in the AEMO report of the impact on those "committed" projects to develop those reserves (ie required drilling), from the recent dramatic fall in oil price, (and hence natural gas prices) and the resultant massive CAPEX reductions made by most oil and gas companies, including all the domestic and foreign major oil and gas producers here in Australia. Furthermore, there is even less consideration given in the AEMO forecasts (Figure 1) to the impact of reduced CAPEX on the "Anticipated developments" that underpin the east coast gas supply from 2023. Failure of any of these Anticipated developments to eventuate will leave the southern states in a precarious energy position sooner rather than the expected 2023 forecast. The onset of the oil price crash and global CAPEX drought in oil and gas expenditure should be a sensitivity addressed in the AEMO forecast, as the East Coast gas market is dependent on more drilling (CAPEX), largely by the LNG players, to provide our domestic gas supply, in the absence of significant dedicated domestic gas activity.

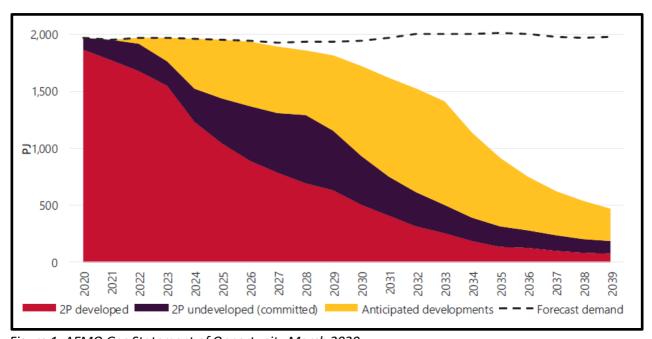


Figure 1: AEMO Gas Statement of Opportunity March 2020

# Pre-feasibility work commences on gas fired electricity generation option in ATP 814

As previously advised to the market, Blue is assessing the potential for the development of gas fired peaking generation capacity in certain gas properties within its 100% owned ATP 814 tenure. ATP 814 consists of seven disconnected blocks in the Bowen Basin across an area ranging from south of Moranbah up to Newlands in the Northern Bowen Basin (Figure 4). Specifically, the portions of the permit in close proximity to high voltage electricity transmission and substation infrastructure are most attractive. This potential project will be in addition to providing natural gas for the southern (pipeline dependent) and northern markets (Townsville).

Accordingly, Blue is looking at ATP 814's Monslatt block (2,054 petajoule (PJ)<sup>+</sup> Contingent Resource - 100% Blue Energy) which is located only a matter of 10 km from the major Nebo

substation in Central Queensland and the 275kv high voltage transmission line from Gladstone to Townsville (see Figure 4).

Pre-feasibility studies are under way to review the cost/benefit of scalable fast-start gas turbines aimed at providing peaking electricity generation and frequency/inertia services from within the Monslatt Block to tie into the Nebo substation infrastructure. Blue believes that reliable dispatchable electricity generation capacity will be required to augment the massive roll-out of solar and wind energy projects in Queensland, at a time when traditional coal-fired baseload power plants are becoming less economic to run and maintain (and hence will demonstrate lower reliability metrics as seen in the Hazelwood (Victoria), Liddell (New South Wales) and Loy Yang plants (Victoria).

Discussions are being underway with industry groups, energy regulators, potential electricity offtakers and equipment manufacturers to gauge equipment size, scalability and connection requirements.

### **Global Oil Price**

The headline grabbing negative oil price of West Texas Intermediate (WTI) crude May contracts, (now lapsed) initially underscored the impact of significantly reduced demand for crude oil in the US (and globally), and the filling of storage at Cushing Oklahoma, the hub for several significant oil pipelines in the mid-west and WTI delivery point.

On the water also, there are now large concentrations of super takers filled with stored crude with no place to go, again reflecting demand-side reduction caused by the COVID-19 pandemic and subsequent shutdown of whole economies. The negative WTI price was briefly created by the confluence of the end date of May WTI contracts, significantly reduced demand due to Coronavirus restrictions (no air or car travel and shuttered industries, so refineries with high inventory levels need less crude) and the reluctance of traders to take physical volumes. US Shale drillers have only now started to shut-in wells, and the Saudi/OPEC/Russian production cuts have not yet commenced, so near normal production has been prevailing.

This was an historic occurrence and opens up questions as to the way the market operated on that day as well as the interplay of physical and paper trading in the world's most traded commodity. Since that day of negative price, the value of the June contract has improved somewhat (however it should be noted the price is all relative as US\$15/bbl is still uneconomic for almost all producers). Brent prices followed WTI downward but have now risen slightly, back to near \$23/bbl at the time of writing (fear amongst traders will now centre on remaining storage outside onshore US and how long it will take to top out that storage).

The US's Energy Information Administration (EIA) pulled together a Supply/Demand curve (Figure 2) in April, post the WTI price collapse, and forecasts normal demand to return by Q3 2020. However, this is predicated on economies being brought back online in that timeframe, which is highly contingent on number of factors, none of which are currently all that clear.

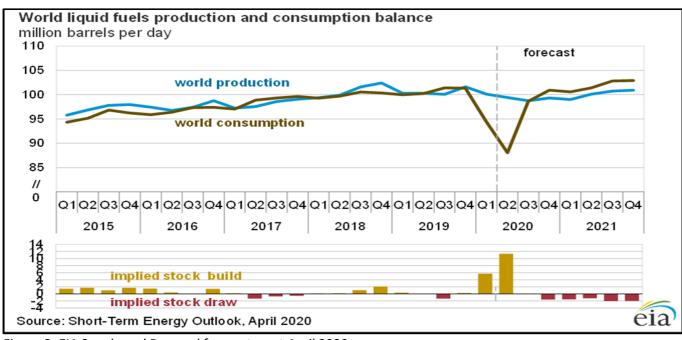


Figure 2: EIA Supply and Demand forecast as at April 2020

The impact of prolonged low oil prices on the revenue side of producing nations, can be seen from the chart below (Figure 3). Most of the major oil producing countries are losing substantial money producing at these prices, and societally, when the lack of revenue begins to impact the level of benefits able to be delivered to the population, unrest generally begins and regime stability becomes a pressing issue. Therefore, it would be prudent to cut production further, given the potential for escalating unrest in countries in an already unstable region. The US on the other hand are reliant on many independent oil companies for production. These companies however have commercial debt covenants to meet, and these are fully expected to be breached and a material number of independents will likely need to file for Chapter 11 protection (Whiting Petroleum is one of the first to file for Chapter 11).

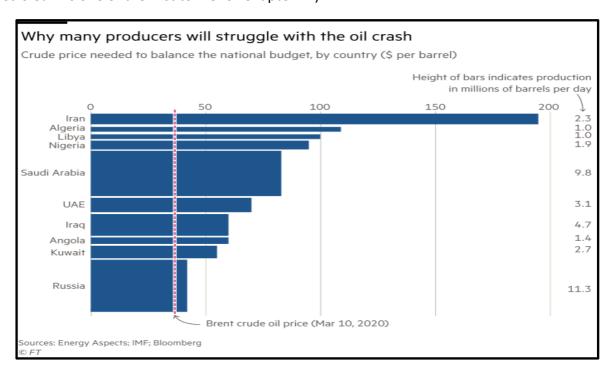


Figure 3: The price of oil required for several nation states to balance their budgets considering the provision of social infrastructure provided by oil revenue

The key takeaway for Australian gas supply is that the deep, across the board CAPEX cuts undertaken by the global oil majors in response to the COVID-19 induced recession and oil price crash, will impact the gas drilling programs for the "anticipated" new gas supply in the AEMO east coast gas supply forecast

## **Commercialisation activity**

Blue continues to pursue additional gas buyers in the Townsville and Moranbah market (in addition to the already announced MoU with Queensland Pacific Metals signed in 2019).

Gas supply for Townsville customers would likely be sourced from Blue's 100% Sapphire Block in ATP 814, which is in close proximity to existing gas gathering and processing infrastructure and is connected to the Townsville market by the North Queensland Gas Pipeline. This will provide the lowest cost and quickest connection for new gas supply.

Several new industrial and manufacturing developments and projects (gas users) are under consideration in Townsville as the region strives to grow its economy and attract new industries. More gas supply will assist that growth

# **Activity in Proven Basins**

### Bowen Basin, Queensland

### ATP 814 (Blue Energy 100% and Operator)

Administrative tenure management matters with the Qld Government continue with respect to ATP 814, including the four Production Licence Applications (PLAs) and the four Potential Commercial Areas applications (PCAs) lodged by Blue Energy. Renewal of the underlying ATP is also on foot with the Government.

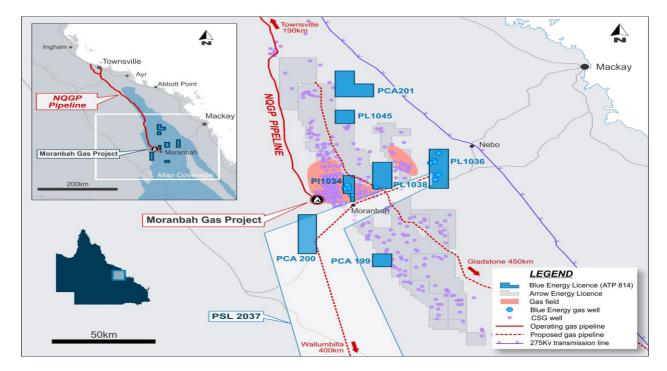


Figure 4: ATP 814 Bowen Basin Queensland showing PL, PCA and PSL Applications, the NQGP gas pipeline to Townsville and the major High Voltage electricity transmission line between Gladstone and Townsville.

These tenure management activities are being undertaken in parallel with the ongoing commercial negotiation and the assessment of each block's feasibility to host gas-fired power generation projects and gas sales to industrial customers in Townsville or the southern market.

As has been previously advised to the market, ATP 814 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)). There is also significant upside within the 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 would be 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<sup>+</sup>. The solution to the ongoing long-term East Coast gas supply short fall, as Bass Strait declines, is the delivery of more gas supply to the market. Development of the North Bowen Basin gas resource provides the quickest solution. All that is required is a 500 km pipeline connection.

## Surat Basin, Queensland

### ATP 854 (Blue Energy 100% and Operator)

ATP 854 contains 103 PJ of Contingent Resources, as reported to the market on 19 March 2013. Blue has lodged Potential Commercial Area Applications (PCA's) over the Permit with the Queensland Government, and which will allow work to be undertaken to grow gas reserves and resources in parallel with the continued marketing of the gas resources to potential buyers.

As previously noted, PSL 2033 (the proposed Jemena pipeline from the Galilee Basin) is proposed to pass through ATP 854 and connect to Jemena's Wallumbilla – Gladstone gas pipeline. This is therefore strategically located for Blue Energy to potentially utilise for gas export across the Permit in due course. This proposed pipeline also provides a potential alternate path to market for Blue's Galilee Basin gas resources in ATP813P (see Figure 5).

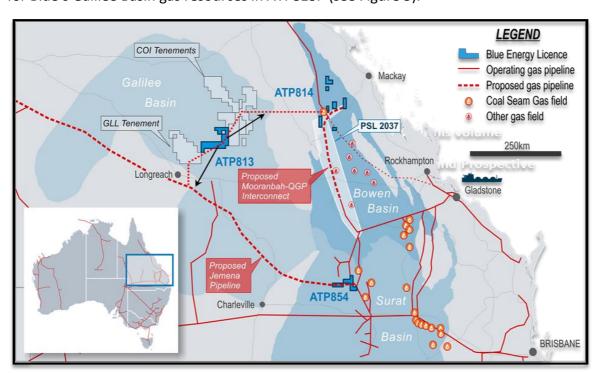


Figure 5: Pipeline routes impacting ATP 854, ATP 813 and ATP 814



# **Activity in Emerging Basins**

## **Greater McArthur Basin (Northern Territory)**

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

A further suspension of Work Program activity on Blue's three awarded tenures in the Northern Territory (EP's 200, 205 & 207) has been granted to the Company by the NT Government until February 2021, based on delays on approval processes.

After the hiatus in exploration activity resulting from the Pepper Inquiry and subsequent legislative change process (to incorporate just the exploration component of the Pepper recommendations), there were appearing the first green shoots of on ground activity by the larger operators (Santos and Origin) in the Beetaloo Basin. On this basis, Blue commenced reengagement with the Aboriginal Land Councils, land owners, government departments and other stakeholders to commence the process for lodgment of an Environmental Management Plan (EMP) within the new approval process regime and ahead of the planned seismic campaigns in EP's 200, 205 and 207 contemplated under the previous approval system.

Whilst this engagement process is ongoing, the COVID-19 restrictions applied in the Northern Territory (together with the NT border closure) put in place to protect the vulnerable remote communities, has had the effect of locking down all on-ground exploration activity. This has disrupted proposed meetings with Traditional Owner groups and land councils who representing traditional owners.

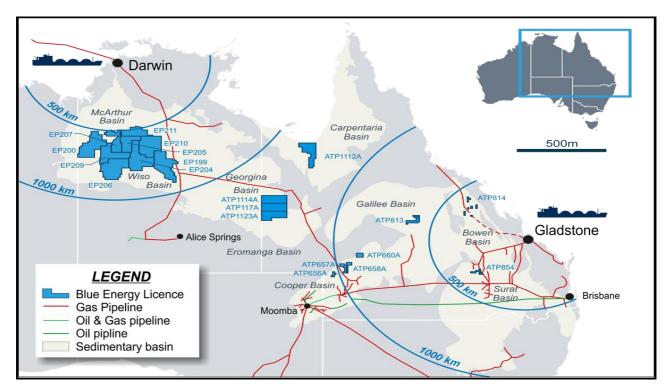


Figure 6: Blue Energy's acreage portfolio highlighting the large McArthur Basin position in the NT

# **Galilee Basin (Queensland)**

### ATP 813 (Blue Energy 100% and Operator)

Applications for PCAs were lodged with the Qld Government in 2017, together with an application to renew the Permit. These applications remain on foot with the Qld Government. The onground 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 ATP 813 (as assessed by Netherland Sewell and Associates Inc).

In adjacent activity to Blue's ATP 813, Galilee Energy continues to operate the Glenaras Coal Seam Gas production test pilot (in ATP 2019) and reports continued minor gas flow and decreasing water rate from the test wells. Success will provide proof-of-concept for the Galilee Basin CSG play and give confidence for Blue to conduct appraisal activities on its gas discoveries (838 PJ)<sup>+</sup> already recorded in ATP 813.

### **Corporate**

#### **Cash Position**

Cash on hand at 31 March 2020 was A\$4.6 million.

The Company has nil debt.

# **Blue Energy Gas Reserves and Resources**

Permit	Block	Assessme	Announceme	Methodolo	Certifier	1P	1C	2P	2C	3P	3 C
		nt Date	nt Date	gy		(PJ	(PJ)	(PJ	(PJ)	(PJ)	(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
Total (PJ)		•		•		0	158	71	1,166	298	4,179
Total						0	27	12	199	51	714

Table 1: 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 813, 814 or 854 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 2

Permit	Location	Interest Held	Interest Held	
		Previous Quarter	<b>Current Quarter</b>	
ATP656	Cooper Basin (Qld)	100%	100%	
ATP657	Cooper Basin (Qld)	100%	100%	
ATP658	Cooper Basin (Qld)	100%	100%	
ATP660	Cooper Basin (Qld)	100%	100%	
ATP813	Galilee Basin (Qld)	100%	100%	
ATP814	Bowen Basin (Qld)	100%	100%	
ATP854	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%	

Table 3

*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

<sup>\*</sup>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

By Authority of Board per: John Phillips Managing Director Blue Energy Limited