Blue Energy Ltd (BUL)

Uniquely exposed to Eastern Australia Gas opportunity

Recommendation: BUY

Breakaway Research

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Stuart Baker |Senior Research Analyst
stuart.baker@breakawayresearch.com

www.breakawayresearch.com

Key Points

- ***Eastern Australia faces a large and extended gas supply shortfall and gas prices have risen 300% in 5 years. This justifies a new wave of investment in production and infrastructure, predominantly in Qld and the NT. Blue Energy has the largest undeveloped resource in Eastern Qld and enormous prospective acreage in the NT, which it plans to monetize via asset transactions. The size of this resource and commercial strategy differentiates BUL from peers.***
- ***BUL's principle assets are:***
    - ***2P gas reserves of 71 PJ, 3P of 298 PJ and 3C of 3942 PJ all in the Qld Bowen & Galilee basin. Blue's reserves are independently audited by Dallas based reserves certifiers Netherland, Sewell and Associates (NSAI).***
    - ***55,000 km2 of prospective gas acreage in the NT, an area greater in size than the UK, and near the Origin Energy-Falcon JV's world scale Beetaloo Basin 2017 gas discovery.***
    - ***All acreage is operated giving Blue full control over capital spending, and the majority of permits are 100% owned.***
    - ***The Bowen Basin reserves of 3000 PJ 3C are high quality & adjacent to substantial production resources operated by Shell-Petrochina. BUL's acreage is "development-ready" and BUL has submitted development plans and has an MoU with the APA Group for pipeline infra-structure to bring this gas to the Eastern Australia gas market.***
- ***BUL does not have production or earnings. The investment case is underpinned by transaction and enterprise value for reserves, resources and prospective acreage.***
    - ***Development assets and 2P gas reserves are trading for >A$3/GJ (for 2P). Equity market value and recent deals for 2C & 3C resources average A$0.72/GJ and 58c/GJ respectively. These are all greater than BUL's current market value of 13c/GJ for 2C resources, and 3c/GJ for 3C.***
- ***BUL strategy is to monetize this resource via an asset transaction, with a gas-short producer or customer, and return a substantial amount of the proceeds to shareholders.***
- ***On current market and transaction benchmarks, we estimate BUL's asset base is worth 55 cps in the central case, but with a very wide range between 19c and 153c.***

Blue Energy is unique with its large undeveloped resource in a gas market that is short. The investment case hinges in management's ability to execute a transaction and the timing and quantum are speculative. However the strategy is clear, the reserves are real and management credentials and track record are first rate. Hence, Breakaway Research has a BUY recommendation on Blue Energy Ltd.

Company Information

ASX Code	**BUL**
Share Price (A$)	A$0.11
Ord Shares/ Perf rights (M)	1142/53
Market Cap	**A$126m**
Market Cap (fully diluted)	**A$126m**
Cash (30 June 2017)	A$2.5m
Total Debt	A$0m
Enterprise Value	**A$123m**

Directors

Executive Chairman	John Ellice-Flint
Managing Director	John Phillips
Director (Non-exec)	Karen Johnson
Director (Non-Exec)	Rodney Cameron
Director (Non-Exec)	Seungsoo Han

Significant Shareholders

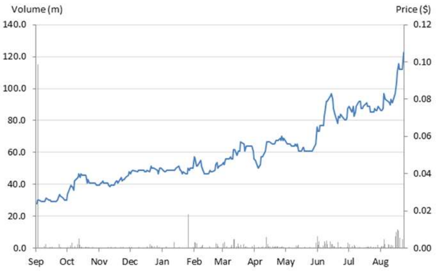
1. Chairman	9.7%
2. Stanwell Corporation	7.7%
3. KOGAS Australia	5.5%

Source: Company

Company Details

Address	Level 3, 410 Queen St Brisbane, Qld, 4000
Phone	+61 7 3270 8800
Web	www.blueenergy.com.au

1 Year Price Chart



Source: Commsec

Company Strategy: Monetise Assets, Return Capital and Then Repeat

Companies prepared to trade assets and give the proceeds to shareholders are a rare breed.

Blue Energy's (BUL) strategy is to amass acreage with proven or prospective gas resources, monetise via an asset transaction, and return capital to shareholders. **This is unique, and differentiated from peers** that seem more intent on growing by amassing staff, raising capital and drilling wells.

Board and management of Blue for saw the emerging eastern Australian gas market crisis several years ago, and Blue was an early mover in acquiring large acreage positions at a time when the super-major LNG developers thought they had enough, and were focused on development. There was even a time just a few years ago, when major industrial and utility consumers stood back from re-contracting, expecting a gas glut and a perpetuation of low gas prices.

In fact, surpluses did not arise and now it appears the LNG exporters have over-sold their reserves and the industry is "short". Conventional gas reserves offshore Victoria, and onshore the Cooper Basin total 5200 PJ, which is just enough to supply the Eastern Australian Gas market, with current demand of 600 PJ p.a, for approximately 8 years.

All the existing conventional fields currently in production were developed long ago, and depletion in the next decade is unavoidable. The Australian Energy Regulator, in its regular "Statement of Opportunities" show that depletion from these fields will result in a supply-demand gap emerging from 2018 and widening very rapidly there-after. Figure 1. As that gap grows, gas prices will continue to rise. They have already risen three-fold in the few years since LNG exports commenced in mid-2014. Figure 2.

There are very large developed gas reserves and in Qld, predominantly committed to export markets. Higher domestic gas prices may incentivise some of this to be diverted to the domestic market, and we figure >A$10/GJ is required. In addition there is the threat of Federal Government intervention to limit export volumes. However the LNG resource owners are somewhat anxious about re-directing gas to the domestic market just yet, as many face longer term reserve uncertainty.

GLNG is short and needs gas from third parties, APLNG wrote-down its 2P and 3P reserves at June 30 2017, and both are increasing capital spending to develop and prove up gas despite an absence of positive cash flow from operations. We estimate that APLNG requires an average real gas price of $8.30/GJ to generate a positive ROA, while for GLNG the figure is A$9.50/GJ. Higher prices are required to pay taxes, future PRRT, interest and debt principle, and dividends to shareholders.

The blue and brown bits look extremely optimistic and not supported by geology

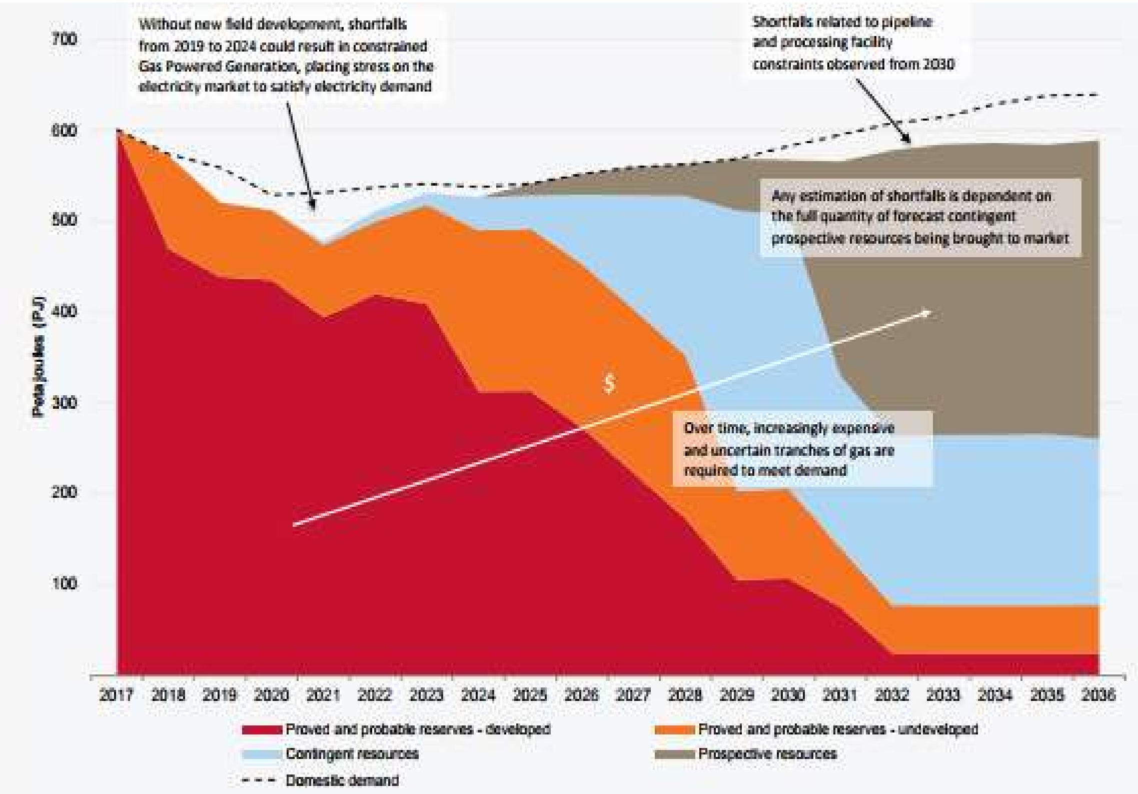


Figure 1: AER perspective on supply & demand in Eastern Australia, from SOO, June 2017

We are now in a market where gas prices ~ A$10/GJ are considered normal and we expect upward momentum to continue. Apart from the spot prices detailed in Figure 2, there is evidence of new contracts for longer term supply being written at ~$9/GJ.

East Coast gas prices have risen 300% in 5 years.

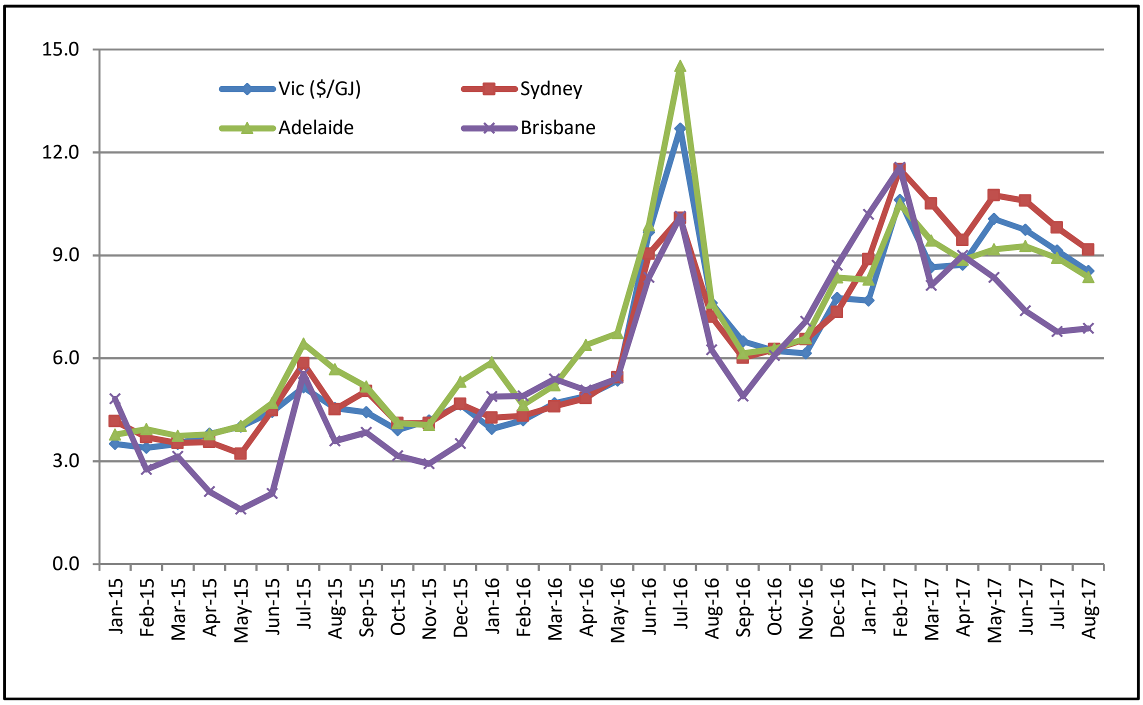


Figure 2: Spot gas prices at City gates. Source; AER Weekly gas market Reports

New projects such as Cooper Energy's Sole development offshore Victoria are disclosed to be priced in the A$7- $9/GJ range, and Central Petroleum indicates it requires $9.2-$9.7 /GJ to underpin commercial redevelopment of gas in its Palm Valley and Meerenie fields, NT.

Now there is a price incentive for incumbent producers to buy, explore and sell gas into the southern market's, however unlike a decade ago, there is not much gas remaining that is not already committed for development, or being "banked" by supermajor LNG export companies.

Blue is the exception, with the largest undeveloped and uncommitted resource close to markets in southern / central Queensland. Figure 3. Blue's 3000 PJ of 3C resource in the Bowen Basin is large enough to supply the domestic market for 5 years, and is large enough to be of strategic interest to either LNG exporters of large domestic utilities or industrial consumers.

Blues 'resource position is greater than all except Galilee Energy, but the latter's fields are very remote

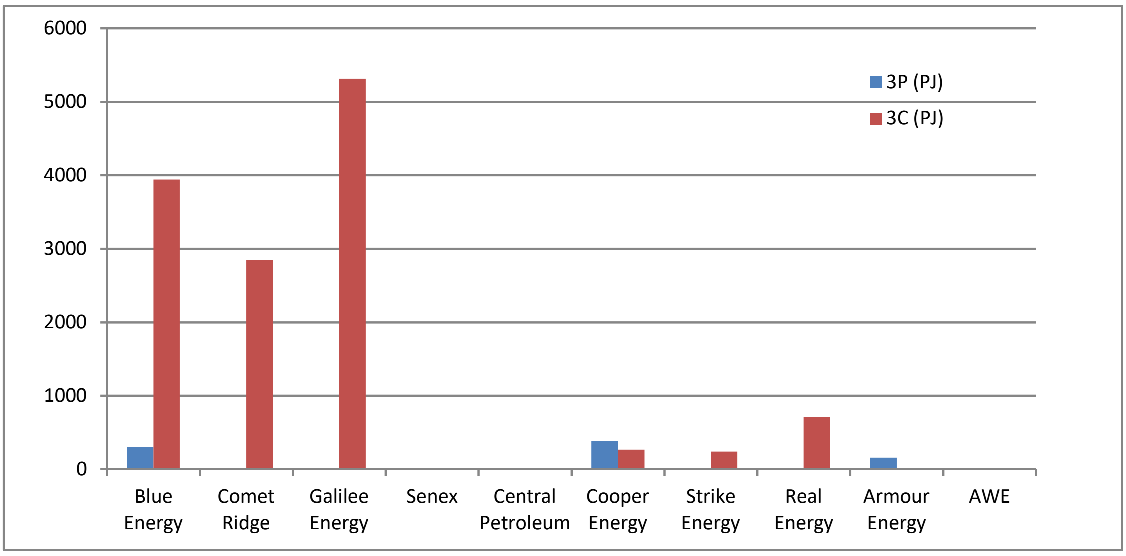


Figure 3: 3P and 3C reserves & resources for ASX-listed independent companies active in gas in Eastern Australia

Key Assets: Reserves, Resources, Acreage & …Location, Location, Location

Figures 4 show's BUL's reserves and resources. It is one of the largest undeveloped, independently owned resource bases in Eastern Australia. Approximately 3000 PJ of this is in the Bowen basin where coal seam gas quality is high and where there are plans to build pipeline infrastructure. Other resources are in the Galilee Basin in far North Qld, but this region is far from existing infrastructure and development costs will dis-advantage this region compared to those nearer to Gladstone. Unlike the Surat and Bowen Basins, which have gas production over ~15 years, the Galilee Basin does not have historical production.

Blue is a reserve, resource and acreage " bank"

Permit- location-Basin	W.I(%)	Area (net)- '000 km2	1C	2P	2C	3P	3C
Bowen-ATP-814P	100	1116					
Sapphire			66	59	108	216	186
Central			50	12	99	75	306
Monslatt					619	0	2054
Lancewood			5	0	23	1	435
South			15	0	27	6	30
Surat-Bowen-ATP854 P	100	828	22	0	47	0	101
Galilee-ATP813P	100	4158			61		838
Capentari-ATP1112	100	7996					
Cooper Basin- (4 blocks)	100	5357					
South Georgina- NT (3 blocks)	100	21351					
Maryborough Basin (3 blocks)	100	2984					
McArthur Basin-NT (9 blocks)	50	55944					
Total		**99734**	**158**	**71**	**984**	**298**	**3950**

Figure 4: Acreage and reserves. Source: BUL 2017 Annual Report. Area in thousands of square km.

BUL's acreage is in three disconnected geographical regions, each of which is significant geologically. In order of importance for investors, is the Bowen Basin which is appraised and ready to be monetised. The lack of reserves in other acreage is not a reflection of geology, but rather reflects that in these regions, exploration is still at a very early phase.

The Bowen Basin: ready to be monetised

The northern Bowen basin blocks in permit ATP814, are the most advanced of Blue's portfolio and contain all of the company's 2P and 3P gas reserves. There are three blocks of commercial significance, Sapphire, Monslatt and Central. Drilling and testing has been ongoing since 2008 and includes:

- At Monslatt: 3 fully cored wells, 2 stratigraphic control wells, and 5 production pilots which tested gas to surface.
- At Sapphire, 3 wells fully cored, and 1 production pilot which tested gas.

Reserve have been audited by Netherland Sewell and Associates (NSAI)

Results from this activity, and a data sharing deal with the adjacent operators (Shell-Petrochina) underpins the current reserves. These have been independently audited by Dallas based reserves assessors, Netherland, Sewell & Associates (NSAI).

This basin is significant as it contains 11,000 PJ of contingent resource. Around 8000 PJ are in the Shell-Petrochina operated acreage. Development of this acreage dates back 15 years. There is a gas plant at Moranbah producing 40 TJ/day, with the gas supplied to local industry and piped north to Townsville. The original operator, Arrow Energy pioneered exploration in this area and the acreage was considered to contain some of the region's best geology, but development at that time was constrained by the relatively small domestic Queensland market.

An M&A deal frenzy between 2007-2011 resulted in Arrow being acquired by Shell & Petrochina in a $3B on-market transaction. These companies planned to develop the Arrow acreage for an LNG plant to be located on Curtis Island, but the subsequent acquisition by Shell of BG Group, has delivered the QCLNG export LNG project at Gladstone, to Shell and it is widely believed that Shell will ultimately develop the Arrow gas to back-up longer term delivery to the QCLNG plant.

ATP-814 is ready for commercial development now. In June 2017, the company submitted an "Initial Development Plan and Production License Application" to the Qld Government. Shortly there-after it announced it signed an MoU with the APA group, to negotiate a Gas Transportation Agreement with APA, through a pipeline to connect to APA's existing network to the south, near Wallumbilla. (Figure 5)

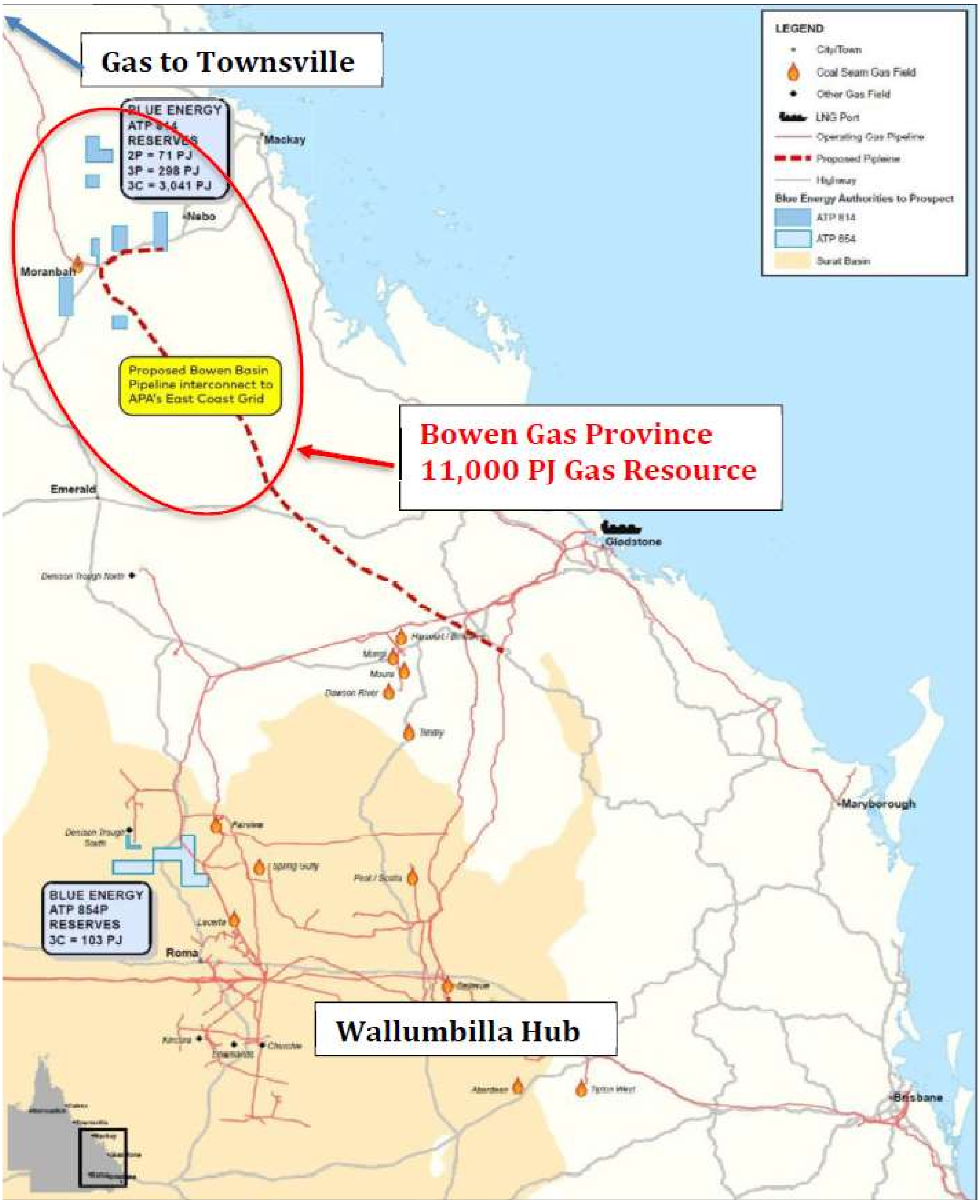


Figure 5. Source: Blue Energy

From a geological perspective, these gas-rich coals are well understood, with production from Shell-Petrochina acreage for >15 years in blocks to the east and west of those now operated by Blue, and through significant coal mining activities dating back half a century. The productive coal seams are regionally continuous and the geology across the Blue Energy blocks is shown in Figure 6.

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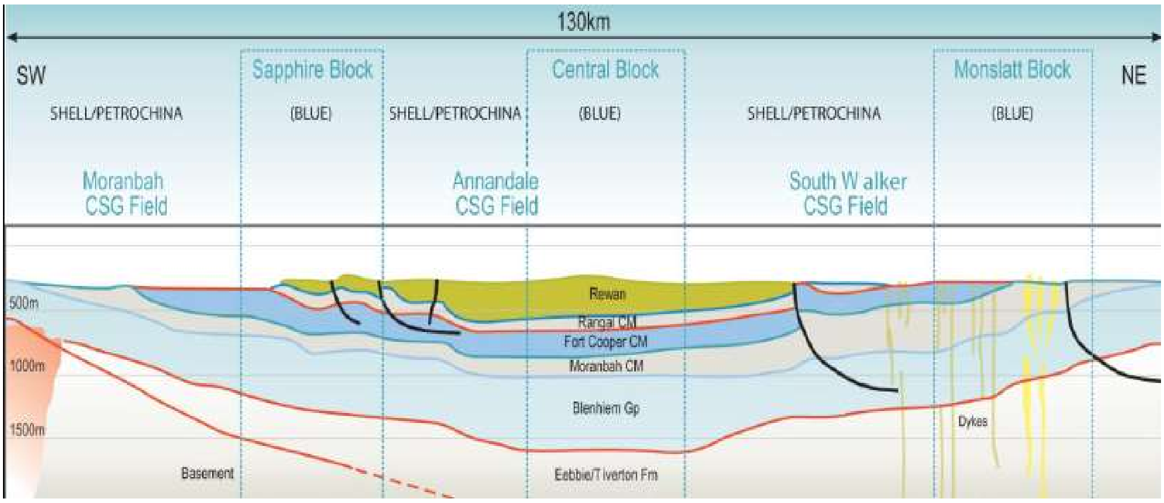

The geology is very well known and has >15 years of production history

Figure 6: Source; Blue Energy 2013 AGM presentation.

The Northern Territory: Greater McArthur Basin & Georgina Basins

In August 2013, Blue Energy executed a farm-in agreement with Australian Oil and Gas, to earn a 50% interest and operatorship in 9 blocks covering 111,887 square km of the McArthur Basin, in the Northern Territory. This region is largely un-explored, and activity within these blocks has been limited to geological studies however it is believed the geology is prospective for liquids-rich shale gas. The farm-in was to be executed over 3 stages, costing BUL $3m for geological and geophysical studies, and seismic acquisition and interpretation. The effect of a subsequent moratorium on fracture stimulation (aka “fraccing”) has been to shut-down exploration across most of the NT and until the moratorium is lifted, work in Blue’s blocks has been formally suspended by the NT Government at Blue’s request.

Currently, the NT government is deliberating on the assessment provided by a scientific inquiry and will determine a course of action later this year. Fraccing is likely required in most of the geology of ancient rocks in the NT to enable production, which the Government ironically is trying to foster by the construction of an 622 km, $800m, gas pipeline to link the NT to the east coast network. The pipeline is planned to run from Tennant Creek to Mt. Isa, with initial capacity 90 TJ/d (32 PJ p.a) expandable to 160 TJ/d. Construction has commenced and when completed in late 2018, it will serve as a critical infrastructure to facilitate access to markets for incumbent producers. Blue’s acreage is very close to this infrastructure, and also to the main north-south rail link connecting Darwin to Adelaide.

Until the oil price crash, the NT was perceived as a hot new area, with vast under-explored acreage prospective for shale and conventional oil and gas. Super-major and independent companies were actively seeking entry, and some (namely Total, Statoil, Origin Energy) made large investments in exploration to understand the regions geology.

Falcon Oil & Gas share price rose 500% in the month after the Origin Energy Beetaloo discovery

There has been significant exploration success, the most relevant to Blue being Origin Energy’s world-class gas discovery in the Beetaloo Basin, around 200 km to the east. Origin announced on Feb 15, 2017, a 2C gas resource (gross) of 6.6 Tcf, following production testing at its latest well, Amungee-1H. This well delivered 63 mmscf over 57 days, from an 11 stage frac, in a 1100m horizontal section of organic rich shale at a depth of 2100m. In its report to the market, Origin stated the geology was analogous to the Barnett and Marcellus shales of the USA. This is quite a big claim, and investors on the other side of the planet took note. Shares in the smaller JV partner involved, Canadian company Falcon Oil and Gas increased 500% shortly there-after, effectively capitalising its 30% working interest in this project at C$350m. This confirms value on acreage hitherto considered almost worthless by equity investors in Australia.

Three very large permits in the Georgina basin are also in an area that was considered to be “hot” a few year ago, for its liquids rich-shale gas potential. Statoil and Total were active to the west, but high costs, remote activities and prioritization by most operators away from frontiers has resulted in activity in this region attenuating as mandatory work programs have rolled off. We don’t expect a recurrence of activity in the near term and we ascribe no value to this acreage here at this time.

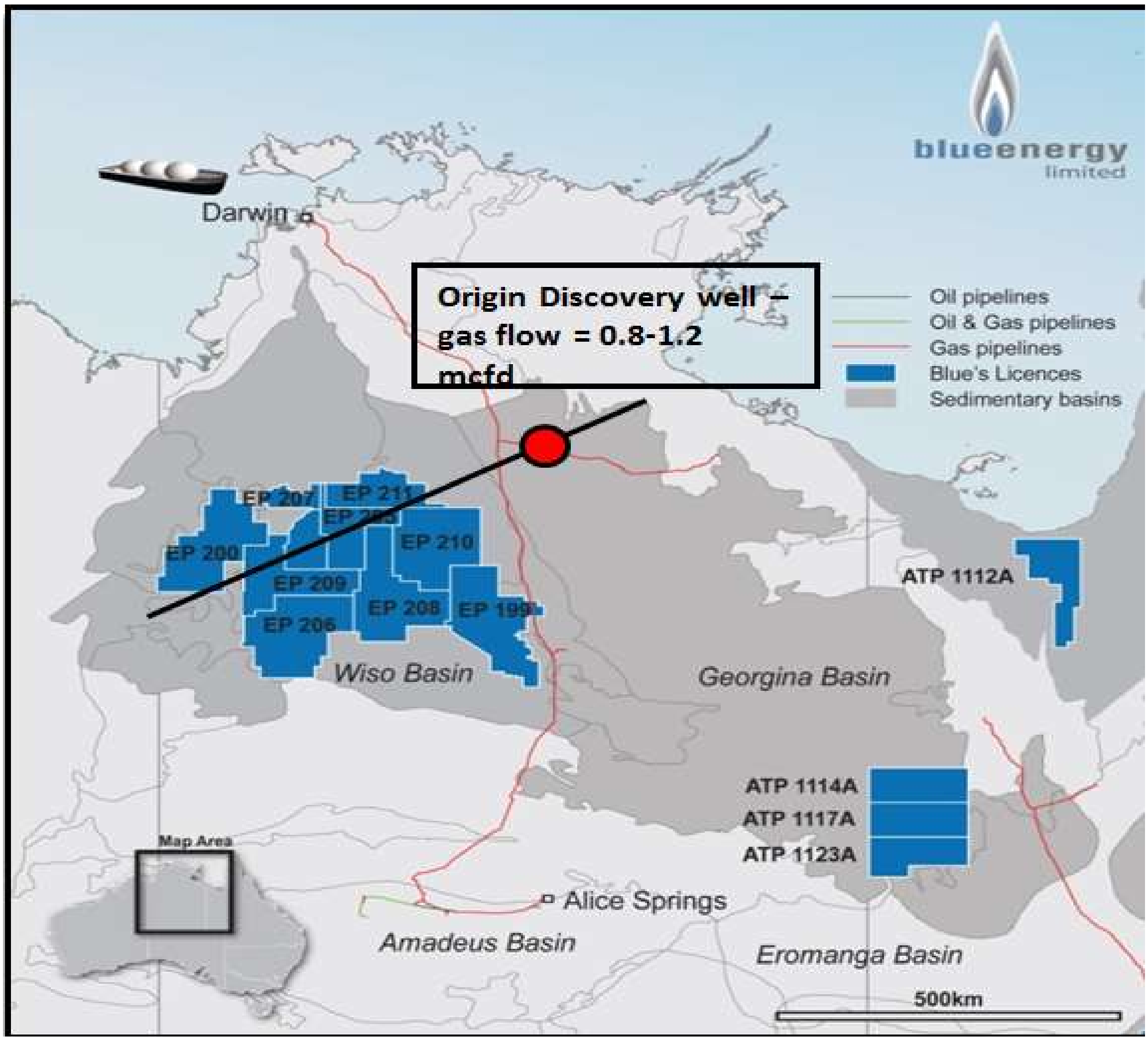

Figure 7: Location map of permits in NT

Galilee Basin, far north Queensland

There are large resources in the Galilee Basin but it needs infrastructure

North of the Bowen basin in central Qld, is the vast Galilee Basin. This has experienced conventional oil and gas exploration and coal seam gas exploration since the 1970's. A key constraint has been, and remains today, its remoteness from existing infra-structure but there is nothing wrong with the geology, with coals of the late Permian being the key regional target. Blue's ATP-813P permit has 64 km of seismic and 6 core holes drilled and tested, resulting in resource bookings by NSAI in 2013.

Plans by the Adani group to develop a major coal mine plus associated infrastructure will open up the region, and will create a local market for gas, but in our view, its hard to see this region being developed for supply to the southern market ahead of the larger, and likely cheaper, undeveloped fields to the south in the Bowen basin. There are other small companies with large resources in this region, and we note the share market appears to be assigning very low values to these companies active in the Galilee, implying low expectations of commercial development at this time. (Eg, Galilee Energy, Comet Ridge). However, Blue has an acreage position in this emerging basin, should peer group activity deliver tangible results.

History of reserve and resource upgrades

BUL's key leases in the Bowen basin were the subject of a significant amount of exploration up until 2012, after which capital constraints, lack of market opportunities, and the 2014 oil price crash constrained ongoing work. Between 2007 and 2012, around $75m was invested, predominantly in the Bowen Basin blocks, at Monslatt and Sapphire.

Importantly for BUL, activity in surrounding leases owned and operated by Shell, has been ongoing and Shell blocks to the east and west of Blue have had over 300 wells drilled and tested. Due to a data sharing agreement with the independent reserve auditor, Netherland Sewell & Associates (NSAI), data from Shell wells and work conducted by Blue is incorporated into reserve and resource determinations for the Blue acreage. Reserves and resources growth over time are shown in Figure 8.

Reserves and resources have grown over time.

Reserves and resources						
PJ	2012	2013	2014	2015	2016	Current
1C	0	146	146	183	158	158
2C	631	852	811	1077	984	984
2P	39	50	55	55	71	71
3P	75	187	199	199	298	298
3C	2234	3516	3455	4394	3942	3942

Figure 8; Source: Blue Energy Annual reports

Finances & Capital adequacy.

Blue is extremely frugal.

BUL had $2.5m of cash at June 30, 2017. Administration and operating costs are little more than $1M p.a. so there is enough cash to support the business for 2 years. Asset sales, if they are achieved, would substantially replenish the coffers. As evidenced in Figure 9, Blue has been frugal with respect to exploration and drilling activities too.

Most of the investment in defining the reserves and resources took place between 2006 and 2011, and during this period around $74m invested, funded by equity issuance totalling $107m.

There are no looming exploration drilling or other capital commitments of size.

There is no debt.

We do not present in this report financial accounts as they are not meaningful to the investment thesis at this time, and with no near term production or revenue, we are unable to make any projections of revenue, earnings and cash flow.

A$M (y/e June)	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
NAT	-13	-6.7	-10.3	-4.3	-9.9	-13	-5.3	-1.6	-1.7
Total assets	49	64	76	71	87	75	75	71	69
Capital investment	**7.9**	**9.5**	**13.4**	**13.9**	**11**	**4**	**6.5**	**2.8**	**0.6**
Debt borrowed	3	-0.5	-3	0	0	0	0	0	0
Equity issuance	32	23	16.6	6	23.4	0	0	0	0
Cash at y/end	22.6	30.5	27	14.9	22	16.9	9	4.7	4.6

Figure 9. Source: Blue Energy Annual Reports.

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Valuation Benchmarks

Given the asset -value nature of Blue's business model we review historic and recent transactions to form a perspective on the value that a trade buyer may be prepared to pay for undeveloped gas reserves & resources, in the current market. We discuss trends or market benchmarks which are directly relevant.

Transactions: tend to come in waves

The previous CSG deal frenzy occurred at a time when the domestic market was long and local prices were $4/GJ…

…Unlike now, when prices are $10/GJ and the market is short

The last big wave was a decade ago between 2007 and late 2011, and captures a period of substantial M&A and asset sales activity. In total, around A$17B changed hands in deals, predominantly with global companies and LNG buyers in Asia consolidating coal seam gas assets in Queensland. The effect was a wave of consolidation that almost eliminated small producers targeting the local market. The buyers subsequently invested around $90B in export LNG plants and this is the cause of the current market problem. Significantly, the average price paid in this previous cycle for 2P or 2C gas was A$1.90/GJ, and for 3P around 96c/GJ. This was in a market where domestic prices were A$4/GJ and while the target markets were higher netback LNG, the oil price (and LNG price) at the time wasn't all that much higher than now. Figure 10 shows transaction prices during the 2007-2010. The key take-away was very large values being placed then, on developed and undeveloped resources.

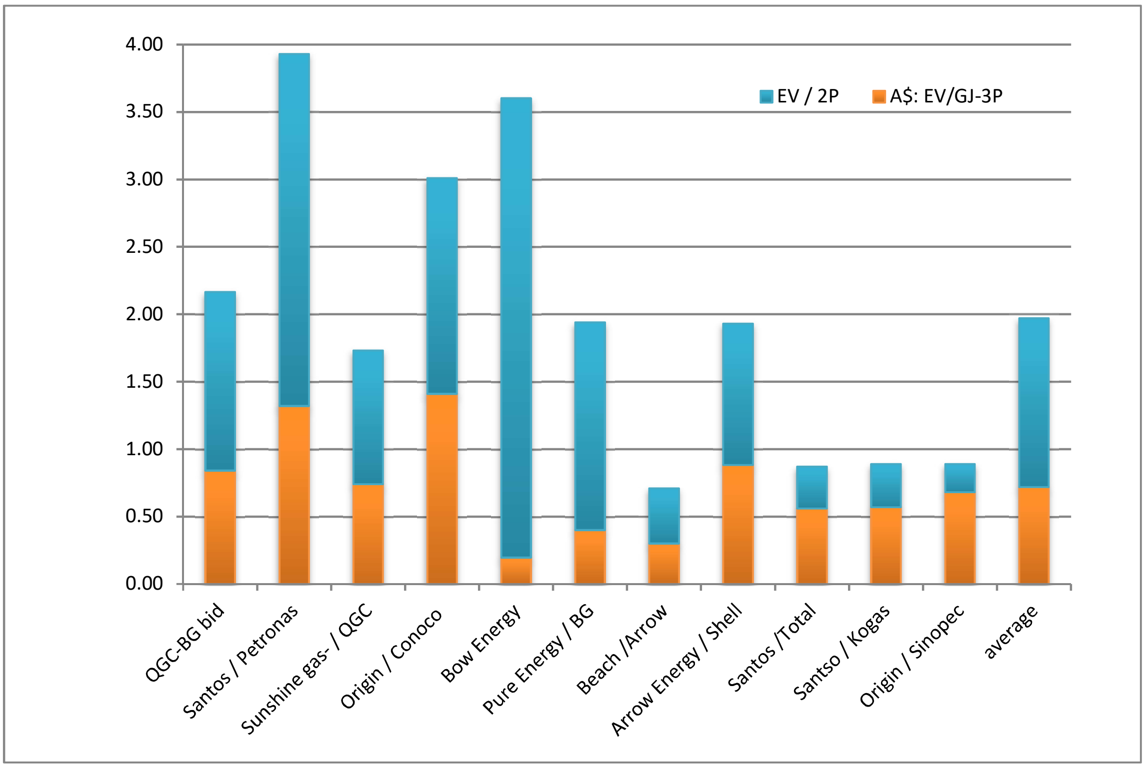

Figure 10: Source: Breakaway Research, and company reports.

But transactions have been few as there is not much left to buy !

Recent deals are putting prices on 2P and 3C far higher than before.

There have been few transactions in the past 3 years, reflecting a combination of low oil prices, capital rationing by larger E&P's, and lack of opportunity in terms of public or privately held assets for new buyers. The handful of deals that have been executed provides evidence that there is now a new "floor" from which assets are being priced. For example:

- In September 2017, Origin Energy acquired minority interests in its majority owned and operated Otway gas project, offshore Victoria. Origin paid A$250m for an incremental increase in 1P, 2P and 3P gas reserves of 54, 81 and 104 PJ. This averages A$3.1 /PJe for 2P gas, for production that needs additional capital to fully exploit, while the gas is largely contracted at ~A$4.50/ GJ.
- In September 2017, Senex was the high bidder for gas acreage in the Surat Basin, Qld, which was gazetted by the Queensland Government. The acreage contains a 3C resource of 120 PJ. Senex bid

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a $200m work program which effectively prices the undeveloped gas resource at A$1.67/GJ. This is an important data point as it implies a material value for a 3C resource.

- In November 2016, affiliates of Macquarie Bank launched an on-market offer for ASX-listed Central Petroleum which owns gas in the NT, effectively pricing 2P non-producing assets needing additional investment to bring to the eastern coast, at A$1.40/GJ, and 2C at 68c/ GJ. Importantly for the first time, the deal included an option payment on additional gas discovery of 15c/ GJ. The deal was NOT approved by shareholders, perhaps suggesting these values are a low water mark. In his letter to shareholders, the Chairman stated this gas required prices between $9.30-$9.70 at the Wallumbilla gas hub, in order to justify commercial development.

The Senex acreage award sets a new high water mark price for 3C.

Equity raisings indicate appetite for investment in domestic gas.

There is momentum in the equity market for energy stocks exposed to the eastern Australia gas market and shares price increases for non-producing companies point to growth in EV/GJ metrics. Companies with prospective gas acreage are attracting significant amounts of risk capital in order to move to the development phase. For example:

- Cooper Energy raised $350 in 18 months to buy and develop the 246 PJ Sole gas field. The development economics work out at about $3/GJ, and this is for a discovered field feeding into an existing gas plant onshore.
- Following a take-over rejected by shareholders against support from the Board, Central Petroleum had to regroup and raised $28m for additional delineation in its Amadeus Basin (NT) tight gas fields.
- Senex Energy raised $91m in Q2 2017 to under pin development of its Western Surat gas fields, immediately south of Roma. In September 2017, it was awarded acreage in the Surat basin on the basis of an industry high $200m work program. The acreage had a 3C resource of 120 PJ. This equates to A$1.67/ GJ for 3C.
- Strike Energy raised $9m on September 21, to apply horizontal drilling in its southern Cooper basin deep coals in order to achieve commercial flow rates that have so far proven elusive after 4 years of drilling and testing. Strike reports the issue was “heavily oversubscribed”.

Market based enterprise values: range widely depending on location

We have a comprehensive database of listed market values for peer companies which have developed and undeveloped acreage in the Cooper Basin, Queensland and offshore Victoria all of which are exposed to the domestic gas market. This table is shown in Appendix B, Figure 13.

From this, we have developed pricing multiples which we think are relevant to BUL although the range from company to company is very wide and results in discounts or premiums related to location far from or near to markets. In deriving these values, we have excluded in some cases, resources which are very remote from existing infrastructure and which we think will require higher cost and /or take longer to bring to market. As a result of all this, we assign valuation “book-ends” based on EV/2P, EV/2C, and EV/3P and EV/3C for gas-in-the ground as shown in figure 11.

Blue resource multiple valuations

Reserve category	PJ	A$/GJ	A$m	**cents / sh**
2P	71	3.0	213	**19**
2C	876	0.72	631	**55**
3P	298	1.58	471	**41**
3C (Bowen only)	3011	0.58	1746	**153**

Figure 11: Source: Breakaway Research, Blue Energy Reports.

Using these book-end asset values results in Blue Energy share price values that range widely, from a low of 19c if only the 2P reserve was priced, up to an astonishing $1.53 if all the 3C resource were valued on the market 3C multiple. However we note that not all peer group companies report 3P and 3C figures so the value outcomes based on 3P and 3C values are based on a very limited sample. Reporting of 2C figures on a consistent basis is common to the peer group, so the EV/2C figure has more data to support it than alternative measures and for this reason we think that its probably a more reliable indicator of value than other reserve metrics shown in figure 11.

In any event, the current share price is materially lower than all of these outcomes and we attribute this to the share market's inability to identify the latent value in discovered, but undeveloped 3C resource. The reason why is that previously, in the well supplied domestic market 5-10 years ago, this asset had nil value. In contrast, in a short market with LNG producers seeking feed gas to underpin >30 years of operations, Blue's large block of 3C resource has material value to a strategic buyer.

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Blue Energy Director and Executive Backgrounds

The Board includes members with depth of experience in the Australian gas industry and the Queensland coal seam and conventional gas industry in particular.

Executive Chairman, appointed April 5, 2012

John Ellice-Flint BSc(Hons), Harvard, AMP

Mr John Ellice-Flint is an Australian-born business executive whose foresight and wide-ranging oil and gas industry credentials are recognised internationally. John has over 40 years of exploration, production, operations and commercial experience in the oil and gas industry and has held many senior positions with multi-national companies. John's achievements in the industry are well-known and highly respected. Following a 26 year international career at Unocal Corporation, serving in a variety of senior executive roles within strategic planning, exploration and technology functions, John became Managing Director and CEO of Santos Ltd from 2000-2008. John guided Santos through a period of major growth and change which culminated in the recognition of the potential of coal seam gas development through the Gladstone LNG export project in Queensland.

Executive Director and Chief Executive Officer, appointed June 28, 2010

John Phillips, BSC(Hons), GAICD

John is a Petroleum Geologist with 30 years of experience in the oil and gas industry. John Joined Blue Energy as Chief Operating Officer in May 2009, was promoted to CEO in April 2010 and joined the Board in June 2010. John's career in the industry has involved conventional oil and gas and coal seam gas experience in a variety of petroleum basins both domestically and internationally. John has gained extensive experience through his involvement with Delhi Petroleum, Esso, Conoco, Petroz and Novus, culminating in his role as CEO at Sunshine Gas before its takeover by QGC and subsequently the BG Group.

Non-Executive Director, appointed September 30, 2013

Karen Johnson, BComm, FCA

Over the last 20 years Karen has held senior roles specialising in audit, assurance, technical and corporate governance, consulting and financial accounting engagements within Chartered Accounting firms, public sector entities, and private companies. Karen brings strong technical accounting skills through knowledge and application of Accounting and Auditing Standards and an ability to quickly grasp complex business operations and identify the key risk areas for analysis, risk assessment and critical evaluation.

Non- Executive Director, appointed November 15, 2011

Rodney Cameron, BAdmin,(Hons), MBA, MFM,CPA, FAICD.

Rodney has over 30 years industry experience, particularly in the energy and resources industries. He is a seasoned financial executive having been CFO for an ASX-listed muiti-national renewable energy company as well as an executive director and CFO for a US multi-national independent power generation company. Rodney has also worked in various roles for National Australia bank, Rio Tinto, Telstra and Atlantic Richfield Inc.

Non- Executive Director, appointed May 4 , 2016

Seungsoo Han, MP, Adm

Mr Han is the nominee for KOGAS Australia Pty Ltd. Mr Han is the Managing Director of KOGAS Australia and has over 30 years of experience at KOGAS. Mr Han has worked in procurement and accounting and in senior roles both in KOGAS' Strategy Planning and Marketing Departments, culminating in being Team Leader of both departments. Mr. Han has a Bachelor's and Master's degree in Public Administration from, respectively, Kyung Hee University and the Koreá Advanced Institute of Science and technology, both in Seoul.

Non- Executive Director, appointed November 18 , 2015

Insu Woo, MGeology Geophysics, BEng

Mr Woo is the alternate Director for Mr Han, the nominee of KOGAS Australia. Mr Woo has over 25 years of experience at KOGAS and is currently Director of KOGAS Australia, and is involved in the management of the Gladstone LNG Project. Mr Woo has a Master's degree in Geology and Geophysics from the University of Missouri, and a Bachelor's Degree in Civil Engineering from Busan National University

Breakaway's View

Blue Energy is a resource -acreage investment vehicle, with a clear strategy of amassing prospective acreage and on-selling at the right time. That time has arrived with the gas crisis in Eastern Australia now the subject of wide spread media reporting and Federal Government intervention.

The resource base is extremely large in the context of what remains in alternative investments, and importantly, is not "committed' in the way that other resources are to the export markets.

For LNG project operators, that have already invested tens of billions of dollars, and now face Government pressure to supply domestic markets as well as maintain export volumes, the chances of securing another large resource is low due to the consolidation that has already occurred. Compared to 10 years ago when >25 companies had coal seam gas resource acreage, there are now about 5, of which only 2-3 have geology that contains large volumes and which are close enough and of high enough quality to be commercial in the current market. Blue's acreage fits all three and offers scale. There is a premium for scale to large exporters that need large volumes and thus there is strategic and locational value in Blue's assets.

Blue needs to do a deal to crystalize asset value. In this regard, we are reliant on the experience and skills of the Board and management to execute a transaction. As the Director and senior management description show, there is no shortage of either. The Chairman and senior executives have been at the forefront of the Australian coal seam gas industry, and conventional oil and gas industry internationally, since 2000 and in previous companies (Santos, and Sunshine Gas) engineered a period of significant shareholder value creation.

Recent transactions are few and current market benchmarks vary widely and as a result there is a very wide range in asset values resulting from our analysis

We have applied what we believe are realistic market valuations for 2C gas resources and this generates an asset value of 55 cps, and this is our central estimate of value, however applying low and high values for the other resource categories results in per-share outcomes between 19c and $1.58.

Hence Breakaway's recommendation for Blue Energy is a *Buy.*

Breakaway Research Pty Ltd, ABN: 39 602 490 906 is an authorised representative of Breakaway Investment Group. ABN 84 127 962387 AFSL 290093Suite 505, 35 Lime Street Sydney 2000, PO Box H116, Australia Square NSW 1215, Australia t +61 2 9392 8010 f +61 2 9279 2727

Appendix A

Conventional gas reserves in Eastern Australia total 5200 PJ, including contingent resources in undeveloped fields Manta, and Trefoil. The majority is in Esso/ BHP's Bass Strait field (2.1 Tcf), the Cooper Basin (1.2 Tcf) and Kipper (620 PJ). These are shown in Figure 12. This is just enough to meet the current eastern Australia gas consumption for 8 years.

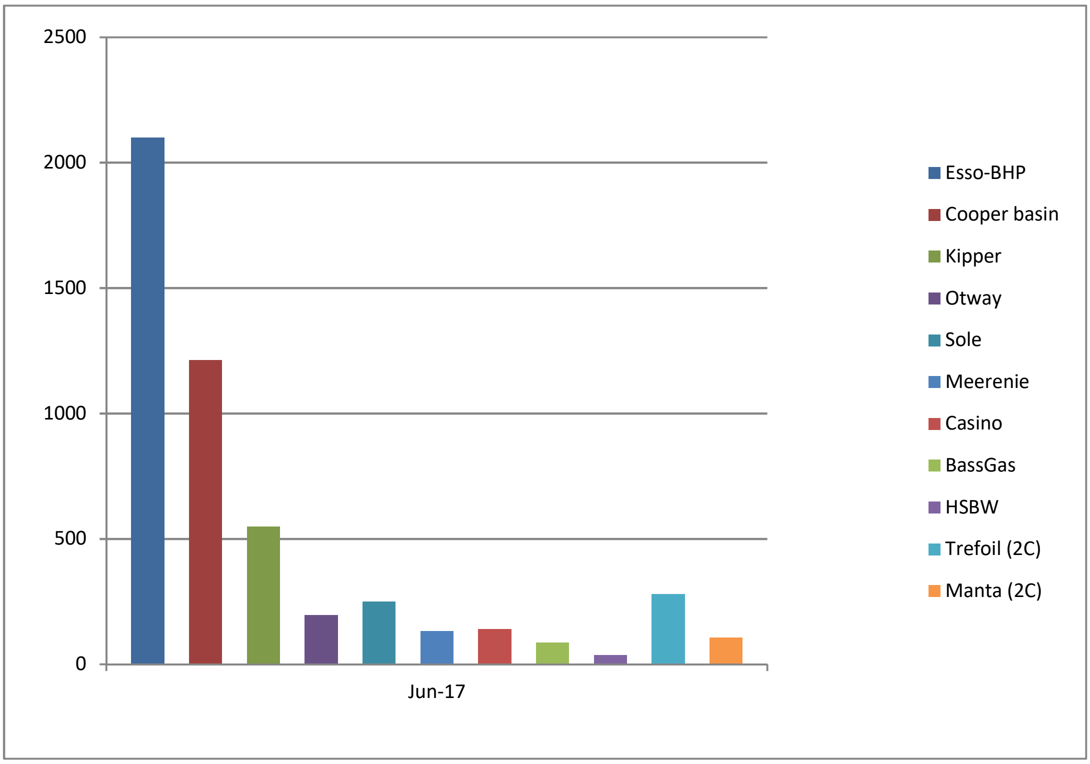

Figure 12. Source: Company reports, Breakaway research. Left hand scale is in TJ. Reserves are as at June 30, 2017 or the latest available.

Appendix B

Figure 13 summarises our database of reserves & resources held by ASX listed companies which are in the exploration phase and which we think provides equity market benchmarks for BUL's resources. In deriving asset values for BUL's resources, we have excluded from the peer group, assets which we think are not strictly comparable due to location, for example in areas not specific to Eastern Australia. For EV multiples for companies such as Beach Energy which also have oil assets, we have backed out of the calculation estimates for the value of oil production in order to arrive at an implied value for the gas.

Company	Price	EV or deal	2P	3P	2C	3C	EV/2P	EV/3P	EV/2C	EV/ 3C
	A$	A$M	PJ	PJ	PJ	PJ	A$/ GJ	A$/ GJ	A$/ GJ	A$/ GJ
Blue Energy (BUL)										
Bowen & Surat			71	298	923	3112	**1.90**	**0.45**	**0.15**	**0.04**
Galilee			0	0	61	830			**2.21**	**0.16**
Total	0.12	135	**71**	**298**	**984**	**3942**	**1.90**	**0.45**	**0.14**	**0.03**
Comet Ridge (COI)										
Mahalo Bowen basin			30	219	232	371				
Galilee			0	0	220	2287				
NSW Gunnedah Basin			0	0		562				
Total	0.15	87	**30**	**219**	**452**	**3220**	**2.89**	**0.40**	**0.19**	**0.03**
Galilee Energy (GLL)										
Galilee Basin	0.115	11	0	0	2508	5314			**0.00**	**0.00**
Senex Energy (SXY)										
Western Surat			429							
Cooper Basin tight gas					1148					
Total	0.308	312	**429**		**1148**		**0.73**		**0.27**	
Central Petroleum (CTP)										
Meerenie, Palm Valley & Dingo	0.105	135	126		257		**1.07**		**0.53**	
Cooper Energy (COE)										
Sole			249	293	33	0	2.49	2.11	18.78	
Casino			56	90	19	27	11.07	6.89	32.61	22.95
Manta			0		106	239			5.85	2.59
Total	0.29	620	**305**	**383**	**158**	**266**	**2.03**	**1.62**	**3.92**	**2.33**
Strike Energy (STX)										
Southern Cooper Basin	0.09	67	0	0	163	238			**0.41**	**0.28**
Real Energy (RLE)										
Qld Cooper Basin	0.099	15	0	0	291	709			**0.05**	**0.02**
Armour Energy (AJQ)										
Kincora Gas field- Qld Surat	0.08	21	56	157	0	0	**0.37**	**0.13**		
AWE Ltd (AWE)										
Casino			35		7		0.00		0.00	
BassGas			30		112		0.00		0.00	
Waitsia (WA, Perth Basin)			234		225					
Total	0.49	313	**299**		**344**		**1.05**		**0.91**	
Otway gas: ORG –Benaris deal		250	**81**	**104**	**47**		**3.09**	**2.40**	**5.32**	
Senex- Acreage / work program		200				**120**				**1.67**
Beach Energy (BPT) adjusted for oil		1190	**226**	**511**	**633**		**3.36**	**1.84**	**1.53**	
Total Resources / Reserves (PJ)			**1623**	**1672**	**6985**	**13809**	**1.89**	**1.38**	**0.45**	**0.08**
Total excluding BUL			**1552**	**1374**	**6001**	**9867**	**1.89**	**1.58**	**0.52**	**0.10**
Total excluding Galilee, NSW & Blue Energy			**1552**	**1374**	**3273**	**1704**	**1.89**	**1.58**	**0.72**	**0.58**

Figure 13. Source: Breakaway Research, Company reports

Analyst Verification

I, Stuart Baker and Stephen Bartrop, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Research Pty Ltd and the Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Blue Energy Ltd and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

We acknowledge that Senior Resource Analyst, Stuart Baker, holds shares in Blue Energy, and Comet Ridge.

Disclaimer

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Breakaway Research Pty Ltd
ABN: 39 602 490 906, is an authorised representative of:
Breakaway Investment Group AFSL 290093 ABN 84 127 962 387
T+61293928010 F+61292792727
PO Box H116 Australia Square
Sydney, NSW 2001
Suite 505, 35 Lime Street,
Sydney, NSW 2000