Research as a Service

Empire Energy Group Ltd

Update Report

A gas plant with intrinsic growth opportunity

Empire Energy Group Limited (ASX:EEG) is an oil and gas producer/developer, with onshore Northern Territory (NT) and US oil/gas production assets. EEG has the largest tenement position in the highly prospective Greater McArthur Basin, which includes the Beetaloo Sub-basin. The investment case is building further with the acquisition of the Rosalind Park Gas Plant to provide an immediate, low-capital and operating-cost processing option with nameplate capacity above the Carpentaria Stage I development model. FEED activity continues to progress and the company remains on track for a project sanction within Q1 '24 subject to the requisite regulatory approvals. As supply lags and prices rise, NT gas continues to firm as a realistic option at scale for east coast domestic gas requirements; growing Gladstone LNG ullage; and as a potential supply source for Darwin's LNG export opportunities. The remainder of 2023 will see more activity across the Beetaloo play in total and commercial success at any scale has beneficial look-through impacts for all Beetaloo ventures…'a rising tide lifts all boats'. We maintain our view of EEG as the low-cost, strongly-leveraged exposure in the play, holding a significant early-mover advantage to deliver high-calorific/low-CO_2 gas. EEG is the pure, independent and leveraged exposure to the NT gas opportunities; and in our view, is firmly on the development pathway.

Business model

Empire Energy Group Limited (EEG), is an oil and gas development and production company, heading towards a project sanction on its Carpentaria Pilot Project in the world-class McArthur-Beetaloo basins. The disconnect between the demand-constrained gas market and share prices continues to be highlighted by rising contract prices with, we believe, a recent east coast supply deal set at around $18/gj (anecdotal/unconfirmed). There is a material commercial prize to be won particularly defining a clear timeline to production. In that regard Empire should be considered as being in a pre-development phase, with a significant head-start over peer group options. With a cash balance of $29.3mn (30-Oct), the company is well funded to maintain its accelerated path to first gas. Beneficially, Empire holds its licences at 100% providing the ability to control project timing and provide financing options through partnering.

Gas plant option – tick that box

We already see Empire Energy as the most advanced of the Beetaloo plays and the purchase of the 42TJd Rosalind Park Gas Plant for $2.5mn reinforces our view. A simple gas plant with nameplate capacity above the Carpentaria Phase I option (25TJd) potentially provides material time and cost savings; and an intrinsic growth option that will only require more wells. The company continues to progress FEED for the proposed pilot projecting a sanction in early 2024 subject to regulatory approvals. The path to scale and growth begins with the first PJ and cash flow can be a game changer…the gas plant option is crystallising the opportunity. Market pricing of listed gas plays appears uncoupled from the strongly supportive commercial operating environment and this is a situation that is invariably attractive to corporate M&A activity. In the absence of market re-ratings, corporate consolidation inevitably occurs. Companies in production with a growth outlook will look increasingly attractive to investors and other industry operators.

Closing the valuation gap – a FID is always a good place to start

We leave our valuation unchanged but highlight upcoming re-rating events, especially <u>the potential sanction for the Carpentaria Pilot Project that could be delivered in early 2024</u> subject to regulatory approvals. We model a base-case (mid-point) valuation of $903mn ($1.17/share) with an upside case to $1.54/share. <u>The success case at Carpentaria continues to build and could deliver valuation upside well in excess of our base case</u> such is the nature and attraction of gas plays in the proof-of-concept phase. There is likely to be no better time than now to progress and deliver gas projects.

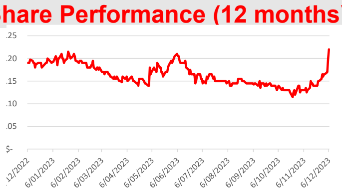
Energy

06 December 2023

Share Details

ASX code	EEG
Share price (intraday)	$0.22
Market capitalisation	$170M
Shares on issue	773M
Cash (30-Oct)	$29.3M
Free float	~49.5%

Share Performance (12 months)



Upside Case

- Further definition and acceleration of the early-production opportunity
- Securing a binding off-take agreement and/or a farm-in partner to offset market perceptions of future material equity dilution
- Delivering FID - this defines an initial NPV for Beetaloo gas

Downside Case

- Capex inflation impacts project returns potentially slowing progress to first gas
- Stronger financing reliance through equity issues resulting in excessive share dilution
- Slower progress through FEED and delays to the timing of FID, expected in in early 2024

Board of Directors

Alex Underwood	Managing Director / CEO
Peter Cleary	Chair
Dr John Warburton	Non-Executive Director
Louis Rozman	Non-Executive Director
Karen Green	Non-Executive Director

Company Contacts

Alex Underwood +61 2 9251 1846

info@empiregp.net

RaaS Contacts

Andrew Williams +61 417 880 680

andrew.williams@raasgroup.com

Finola Burke* +61 414 354 712

finola.burke@raasgroup.com

***Analyst holds shares**

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"It's A Deal, It's A Steal…It's The Sale Of The Century!"

…well figuratively anyway.

EEG has announced the acquisition of the Rosalind Park Gas Plant (RPGP) from AGL for a cash consideration of $2.5mn.

The gas plant had become available with the progressive shut-down and abandonment of AGL's Camden CSG Project south of Sydney for a price almost akin to scrap value and certainly well under replacement value. The disassembled plant has been transported to Queensland where it will undergo refurbishment prior to its relocation to the proposed Carpentaria Gas Project in NT.

The RPGP has a nameplate of 42TJd, well in excess of the notional Carpentaria Project Phase I target of 25TJd and therefore **provides organic expansion capacity** that can be accessed rapidly.

EEG estimates that the acquisition of the Rosalind Plant "…*may result in >$30mn in cost savings and reduce lead time by ~12 months"* compared to new build options.

Those estimates remain to be seen, but indicatively that sounds like the correct order of magnitude given what we are hearing on lead times for compressors and continuing supply chain issues.

Importantly, we see the purchase as a clear signal that the probability weighting on FID for Carpentaria is rising and whilst it is never a fait accompli to take a project FID**, controlling more of the project from a procurement and cost perspective ticks many boxes and reduces the financial risk** – less debt or equity capital or both.

Timing to first gas is still broadly indicated as 2025, so perhaps 12 months(ish) from FID which is expected in Q1 '24 subject to timing on government and regulatory approvals.

As highlighted by management, the Rosalind Plant is very 'fit for purpose' with Carpentaria gas similar to Camden gas in that it is low CO_2 and largely only requires dehydration and compression to deliver sales quality. We'd also remind that Carpentaria gas is high calorific, so would take a smaller mcf volume to produce the same gigajoule value.

Cash as at 30-Oct was reported as $29.3mn – the company is adequately financed through to FID.

A good deal should deliver tangible upside to a Phase I project

A fit-for-purpose plant at $2.5mn should deliver improved commercial and valuation outcomes although the magnitude is qualitative at this stage.

Less pre-start up capex must increase the notional IRR all other things being equal and improve NPAT outcomes through lower amortisation and operating charges – e.g. if we assume the notional $30mn benefit is a capital saving, amortised over say, 10 years, that would simply add $3mn pa to the pre-tax profit.

We note that EEG and APA have signed an agreement whereby APA will spend up to $5mn on engineering and design studies for infrastructure facilities associated with the proposed 25TJd pilot project. It was also noted that APA may fund the gas facilities under a partnering agreement.

However, the acquisition of the RPGP may become the new design template or at least push APA towards the design of later-phase, scale processing options.

The Rosalind plant is simple in an engineering sense being dehydration and compression with low CO_2, so we suggest operating costs should be materially lower than an APA new build-tolling option.

We have left our valuation unchanged.

The Carpentaria project is still in FEED and critically, gas sales discussions are yet to be finalised. There is insufficient detail yet to define a Carpentaria Phase I model and the look-through implications for the remainder of that development area.

The critical underlying assumption to our NAV continues to be gas price.

We model a base-case (mid-point) valuation of $903mn ($1.17/share) with an upside case to $1.54/share. The success case at Carpentaria continues to build and could deliver valuation upside well in excess of our base case.

EEG is still the best exposure to the emerging Beetaloo gas play

There is a **quantum gas opportunity** associated with the Beetaloo Basin that is there to be won.

We are confident that the Beetaloo will evolve into a material (transformational) future supplier of gas into domestic (east coast) and export markets – the Velkerri and Kyalla target zones are regionally pervasive and geologically consistent and in broad terms what works in one area is highly likely to work in others.

There are remaining risks – until a project is financed, constructed, commissioned, and delivering cash flow, there are always risks, especially as the first mover. However, the cleanest and most leveraged play on potential Beetaloo success continues to reside with EEG in our view – even more so with the gas plant deal.

EEG remains our preferred exposure to the play – it is lower cost, more advanced towards first cash flow, with phased growth opportunities and more highly leveraged to the success case.

Importantly, on its likely capital and operating cost profile, the company can be considered as holding a unique advantage to market gas across a range of offtake terms and individual gas users.

To put it simply, **EEG ticks more boxes:**

- **More advanced in terms of the practical field model** (more wells with greater concentration AND has the only hz completion nearing 3,000m) – there is just more 'certainty' around the gas data;
- (Now) **A defined gas processing option with the intrinsic upside potential of output capacity well in excess of Phase I targets** – in this regard the initial project will more likely be limited by well deliverability, not throughput capacity;
- **Scaling the economics** – start small (up to 25TJd) providing initial cash flow and independent financing which acts a quasi-commissioning for a bigger development option;
- **Lower well costs** equal better well economics; and
- **Financed to FID** which is anticipated to be delivered in Q1 '24 subject to NT regulatory approvals.

Reiterating the progress as reported in the most recent quarterly update:

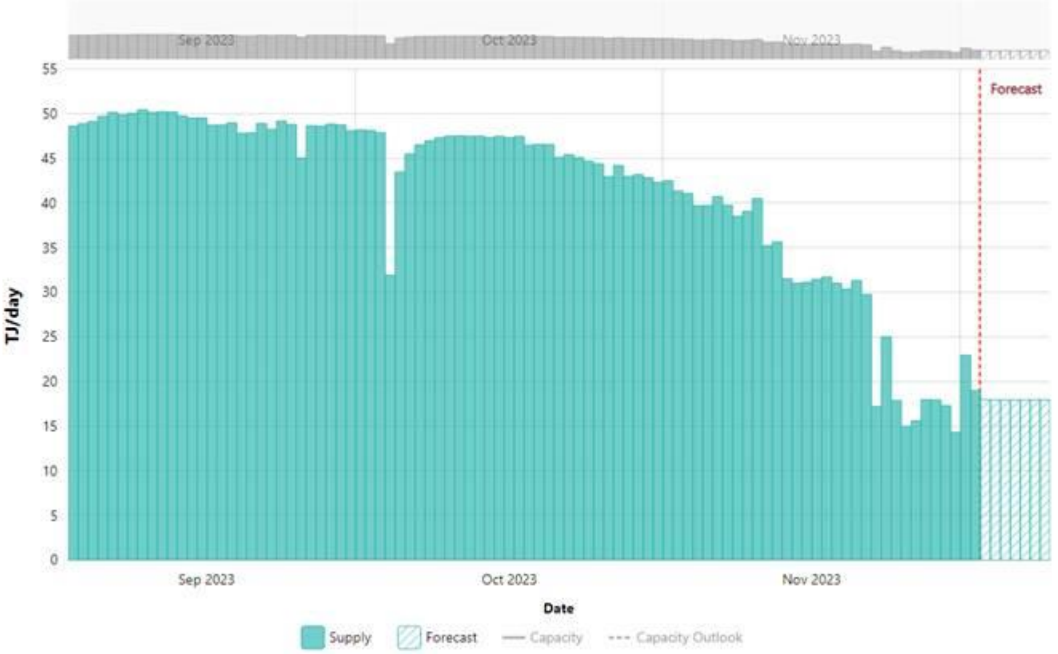
- **Field development planning** - progressing well designs and the site and layout of surface facilities;
- **Pipeline access agreements** (self-explantory);
- All **requisite regulatory approvals** – the timing of receipt of approvals is likely the most uncertain element in the process;
- **Project financing** – there are a number of options being considered and evaluated; and
- **Gas sales marketing** – we suggest offtake should not be an issue given the concerns around future Blacktip Gas Field supply and rising crude oil/diesel prices.

Gas supply remains tight – 'more gas is required'

Whilst on the subject of gas opportunity and domestic supply, we understand that the Blacktip Gas Field that has been supplying a significant volume of gas into the NT domestic market is no longer doing so. AEMO data shows the field currently struggling to produce anywhere near 20TJd and the supply chart over the past three months indicates output has figuratively fallen off the cliff.

We believe the shortfall is being addressed through buying at market prices - and that's expensive.

Exhibit 1: Blacktip gas supply issues strongly evident in past three-month performance



Source: AEMO data

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Exhibit 2: Financial Summary

EMPIRE ENERGY GROUP LTD		EEG		
YEAR END		Dec		
NAV	A$mn	$1.17		
SHARE PRICE	A$cps	$0.21	intraday	6-Dec
MARKET CAP	A$mn	162		
ORDINARY SHARES	M	773		
OPTIONS	M	10		

nm = not meaningful
na = not applicable

COMMODITY ASSUMPTIONS		2021	2022	2023E	2024E
Realised oil price	US$/b	67.98	94.25	73.93	70.20
Realised gas price	US$/mcf	3.72	6.42	3.01	3.53
Exchange Rate	A$:US$	0.7514	0.6946	0.6745	0.6773

RATIO ANALYSIS		2021	2022	2023E	2024E
Shares Outstanding	M	612	773	773	873
EPS (pre sig items)	UScps	(2.41)	(0.86)	(0.54)	(0.41)
EPS	Acps	(2.41)	(0.86)	(0.54)	(0.41)
PER	x	na	na	na	na
OCFPS	Acps	(5.35)	9.50	32.29	1.38
CFR	x	na	na	na	na
DPS	Acps	na	na	na	na
Dividend Yield	%				
BVPS	Acps	23.8	24.9	25.1	23.3
Price/Book	x		0.8x	0.8x	0.9x
ROE	%		na	na	na
ROA	%		na	na	na
(Trailing) Debt/Cash	x				
Interest Cover	x				
Gross Profit/share	Acps	5.7	10.0	3.7	4.3
EBITDAX	A$M	3.0	6.8	3.8	4.5
EBITDAX Ratio	%				

EARNINGS	A$000s	2021	2022	2023E	2024E
Revenue		8,502	13,722	8,454	9,258
Cost of sales		(5,005)	(5,961)	(5,595)	(5,477)
Gross Profit		**3,497**	**7,762**	**2,859**	**3,781**
Other revenue					
Other income		1,606	259	297	300
Exploration written off					
Finance costs		(568)	(2,259)	(709)	(1,089)
Impairment		0	(2,705)	0	0
Other expenses		(14,332)	(13,526)	(6,867)	(7,223)
EBIT		(11,305)	1,222	(2,887)	(1,564)
Profit before tax		**(10,835)**	**(5,765)**	**(4,008)**	**(3,442)**
Taxes		(213)	(239)	(200)	(172)
NPAT Reported		**(11,048)**	**(6,003)**	**(4,208)**	**(3,614)**
Underlying Adjustments		0	0	0	0
NPAT Underlying		**(11,048)**	**(6,003)**	**(4,208)**	**(3,614)**

CASHFLOW	A$000s	2021	2022	2023E	2024E
Operational Cash Flow		**(7,044)**	**(9,305)**	**9,100**	**8,938**
Net Interest		(568)	(679)	(478)	(738)
Taxes Paid		(213)	(239)	(120)	(250)
Other					
Net Operating Cashflow		**(2,460)**	**5,100**	**16,835**	**817**
Exploration		(11,228)	(37,356)	(20,000)	(10,000)
PP&E		(250)	0	(250)	(500)
Petroleum Assets		(12,965)	0	0	0
Net Asset Sales/other		0	0	0	0
Net Investing Cashflow		**(24,443)**	**(37,586)**	**(20,350)**	**(10,500)**
Dividends Paid					
Net Debt Drawdown		(817)	(1,035)	(8,313)	(850)
Equity Issues/(Buyback)		39,359	29,412	0	19,000
Other					
Net Financing Cashflow		**38,542**	**28,377**	**(8,313)**	**18,150**
Net Change in Cash		**11,639**	**(4,109)**	**(11,828)**	**8,467**

BALANCE SHEET	A$000s	2,021	2,022	2023E	2024E
Cash & Equivalents		25,650	21,880	12,263	20,730
O&G Properties		34,900	36,612	57,008	67,508
PPE + ROU Assets		1,306	1,608	250	500
Total Assets		**158,823**	**197,650**	**197,383**	**216,680**
Debt		8,027	7,823	7,310	6,499
Total Liabilities		**49,502**	**64,043**	**66,531**	**79,083**
Total Net Assets/Equity		**109,320**	**133,608**	**130,851**	**137,597**
Net Cash/(Debt)		17,622	14,057	4,953	14,231
Gearing dn/(dn+e)					

NET PRODUCTION		2021	2022	2023E	2024E
Crude Oil	kb	2	2	2	2
Nat Gas	mmcf	1,676	1,727	1,727	1,640
TOTAL	**kboe**	**282**	**290**	**290**	**275**
Product Revenue	A$mn	8.5	13.7	8.5	9.3
Cash Costs	A$mn	(5.0)	(6.0)	(5.6)	(5.5)
Ave Price Realised	A$/boe	30.17	47.32	29.17	33.64
Cash Costs	A$/boe	(17.76)	(20.55)	(19.31)	(19.90)
Cash Margin		**12.41**	**26.76**	**9.87**	**13.74**

RESOURCES and RESERVES	Contingent Resources			Prospective Resources		
	1C	2C	3C	1U	2U	3U
Northern Territory						
EP 187						
Carpentaria				566	1,282	2,284
East Carpentaria				1,020	1,878	3,782
South Carpentaria				204	383	668
TOTAL PJ				**1,790**	**3,543**	**6,734**
Carpentaria						
Velkerri C	113	666	846			
Velkerri B	120	678	844			
Intra Velerri A/B		8	16			
Velkerri A/B		12	24			
TOTAL PJ	**233**	**1,364**	**1,730**			
Carpentaria East						
Velkerri C	35	185	871			
Velkerri B	36	190	906			
Intra Velerri A/B						
Velkerri A/B						
TOTAL PJ	**71**	**375**	**1,777**			
Aggregate PJ	304	1,739	3,507			
US Onshore						
Gas (bcf)	28	38	42			

EQUITY VALUATION	Risked Range			Low	Mid	High
A$mn	Low	Mid	High	A$/share		
Northern Territory						
EP-187						
Scenario Weighting	720	770	938	$0.93	$1.00	$1.21
Prospective Resources	41	103	215	$0.05	$0.13	$0.28
US Onshore						
Appalachian	24	31	37	$0.03	$0.04	$0.05
	785	**904**	**1,189**	**$1.02**	**$1.17**	**$1.54**
Net cash/(debt)		8				
Corporate costs		(9)				
TOTAL	**784**	**903**	**1,188**	**$1.01**	**$1.17**	**$1.54**
Shares on issue (mn)	773 mn					

Source: RaaS Advisory, company data

FINANCIAL SERVICES GUIDE

RaaS Advisory Pty Ltd

ABN 99 614 783 363

Corporate Authorised Representative, number 1248415

of

BR SECURITIES AUSTRALIA PTY LTD

ABN 92 168 734 530

AFSL 456663

Effective Date: 6th May 2021

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Contact Details, BR and RaaS

BR Head Office: Suite 5GB, Level 5, 33 Queen Street, Brisbane, QLD, 4000

RaaS. 20 Halls Road Arcadia, NSW 2159

P: +61 414 354712

E: finola.burke@raasgroup.com

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In writing to: Australian Financial Complaints Authority, GPO Box 3, Melbourne, VIC, 3001.

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