

EQUITY RESEARCH

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BUY

Current Price	\$0.69
Target Price	\$2.05

Current Price:		\$0.69
Target Drice		\$2.05
Target Price		ŞZ.05
Ticker:		BKY
Sector:		Energy
Shares on Issue (m):		198.3
Market Cap (\$m):		136.8
Net Cash (\$m):		12.3
Enterprise Value (\$m):		124.6
F.F. Enterprise Value (\$m)		274.6
52 wk High/Low:	\$0.71	\$0.31
12m Av Daily Vol (m):		0.24

Mineral Inventory (100% basis)

	Tonnes	Grade	Conatained
	Mt	U_3O_8 ppm	Mlb U ₃ O ₈
Ore Reserve	61	408	55
Mineral Resource	83	514	89
Directors			
lan Middlemas		Non-Executi	ive Chairman
Paul Atherley		Mana	ging Director
James Ross		Non-Execu	tive Director
Robert Behets		Non-Execu	tive Director

Substantial Shareholders

Anglo Pacific Group Plc	15.2%
Resource Capital Fund V L.P.	12.9%
Global X Management Company	4.8%

* All figures in AUD unless stated other wise

Share Price Graph



Friday, 15 July 2016

Berkeley Energia

DFS: Strong margins at suppressed U prices

Analyst | Matthew Keane

Quick Read

Berkeley Energia (BKY) released a Definitive Feasibility Study (DFS) on its 100% owned Salamanca uranium project in Spain. Salamanca is a standout uranium project with a significant production profile, near term development potential and the capability to generate strong margins even in the current suppressed uranium market. The study outlined average steady state production of 4.4Mlbpa with US\$95.7m upfront capex and all-in life of mine (LOM) operating costs of US\$17/lb. The project has potential to generate ~100% EBITDA margins against an estimated current realised price of US\$38/lb (80:20 blend of long-term and spot pricing). First production is slated for early 2018.

Event & Impact | Positive

Positive DFS: BKY released a positive DFS for it Salamanca uranium project. The study outlines a 14 year heap leach operation sourcing ore from three deposits, including Retortillo, Alameda and the higher grade Zona 7. Upfront capex to develop the processing plant and first mine at Retortillo is estimated at US\$95.7m with total development capex of US\$234.6m. Argonaut estimates a 55% IRR and a project NPV₁₂ of A\$642.1m with a peak funding requirement of US\$150m.

High margins: The project has potential to generate ~100% EBITDA margins against an estimated current realised price of US\$38/lb. This compares favourably to the majority of uranium development projects which require incentive pricing upwards of US\$60/lb. The estimated US\$17/lb all in operating cost for Salamanca makes it one of the lowest cost uranium mines globally, competitive with currently operating in situ recovery (ISR) mines.

Next steps: Given the significant production profile, long life, low costs, low sovereign risk jurisdiction and near term development potential, Salamanca will be attractive to strategic partners and end users looking to secure long term uranium supply. We believe BKY could attract project level investment attaining a see-through value at a significant premium to the current market capitalisation (referencing project NPV). BKY is currently in discussions with nuclear utilities looking to secure long term uranium off-take agreements. The processing facility and Retortillo mine have attained key permits and the two remaining approvals are currently in progress. BKY aims to commence development in early-2017, with first production forecast for early-2018.

Near mine exploration underway: Exploration is currently underway testing a number of targets within a 10km radius of the proposed processing facility. High impact targets include extensions to Zona 7 and the Las Eras prospect. The latter is 5km north of Zona 7 with historic high grade intercepts.

Recommendation

BUY recommendation maintained with a \$2.05 valuation. Our revised model applies lower opex, higher total capex and a lower long term price (down from US\$70/lb to US\$65/lb).

Berkley Energia

Recommendation	BUY
Current Price	0.69
Target Price	2.05

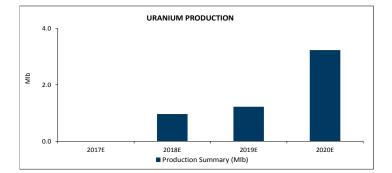
Profit & Loss (US\$m) 30 June	2015A	2016E	2017E	2018E
Sales revenue	0.0	0.0	0.0	89.6
Other income	0.6	0.3	1.5	0.3
Operating costs	0.0	0.0	0.0	36.3
Exploration and evaluation	6.7	6.2	1.5	1.5
Corporate & marketing	0.9	2.6	3.0	4.0
Other	0.9	-0.7	0.0	0.0
EBITDA	-7.9	-7.8	-3.0	48.1
D&A	0.0	0.0	0.0	5.5
EBIT	-7.9	-7.8	-3.0	42.6
Impairments	0.0	0.0	0.0	0.0
Tax expense	0.0	0.0	0.0	5.4
Changes in Foreign Exchange	0.0	0.0	0.0	0.0
NPAT	-7.9	-7.8	-3.0	37.2
Normalised NPAT	-7.9	-7.8	-3.0	37.2

Cash Flow (US\$m)	2015A	2016E	2017E	2018E
Operating Cashflow	-6.8	-2.9	-1.5	55.0
- Capex	0.0	0.0	69.0	131.4
 Exploration & evaluation 	6.7	6.9	2.0	2.0
 Asset purchases (+ asset sales) 	0.1	0.0	0.0	0.0
Free Cashflow	-13.6	-9.8	-72.5	-78.4
- Dividends	0.0	0.0	0.0	0.0
+ Equity raised	0.0	8.6	120.0	1.1
+ Debt drawdown (- repaid)	0.0	0.0	40.0	40.0
Net Change in Cash	-6.9	-1.2	87.5	-37.3
Effects of exchange rate	0.0	0.0	0.0	0.0
Cash at end	13.4	12.2	99.7	62.4

Balance Sheet (US\$m)	2015A	2016E	2017E	2018E
Total assets	29.9	48.7	148.6	181.6
Total debt	0.0	0.0	0.0	0.0
Total liabilities	1.3	1.3	1.3	1.3
Shareholders funds	28.5	47.4	147.3	180.3

Production Summary (M	llb)		2015A	2016E	2017E	2018E
Salamanca	U308	kt	0.0	0.0	0.0	1.0
Unit Cash Cost (US\$/lb)			0.00	0.00	0.00	37.67
U3O8 Price (US\$/lb)			37.21	40.00	55.00	65.00
Exchange Rate Assumption	ons (AUD/AUD)		0.84	0.72	0.70	0.70

Reserves	Mt	U3O8 Grade	U308 Mlb
Retortillo	16	326	11.4
Zona 7	18	595	24.2
Alameda	26	327	19.0
Total Resources	60.7	408	54.6
•			
Resources	Mt	U3O8 Grade	U308 Mlb
Retortillo	16	422	14.5
Zona 7	22	631	30.2
Alameda	21	462	21.1
Gambuta	13	394	11.1
Other	12	477	12.5
Total Resources	83.0	514	89.3





Equities Research Analyst: Matthew Keane

Sector	Metals & Mining
	•
Issued Capital (m)	198.3
Market Cap (m)	\$136.8
Date	15-July-2016

(7.9) (4.0)	(7.8)	(3.0)	
. ,	(7.8)	(2.0)	
(4.0)		(5.0)	37.2
(4.0)	(3.9)	(1.5)	18.7
(17.3)	(17.5)	(45.9)	3.7
(7.9)	(7.8)	(3.0)	37.2
(4.0)	(3.9)	(1.5)	18.7
NA	(1.3)	(61.8)	(1347.1)
(17.3)	(17.5)	(45.9)	3.7
(6.8)	(2.9)	(1.5)	55.0
(3.4)	(1.5)	(0.7)	27.7
(20.1)	(47.0)	(92.5)	2.5
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
	(17.3) (7.9) (4.0) NA (17.3) (6.8) (3.4) (20.1) 0.0	$\begin{array}{ccc} (17.3) & (17.5) \\ (7.9) & (7.8) \\ (4.0) & (3.9) \\ NA & (1.3) \\ (17.3) & (17.5) \\ (6.8) & (2.9) \\ (3.4) & (1.5) \\ (20.1) & (47.0) \\ 0.0 & 0.0 \end{array}$	$\begin{array}{ccccc} (17.3) & (17.5) & (45.9) \\ (7.9) & (7.8) & (3.0) \\ (4.0) & (3.9) & (1.5) \\ NA & (1.3) & (61.8) \\ (17.3) & (17.5) & (45.9) \\ (6.8) & (2.9) & (1.5) \\ (3.4) & (1.5) & (0.7) \\ (20.1) & (47.0) & (92.5) \\ 0.0 & 0.0 & 0.0 \end{array}$

Financial Ratios	2015A	2016E	2017E	2018E
Balance Sheet Ratios				
Total Debt / Equity (%)	0	0	0	0
Interest cover (x)	0	0	0	0
Acid test ratio (x)	9.6	-3.8	-42.6	-15.2
Profitability Ratios				
Net profit margin (%)	-	-	-	41.5
Return on assets (%)	-47.8	-21.4	-6.1	35.7
Return on equity (%)	-27.7	-16.5	-2.0	20.6

Valuation Summary	A\$m	A\$/sh
Salamanca	642	2.01
Exploration potential	30	0.09
Corporate Valuation	-32	-0.10
Unpaid Capital	1.7	0.01
Cash est.	12	0.04
Debt	0	0.00
Total @ 12% discount rate	654	2.05

Directors	
Ian Middlemas	Non-Executive Chairman
Paul Atherley	Managing Director
James Ross	Non-Executive Director
Robert Behets	Non-Executive Director

Substantial Shareholders	%
Anglo Pacific Group Plc	15.2%
Resource Capital Fund V L.P.	12.9%
Global X Management Company	4.8%



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BKY completed its DFS for the Salamanca project in Spain...

...producing 48.6Mlb U₃O₈ over a 14 year mine life...

Positive DFS

BKY released a positive DFS for it Salamanca uranium project. The study outlines a heap leach operation sourcing ore from three deposits, including Retortillo, Alameda and the higher grade Zona 7. The project has a 14 year mine life which commences at the Retortillo mine, adjacent to the proposed processing facility, before moving to the higher grade Zona 7 deposit in the second year of production. Mining will be via conventional truck shovel, drill and blast with heap leach processing located at Retortillo and Alameda. Ore from Zona 7 will be conveyed 10km then stacked at Retortillo. The DFS outlines 61.3Mt mined at 408ppm with an average recovery of 88% for 48.6Mlb recovered U_3O_8 .

Figure 1: Salamanca project location



Source: BKY

Project economics

Upfront capex to develop the processing plant and the first mine at Retortillo is estimated at US\$95.7m. The Zona 7 mine is then developed in the first year of production for an additional US\$59.2m followed by Alameda for US\$79.7m. Total development capex is US\$234.6m. Argonaut estimates a 55% IRR and project NPV₁₂ of A\$642.1m, with a peak funding requirement of US\$150m. The project has potential to generate ~100% EBITDA margins against an estimated current realised price of US\$38/lb. We derive this price from an 80:20 ratio of long-term and spot pricing, in line with the historic market blend. This compares favourably to the majority of uranium development projects which require incentive pricing upwards of US\$60/lb. While BKY is unlikely to fund Salamanca by majority debt financing, we believe the high margins make the project highly bankable.

The estimated costs for Salamanca make it one of the lowest cost uranium mines globally, competitive with currently operating in situ ISR mines. The project benefits from good infrastructure, access to cheap acid and power and excellent heap leach kinetics.

...from three deposits including Retortillo, Zona 7 and Alameda

The project requires US\$95.7 upfront capex...

...and with total operating costs forecast at US\$17/lb...

...it has potential to generate ~100% EBITDA margins



Key differences between the DFS and PFS are lower assumed pricing...

...higher total capex...

...and higher leach recoveries

Table 2: Comparison of the 2015 revised PFS and DFSMetricUnitRevised PFSDFSDevelopment CommencingYrsQ3 2016H1 2017First productionYrsLate-2017H12018Mine LifeYrs1814

i list production		Edite Eor	TILLOID
Mine Life	Yrs	18	14
Average U3O8 Price	US\$/lb	65	39-68
LOM C1 Cash Cost	US\$/lb	17.50	13.30
LOM Total Operating Cost	US\$/lb	19.80	17.15
Pre-Production Capex	US\$m	81.4	95.7
Total Devlopment Capex	US\$m	200.3	234.6
LOM Strip Ratio	#	1:1.8	1:1.4
LOM Recovery	%	85%	88%
LOM Production	Mlb	52	48.6
Peak EBITDA	US\$m	262	226.3
Post Tax NPV ₈	US\$m	764.5	531.9
IRR	%	89	60

Note: As defined in the Company feasibility studies

Source: BKY / Argonaut

Attractive to off-takers and strategic partners

Offtake

Argonaut believes Salamanca will be attractive to offtake partners and strategic partners...

...given long life, low costs, low sovereign risk and significant production

Despite low current prices, Argonaut remains positive on the medium to long term outlook for uranium In the nuclear sector, security of supply, diversity of supply, scale of production and geopolitical risk are key criteria for off-take partnerships. BKY's long life and significant production profile (up to 2.5% of global demand) in a low sovereign risk jurisdiction make it an attractive supply partner.

Geographically, Berkeley is well positioned to deliver uranium into Europe, the second largest existing market with ~114 operable reactors consuming ~47Mlb U_3O_8 in 2015. The project is also proximal to French conversion facilities (the next stage in the uranium fuel cycle after mining) and within three hours of a port licenced for Class 7 radioactive cargos to export product globally (Port of Santander). BKY is currently engaging with off-take partners looking to secure long life offtake agreements.

Strategic investment

The same criteria which makes Salamanca attractive from an offtake perspective also applies to an asset level investment. High margins, long life and near term production potential add to this appeal. We believe BKY will seek a project level investment to monetise part of the asset and attain a partner to help fund project development. Following completion of the DFS, Salamanca has more robust data to be assessed by potential strategic investors. We believe the Company could secure a see-though transaction at a premium to the current share price, more weighted towards project NPV than the Company's current market capitalisation.

Medium to long-term market fundamentals remain strong

Argonaut estimates the price to incentivise new supply at ~US\$60-65/lb, in line with our long term price forecasts. We believe open inventories beyond 2018/2019 and the recent announcement by Cameco (TSX:CCO) to curtail production will drive higher uranium contracting through 2016/2018. In April, CCO announced its plans to reduce up to ~7.0Mlbpa of production, which equates to ~4.4% of annual global demand.



The uranium market remains in surplus with idled Japanese reactors...

...however open utility requirements from 2018/2019...

...will require near to medium term off-take contracting

BKY should be in a position to commence construction in 2017

Exploration upside remains with high impact drilling underway

The uranium market remains in surplus

The uranium market remains in surplus driven by overhanging stocks resulting from idle Japanese reactors and a slower than forecast construction rate from the Chinese nuclear build program. Argonaut believes Chinese inventories of ~200Mlb are adequate for the country's current fleet and for reactors under construction. We estimate that Japanese stocks surplus to future demand at ~120Mlb. However, these inventories are in many forms including specific levels of enrichment and in tailored fuel cells which cannot be readily sold back into the market.

The spot uranium price further declined through the June Q and is currently US\$26/lb (from US\$33/lb in the March Q). Long term prices have declined marginally to US\$41/lb.

Utilities expected to re-enter the term market through 2016-2018

Unfilled reactor requirements increase significantly from 2018/2019. The US, which represents the largest market by country, has ~35% of supply unfilled in contracts in 2019. Importantly, utilities generally contract uranium 2-5 years in advance. For this reason, we anticipate increased contracting by end users through 2016-2018, which should coincide with gradual Japanese reactor restarts and procurement by India for its scheduled reactor build program beyond 2020. India is targeting 63GWe nuclear capacity by 2032, from 5-6GWe in 2015.

Next Steps

The processing facility and Retortillo mine have attained key approvals including a Mining Licence, Environmental Licence, approvals from the Water Authority, Initial Authorisation for the Process Plant and national and European Union approvals for a nuclear facility. Outstanding approvals include a locally issued Urbanism Licence and the Construction Authorisation by the Ministry of Industry, Energy and Tourism. They are non-discretional, meaning that they do not require further public consultation and should be attainable before the commencement of construction in 2017. Pending successful financing, BKY should commence development in early-2017, with first production forecast for early-2018.

Exploration

By overlying trace radiometric signatures with interpreted regional structures, the Company has identified multiple exploration targets within a 10km radium of the proposed plant site (see Figure 2 over). The program, which originally planned 11,000m of drilling, commenced in Q1 CY16 but was delayed due to heavy rainfall. High impact targets include extensions to Zona 7 and the Las Eras prospect. The latter is 5km north of Zona 7 with historic high grade intercepts. We regard this prospect analogous to the shallow Zona 7 deposit, which underwent rapid resource expansion through 2014/2015. Similarities include a scattering of high grade historic intercepts coincident with a trace surface radiometric signature. Historically, exploration focussed on strong airborne radiometric anomalies, however radiometric signatures diminish rapidly with just a few metres of overburden leaving much of the region untested.

Extensions to Zona 7 and the Las

Eras project are tow key exploration targets

Cris 1 Cris 2 Villa 4 Villa 4 Villa 3 Villa 3 Villa 1 Villa 1

Figure 2: Exploration targets at the Salamanca project showing planned drill holes in red. A radiometric survey underlies the project area

Source: BKY

Valuation

Argonaut derives a NPV₁₂ of A\$642m for Salamanca. Our capex forecasts and mining inventory are in line with DFS estimates. We apply marginally higher operating costs and derive total cash costs of ~US\$19/lb. We apply ~30:70 debt to equity financing, with maximum shares on issue at 316m (currently 198m) prior to first production. We consider this level of dilution to be conservative given the high probability that Salamanca could attract project level investment, reducing/negating debt financing and decreasing equity capital requirements.

Table 2: Argonaut's valuation summary for BKY Valuation Summary

Single Asset Valuation	AUD M	AUD / Share
Salamanca	642.1	2.01
Corporate Valuation	AUD M	AUD / share
Exploration Upside	30.0	0.09
Corporate Valuation	(32.2)	(0.10)
Unpaid Capital	1.7	0.01
Cash est.	12.3	0.04
Debt	-	-
NAV	653.8	2.05
Target Price		2.05
5		

Source: BKY / Argonaut

valuation for Salamanca...

Argonaut derives a A\$642m NPV₁₂

...to derive a A\$2.05/sh target

...and we apply ~A\$30m for exploration upside...

price



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