

Top 10 Uranium Miner Financed to Production

BKY LN / BKY AU

3 July, 2018

Last price: 42.00p
Target price: 75.00p

Initiating Coverage: Price Target 75p

Berkeley Energia, listed on the main board of the London Stock Exchange, is on the runway to construction in 2019 and first production in 2020. Funding has been received for the capital to first production, licensing is up to date and the company continues to explore options to reduce the total development cost. The market can now focus on the value release from a potential top ten producer in the world delivering product into what is likely to be a rising price environment (the company has already signed contracts at prices over US\$42/lb). Grade, depth and mineralogy of the ore bodies means cost of production will be very competitive especially at star deposit Zona 7. Using a combination of valuation methodologies including DCF, comparative earnings and resource multiples we believe a price target of 75p/share is appropriate.

Top 10 in the world

When production comes on stream in 2020 it will mark a return to uranium mining in the Salamanca region of Spain where the industry petered out in 2001. Having a large uranium operation surrounded by modern infrastructure and outside Kazakhstan, Russia, and Africa (which combined supply 50%+ of world's production) conveys competitive advantages on a number of fronts. Specifically, the company attracts offtake interest, delivers lower pro rata capex and opex, and makes Berkeley Energia a long-term takeover target in our view.

At a pivotal point for the uranium price

Uranium prices have remained in the doldrums since 2008 following the Fukushima disaster. Current spot prices are unsustainable for both new production and much (40%+) of the existing industry, which has been supported by higher long-term contract pricing. As these contracts have unwound, the industry has had to react through production cuts (eg Cameco and Kazatomprom) and liquidation (eg Paladin). All of the Tamesis identified uranium development projects (aside from Berkeley Energia) have had feasibility studies conducted at prices higher than US\$55/lb. Investment vehicle, Yellow Cake, is a natural extension of this industry view (much like Cobalt 27) of unsustainable pricing and will likely bring forward the upswing in prices as it captures 5%+ of the market. Meanwhile we are seeing positive developments elsewhere with the UK Government committing £200 million to the development of the nuclear power industry, the first new generation AP 1000 plant connecting up to the grid in China plus further steady promotion from the Chinese Government. The majority of industry observers have the view that the world cannot meet its carbon emission targets without nuclear power.

Timely development of low cost and extendable assets

The Salamanca operations will bring production to a steady state level in 2022 of 4.4 Mlbs per year for eight years (2.3Mlb in FY2021). Grade, depth and mineralogy of the ore bodies means cost of production will be very competitive especially at star deposit Zona 7. The depth of mining (<130m), reserve grade (408ppm, of which Zona 7 is 595ppm) and mineralogy should deliver cash costs and AISC of US\$15/lb and US\$22/lb respectively at full production. There are a further 30Mlbs of inferred resources on top of the 55Mlbs of reserves too. It is refreshing to see the mines being developed at the bottom of the price cycle as it implies strong cost control and production growth into a strong tailwind of rising prices.

Compelling valuation in a catalyst rich period of development

Our base case reserves-only NPV is 61p/share. Applying an industry multiple for the undeveloped resources adds 14p/share. We believe by 2020, as Zona 7 comes into its construction, the market will be using a forward EV/EBITDA multiple of 6.9x to value the business which suggests an EV comfortably over US\$427m or 99p/sh. We also found recent M&A transactions in the uranium space have been completed at an average EV/lb of resource of US\$6.6/lb which when we applied to BKY's 89.3Mlbs of uranium resource equates to 79p/share. Overall, we feel a one-year price target of 75p/share is appropriate.

Analyst: David Butler

Summary

Last price:	42.00p
Target price (GBP)	75.00p
Projected return (%)	79%

Project Details

Project name	Salamanca
Commodity	Uranium
Production ('000lb)	4,400
Salamanca NPV _{9%} (US\$m)	282
Berkeley NAV _{9%} (US\$m)	409

Share Data

Shares o/s* (mm)	254
52 week high/low (GBP)	60/35
3-mth avg. daily vol (mm)	0.38
3-mth avg. daily vol (GBpm)	0.2
Market cap (US\$m)	140
Net cash/(debt)* (US\$m)	(12)
Enterprise value (US\$m)	131

*pre-financing

June Year End

Financial Data	2018	2019	2020
Revenue (A\$m)	-	-	18
EBITDA (A\$m)	(44)	(7)	2
Net income (A\$m)	(44)	(7)	(6)
EPS	(0.14)	(0.04)	(0.04)
P/E	-	-	-
EV/EBITDA	-	-	75.8

Share Price Performance



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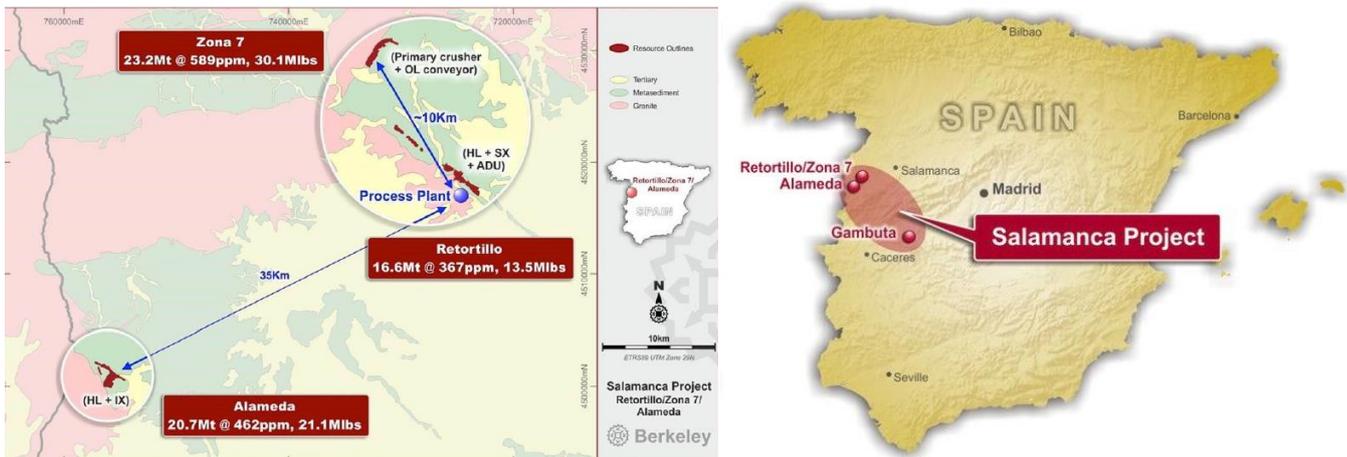
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Executive Summary – A Simple Investment Case

Berkeley Energia is a uranium company 18 months away from bringing on its first mine, Retortillo in the Salamanca district of north-west Spain. It will then bring on two more mines; the high-grade Zona 7 in 2021 and Alameda in 2022, resulting in total steady-state production of 4.4 million lbs of uranium per year. This will make it a top ten uranium mine in the world by production. A low strip ratio, decent grade and mineralisation amenable to heap leaching means that the company will be able to produce uranium for c.US\$15/lb U₃O₈ cash costs, placing it in the bottom half of the cost curve. The capex to first production is now secured, licensing is up to speed in a region desperate for employment and uranium pricing contracts are tightening up.

Figure 1 – Project Location



Source: Berkeley Energia

A large resource base in a highly prospective region with a history of mining uranium

The company aims to extract the 55Mlbs of proven and probable reserves over the next 11 years. There is a further c.30Mlb of inferred resource that has not yet been converted but would obviously add materially to the LoM. These occur within an exploration license area of 1,160km² where uranium mining has been happening since the 1970s, with the last mine closing in 2001. On the exploration front, management therefore believe it is highly likely that modern exploration techniques that the company has pioneered will deliver additional resources, particularly considering the Zona 7 discovery was made just a few years ago. The ore bodies being exploited as part of the current plans are all near surface, none of them deeper than 130 metres, and the uranium is hosted in veins, stockwork and joint/fractures associated with brittle deformation. It makes processing easy and low cost as does the reserve grade which averages 408ppm or 0.04% within which Zona 7 is the star asset with a reserve grade of 595ppm and an estimated cash cost of US\$10.6/lb U₃O₈.

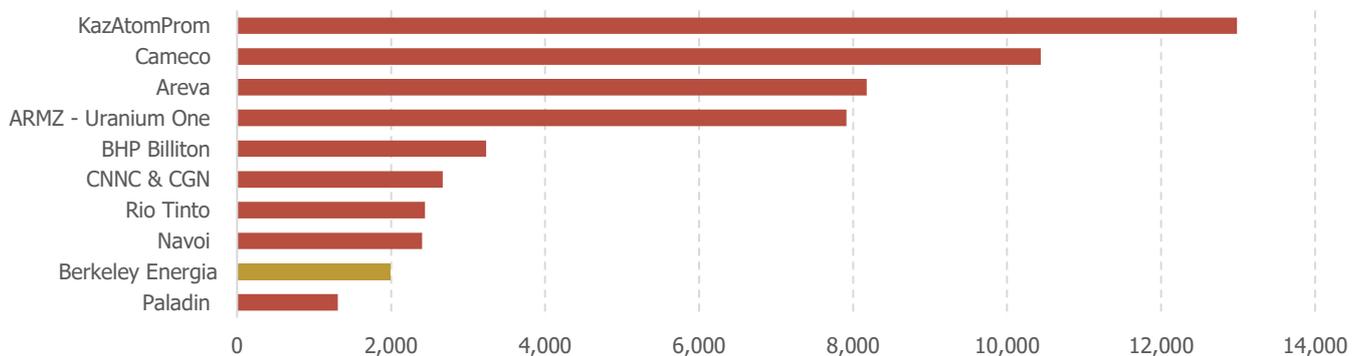
In the middle of Europe

As we confirmed on a recent site visit the operations are easy to access. Infrastructure is well established with readily available power (at US\$0.07/kwh), water and transport including to the main sea port of Santander. There is no requirement to build accommodation as there are a number of nearby villages, in particular Retortillo and Villavieja near to Zona 7. A drive through reinforced the census statistics that these are towns with declining populations and limited job prospects. Application for the first 200 jobs on the mines were met with more than 21,000 applicants. As discussed uranium mining has taken place in the past and there is still a processing facility in the area. Furthermore, there are several major smelters in the country, Glencore's Asturiana de Zinc SAU, Freeport's Atlantic Copper in Huelva and Metallo's smelter in Berango, from which sulphuric acid for the heap leach facility can be sourced at extremely competitive rates. The company has entered into a preliminary agreement with Glencore for sulphuric acid at a price of €65/t versus global pricing of nearer €130/t.

Three deposits delivering steady state production of 4.4 million lbs making Berkeley a top ten producer

Production is split between three deposits thereby diversifying technical risk. Retortillo starts with first production due in 2020, followed by Zona 7, 10km away, in 2021 and Alameda (36km away) in 2022. Zona 7 was only discovered in 2014 and has a grade c.50% higher than the others. As a result, the company delivers a CAGR of 44% in production growth 2020-2023. We can see this production growth coinciding with improving pricing conditions allowing margins to be maximised.

Figure 2 – Potential top 10 global uranium producers (tU)



Source: Tamesis, WNA

Competitive cash costs

There is nothing that shouts value more to us than a mine being developed at the bottom of the commodity price cycle. It implies management will remain tight with their capital deployment and that cost control will be at the top of the agenda. This will reflect in the approach to contractor negotiations and procurement. The project has an average cash cost of US\$15/lb during the eight-year steady state period. This includes the various royalties the company pays locally, to financiers, and the state. The company also has a number of tax incentives, with first cash tax payment estimated to be in 2024.

Strong Valuation Support

As a result of the above we believe there is considerable upside to the current market valuation. Our base case NPV for the company is US\$281.9 million including the US\$65 million from the SGRF transaction announced in 2017. This is equivalent to 52p/share fully diluted using a CAPM derived discount rate of 8.8%. This is only using reserves. Applying a US\$2.2/lb average industry EV/resource multiple adds another 14p/share, which we consider to be conservative as does not take into account the value of the mine life extension.

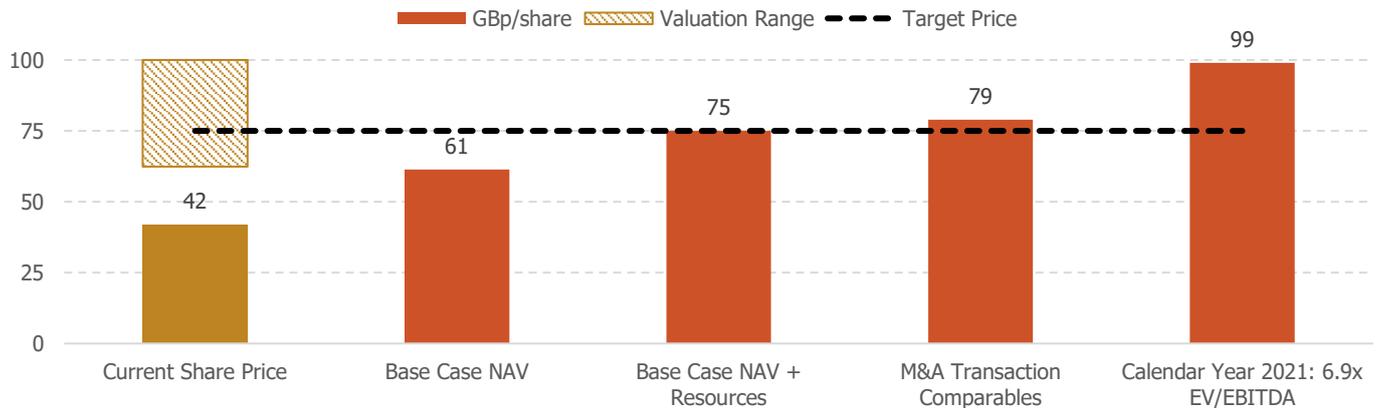
Figure 3 – Berkeley Energia Valuation

SoTP Valuation	O/ship	US\$m	NAVx	A\$m	A\$/sh	GBp/sh
Salamanca	100%	281.9	1.0	388.8	0.92	0.52
Cash	100%	73.6	1.0	101.5	0.24	0.13
Cash from Financing	100%	54.4	1.0	75.0	0.18	0.10
Debt	100%	(30.0)	1.0	(41.4)	(0.10)	(0.06)
SG&A	100%	(45.0)	1.0	(62.1)	(0.15)	(0.08)
Total – fully diluted		334.9		461.9	1.10	0.61
Resources not in mine plan	100%	74.4	1.0	102.6	0.24	0.14
Total – fully diluted		409.3		564.5	1.34	0.75

Source: Tamesis

We would also expect the shares to start trading at a premium to NPV on delivery of Retortillo given the prospectivity of the market, Berkeley's land position and the unique status of having a top ten global uranium mine located in Western Europe. Whilst M&A has quietened down in the industry we would see Berkeley as a takeover target especially on delivery of first production. Analysis of previous deals shows an average exit multiple of US\$6.6/lb resource which equates to 79p/share for Berkeley shareholders – fully diluted. A longer-term target price of 99p/share is derived from earnings multiples once Retortillo is in production and Zona 7 is into its construction phase. See chart below for the result of all valuation methodologies.

Figure 4 – Berkeley Energia Valuation Metrics



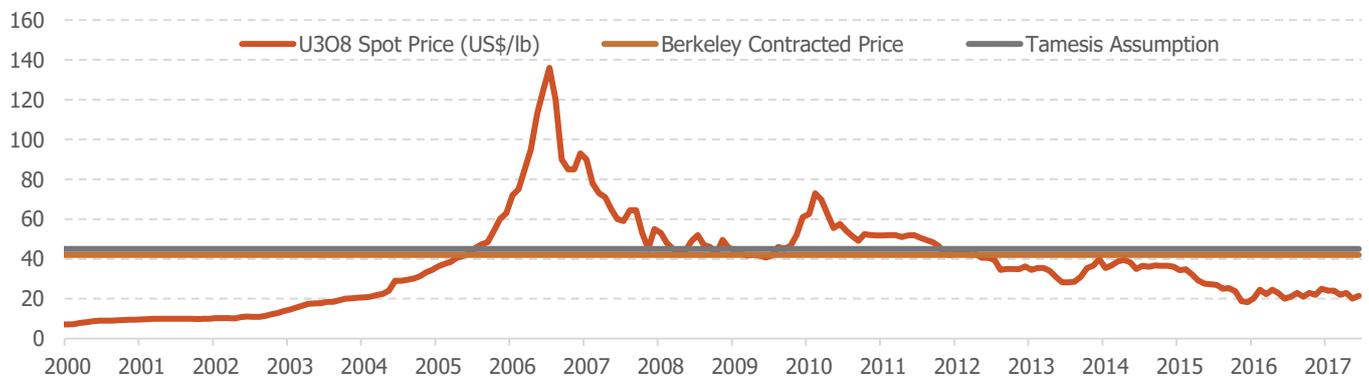
Source: Tamesis, FactSet

Relatively Subdued Risk Profile

Commodity Pricing Outlook Favourable – RFPs likely to become catalysts in their own right during construction

As with any mining investment the commodity price is the biggest risk but with uranium prices near 13-year lows and producers actively cutting supply we believe that is less an issue here (although we are pricing in a substantial increase to US\$45/lb from c.US\$22/lb spot prices). We talk more about the market later but we note announcements by Berkeley that they have already priced in forward sales of 2.75Mlb of contracts at over US\$42/lb, of which 2Mlb are priced at US\$43.78/lb.

Figure 5 – Historical Uranium Price

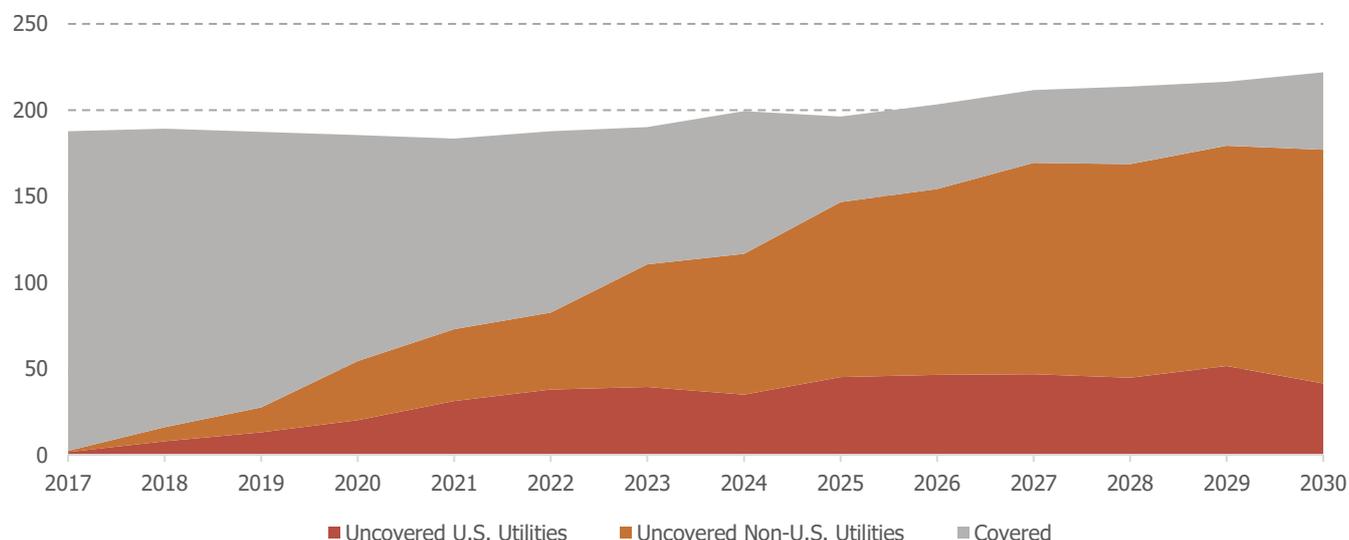


Source: Tamesis, UxC

There are numerous well-trawled arguments for higher uranium prices including:

1. Construction of Chinese nuclear power stations (58GWe capacity by 2020, an increase of 23Gwe from the current capacity, with a further 30GWe to be under construction by 2020, as per the 2016 Five-Year plan)
2. Japanese restarts (7 already restarted, most recently with the restart of the Genkai unit 3 at Kyushu, 17 more have applied to restart).
3. Most tellingly the withdrawal of supply by producers such as Kazatomprom, Cameco and Paladin (in other commodities this has always preceded price recovery).
4. All of the listed uranium developer peer group of Berkeley Energia identified by Tamesis are aspiring to build projects that require a uranium price higher than US\$45/lb to be profitable.
5. Finally, we note the scheduling of uranium contracts lapsing in the US utility industry in particular implying they will be looking to secure new supply just as Berkeley is moving towards production. Increasingly utilities are citing global security of supply as one of their key considerations when negotiating new offtake contracts

Figure 6 – Utility Uranium Requirements (Mlb U₃O₈)



Source: UxC

HSE and Licensing

Mining uranium is always going to be a sensitive issue and there have already been objections but the project appears to have the overwhelming support of the local population, indeed there had been a pro-mine gathering in Salamanca the weekend before our site visit last year and over 25% of local residents have applied for jobs at the project.

Licensing to our mind is not an issue as long as the company continues to deliver all the requirements set out by the various local, national and international regulatory authorities. Following the recommendation of the urbanism licence there is now only one main license left for Retortillo for the operation of the radioactive plant, which will be sought as the project nears production (see Figure 35 – Retortillo permitting summary).

We expect the licences for Zona 7 and Alameda to continue down the same path. The company is also adopting measures to ensure environmental impact is reduced, including the simultaneous backfilling of the open cut deposits, and extensive reforestation plans.

Extensive Due Diligence

We would highlight that there have been a number of private equity financings along the company's development pathway including by Anglo Pacific (who paid A\$4 million in 2009 for a 1% royalty), Resource Capital Funds (who paid US\$5 million for a 0.375% royalty in 2016 alongside a US\$5 million equity placement), and most recently the US\$65 million investment by the State General Reserve Fund of Oman announced in 2017. The due diligence behind these investments will have been extensive and far reaching including vetting of the licensing route.

Cornerstone Investor Secured

Berkeley Energia has secured funding State General Reserve Fund of Oman required to bring the first deposit into production. The company has issued a US\$65 million "non-interest bearing, unsecured convertible note" which converts at "technical completion" of the project at 50p/share. SGRF will own 28.9% of Berkeley post this conversion. If technical completion has not occurred three years after the issue of the note (with a possible one-year extension at the option of the company), the principal will be automatically converted at a floor price of 27p/share.

In the same transaction, Berkeley are also issuing 51.0 million warrants to SGRF comprising three tranches priced off the note. As the table below shows, if exercised, these will result in the issuance of a total of 153.0 million new shares for an additional US\$56.6 million. Our pre-finance analysis shows the timing of the exercise of these warrants is well correlated with NPV progression and goes a long way to funding the additional capex requirements to bring on Zona 7 and Alameda.

Figure 7 – Berkeley Energia Equity Issuance Schedule

Date	Transaction	Shares (m)	Strike Price (GBP/share)	Proceeds (GBPm)	Proceeds (A\$m)	Proceeds (US\$m)
August 2017	SGRF Oman Investment	102.1	0.50	51.0	83.7	67.0
June 2018	Incentive Options	3.6	0.15	0.5	0.9	0.7
June 2018	Incentive Options	0.2	0.25	0.0	0.1	0.0
June 2018	Incentive Options	0.2	0.30	0.0	0.1	0.1
June 2018	Incentive Options	0.2	0.40	0.1	0.1	0.1
June 2018	Performance Rights	3.6	-	-	-	-
June 2018	SGRF Warrants 1st tranche	10.2	0.60	6.1	10.0	8.0
December 2018	SGRF Warrants 2nd tranche	15.3	0.75	11.5	18.8	15.1
June 2019	Incentive Options	3.6	0.20	0.7	1.2	0.9
June 2019	Performance Rights	4.6	-	-	-	-
June 2019	SGRF Warrants 3rd tranche	25.5	1.00	25.5	41.8	33.5
Total New Equity		169.0		70.1	114.9	92.0
Number of Shares Outstanding		254.5				
Fully Diluted Number of Shares Outstanding		423.5				
Total SGRF Warrants		51.0	0.85	43.1	70.7	56.6
Total SGRF Investment		153.1	0.62	94.2	154.4	123.7

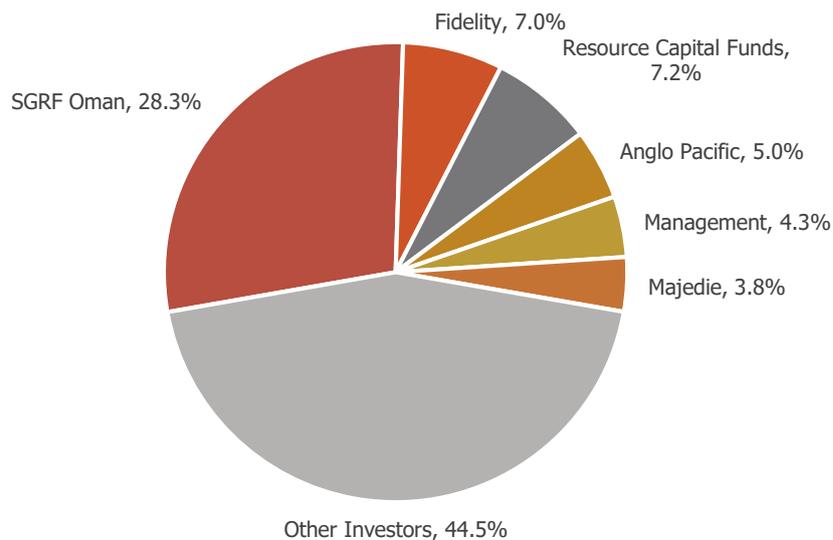
Source: Tamesis

Shareholders

SGRF will own 29.2% of Berkeley Energia, post conversion at 50p a share. The SGRF has the right to match future uranium offtake deals up to 20% of total annual production or 1Mlbpa U₃O₈. Also on the register is Global X Funds, a global provider of ETFs. Some of the recent share price performance has been attributed to Global X selling as part of a rebalancing of their uranium ETF, which has now been completed. As Berkeley Energia moves into production this trend may reverse.

Other key institutional shareholders include Fidelity, Resource Capital Funds, Anglo Pacific and Majedie. Management own approximately 4% of the enlarged company share capital.

Figure 8 – Berkeley Energia Shareholders



Source: FactSet, Tamesis

Valuation

Overview – Initiating with a Target Price of 75p/share

We have used a number of valuation methodologies to derive a value for Berkeley Energia starting with standard DCF methodology. We have then added a value for the resources not currently used in the mine plan derived from competitor resource metrics. We cross checked the outcome from this against comparative earnings and transaction metrics to derive a price target of 75p/share. We see this as a one-year price target that is achieved as the first deposit moves into production. However, thereafter as earnings metrics become the more dominant valuation tool we believe the shares should move up towards the 150p level assuming full dilution from warrant exercise.

We believe this is a reasonably conservative price target and we go through some of the assumptions in the section below. We do not take into account in our base case analysis the strong potential to extend the life of the mine, not just through development of resources, but through further discoveries on 1,160km² exploration area. Even at the price target, or NPV, the shares are still trading on relatively attractive valuation metrics. Finally, we suspect that the relative corporate rarity of Berkeley's business makes the company an interesting target for corporate predators in the industry i.e. we would imagine the shares could actually trade a premium to NPV on delivery of first production on this basis.

Figure 9 – Berkeley Energia Key Financials (YE June)

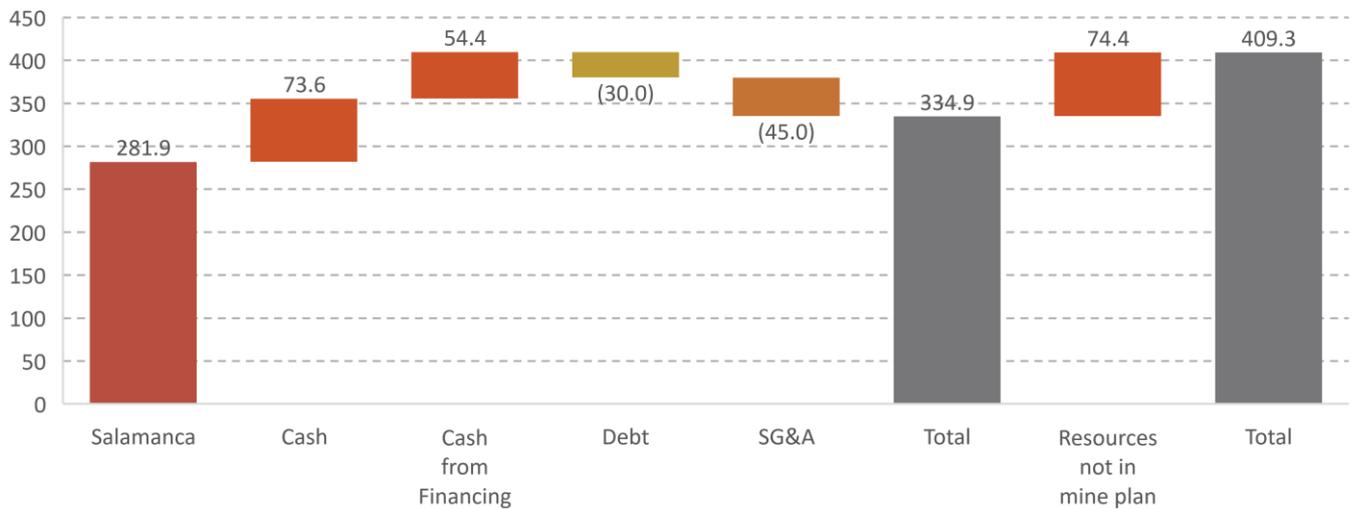
Key Financials	FY-2017	FY-2018	FY-2019	FY-2020	FY-2021	FY-2022
Revenue (A\$m)	-	-	-	18	144	178
EBITDA (A\$m)	(17)	(44)	(8)	2	86	130
Net Income (A\$m)	(16)	(44)	(8)	(6)	63	98
Free Cash Flow (A\$m)	(20)	(14)	(102)	(90)	(19)	99
EV/EBITDA (x)	-	-	-	42.7	1.2	0.8
P/E (x)	-	-	-	-	3.2	2.1
EPS (A\$/share)	(0.04)	(0.11)	(0.02)	(0.01)	0.15	0.23
CFPS (A\$/share)	(0.05)	(0.03)	(0.24)	(0.21)	(0.05)	0.23
FCF Yield (%)	0%	0%	0%	0%	0%	49%

Source: Tamesis, Company Filings

Sum of the Parts NPV

Our base-case DCF model of Berkeley Energia delivers an NAV of US\$409.3 million – see figure below. This comprises an NPV of US\$281.9 million for the Salamanca project, an existing cash balance of US\$73.6 million as of 30 March 2018 plus the remaining new equity and US\$30 million additional future debt financing. The NPV of the US\$4.0 million a year of SG&A is negative \$45.0 million. This is based off proven and probable reserves only and does not take into account the additional c.30Mlbs of inferred resource not included in the mine plan, nor do we assume a terminal value. Rehabilitation costs are also incurred up front as the company plans to backfill and reseed as they go along. We are not modelling any upside for exploration beyond what is currently included in the mine plan and resource statement.

Figure 10 – Salamanca NPV Waterfall (US\$m)

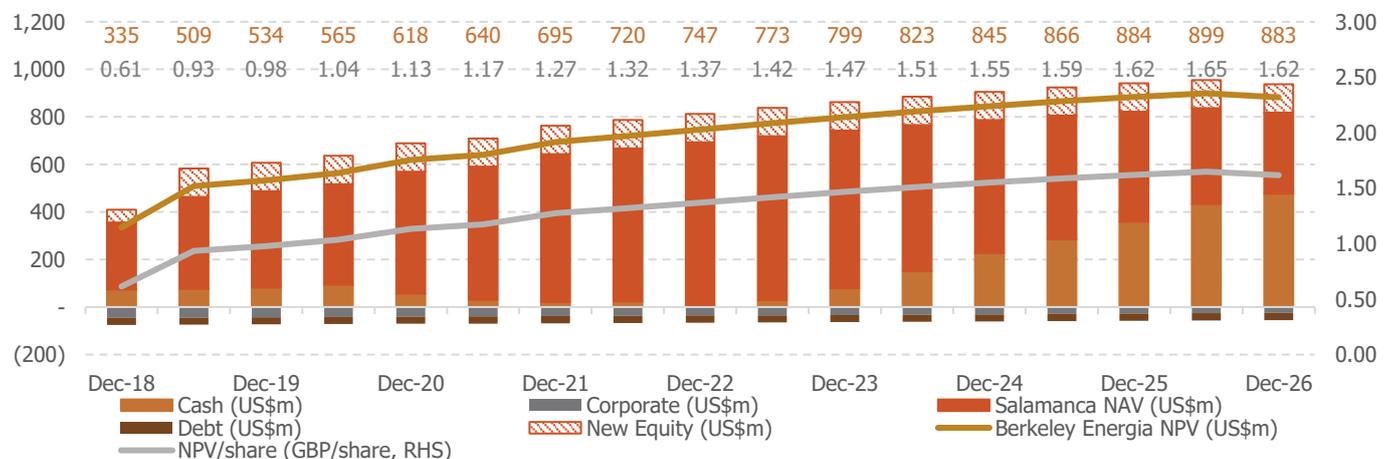


Source: Tamesis, Berkeley Energia

NPV Progression

The NPV of the Salamanca mine (excluding resources not included in the mine plan) appreciates as capital is spent and the company moves into a cash generative position. Our forecast is for the NPV/share to move to 98p/share by December 2019, and 113p/share by December 2020 and December 2021 respectively.

Figure 11 – NAV Progression



Source: Tamesis

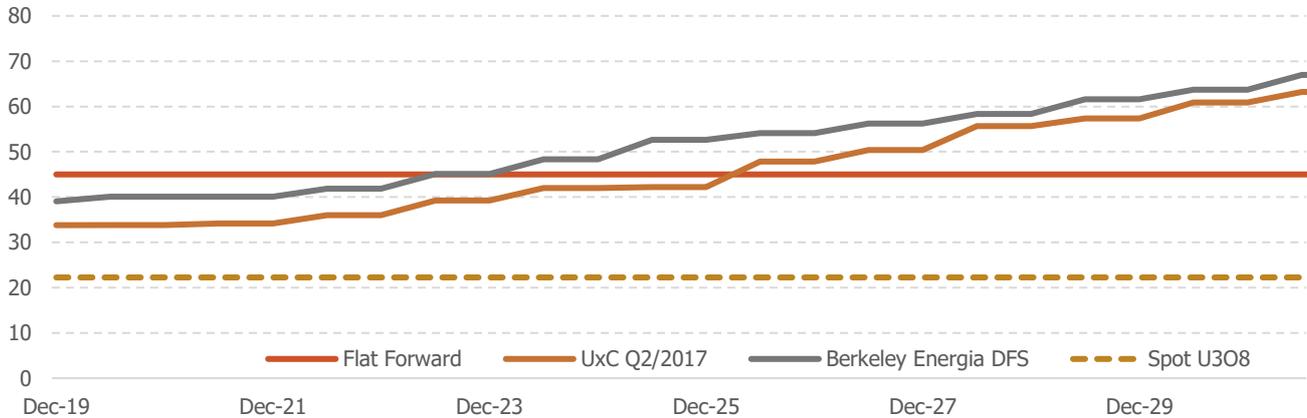
Assumptions

We discuss the operational parameter in more detail in our asset review but safe to say none are particularly controversial. Perhaps the one notably high number is the recovery rate of the heap leach which we have taken from company guidance of 88% but there are clear reasons why this is able to be achieved, including adding acid to the agglomeration circuit; we view this as a positive aspect of the geology and metallurgy, rather than a risk factor.

Commodity pricing

We anticipate Berkeley Energia will secure the majority of its uranium sales through contracted volumes that deliver a higher price than the prevalent spot price, in return for secured supply. In coming up with a uranium price forecast we took our cue from the contracted pricing already in place as well as market conditions described in our market review at the back of the report. We have decided on \$45/lb flat into perpetuity, which we believe is conservative against other Street estimates and UxC/TradeTech forecasts.

Figure 12 – Commodity Pricing



Source: Tamesis, Bloomberg, UxC

Discount rate

We have derived a discount rate of 8.8% from a CAPM assuming a Spanish risk-free rate of 1.67%, an equity risk premium of 6.91% and a beta of 1.03x. This feels right given the relatively low technical and geographical risk.

Figure 13 – Discount Rate

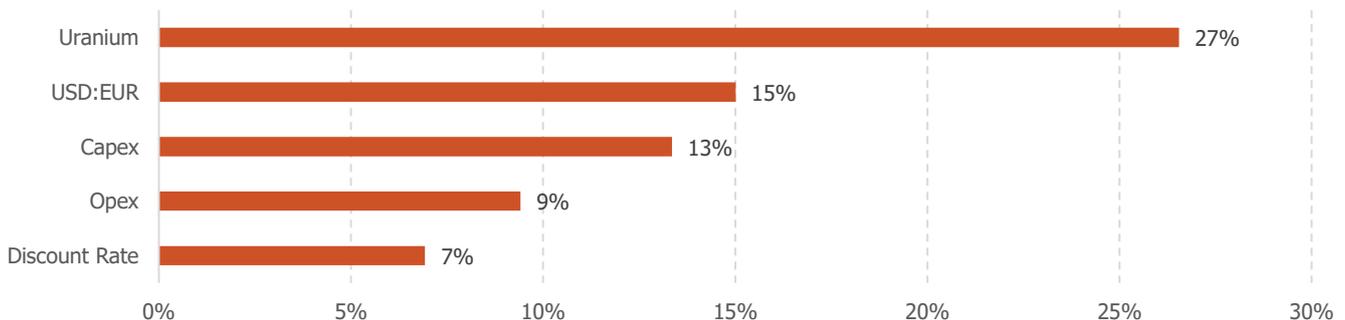
	Inputs
Risk-free rate – Spain	1.67%
Equity risk premium – BKY:LON	6.91%
Beta	1.03x
Cost of Equity	8.76%
Debt	-
WACC	8.76%

Source: Tamesis, Bloomberg

Sensitivity

We vary a number of input parameters by 10% to see the effect on our base case NPV. Naturally the uranium price is the biggest kicker. Interestingly, due to the majority of the cost base being in Euros, currency comes next.

Figure 14 – NPV sensitivity to a 10% change in model input parameters



Source: Tamesis, Bloomberg

Comparative Analysis

This is made difficult given BKY's proximity to first production and the scale of that production. Of the developers, very few are close to meaningful first production (with the exception of UEC) and of the producers they are either bigger (Cameco) and/or privately owned (Kazatomprom), in administration (Paladin), or a lot smaller.

Developer Comparative Analysis

Of the comparable listed uranium development companies, Berkeley Energia is trading 38% below the average on a EV/resource lb multiples basis:

Figure 15 – Uranium Developers Comparables

Company	Exchange	Share Price (local)	Market Cap (US\$m)	EV (US\$m)	Resource (Mlb U ₃ O ₈)	EV/ Resource (US\$/lb U ₃ O ₈)	Uranium Price Forecast (US\$/lb U ₃ O ₈)	Cash Cost (US\$/lb U ₃ O ₈)	Capex (US\$m)	Capital Intensity (US\$/lb U ₃ O ₈)
Bannerman	ASX	0.06	44	44	63	0.7	75	38.0	793	99.0
Deep Yellow	TSX	0.34	49	39	0	n/a		-	-	-
Denison	TSX	0.64	272	244	69	3.6	44 / 62.6	14.0	827	63.6
Fission	TSX	0.67	247	221	108	2.0	65			
Forsys	TSX	0.18	21	20	126	0.2	65	14.3	253	15.8
Laramide	ASX	0.25	25	31	52	0.6	65	31.1	315	157.5
NexGen	TSX	2.43	634	628	122	5.1	55	14.0	433	81.9
Toro Energy	ASX	0.03	39	47	46	1.0	70	-	-	-
UEC	NYSE	1.57	252	259	39	6.8		13.81	340	91.8
Vimy Resources	ASX	0.10	31	25	90	0.3	65	31.0	254	84.7
Average			166	161	71	2.2	66	22.3	459.3	84.9
Berkeley Energia	LSE/ASX	46.50	130	142	89	1.6	US\$33-64/lb over 14 years	15.0	251.2	57.1

Source: Tamesis, FactSet

We would point out too that nearly all the comparators above have a long lead time to production bar UEC which is trading on over 4x the multiple of BKY. On reading through the technical reports and presentations of the above companies we noted the uranium pricing assumptions used are comfortably above the current spot and long-term contract rates to justify the project economics. This appears to confirm the view that the incentive price for uranium remains above US\$60/lb U₃O₈ at the margin.

Berkely Energia also appears attractive on a capital intensity basis relative to its development peers.

Producer Comparative Analysis

Perhaps reflective of the prolonged low-price environment and sector consolidation, there is large variance in the production comparables. Whichever way one cuts it though – BKY is trading at a fraction of its peer group underlying a central theme on valuation which is that we would expect a significant uplift in valuation on delivery to which the major impediments have been removed.

Figure 16 – Uranium Production Comparables

Company	Exchange	Share Price (local)	Market Cap (US\$m)	EV (US\$m)	2017 Production Guidance (lb U ₃ O ₈)	EV/Production (US\$/lb U ₃ O ₈)
Cameco	TSX	14.79	4,450	4,979	32.5	153
Peninsula Energy	ASX	0.24	41	52	0.2	233
Ur-Energy	TSX	0.89	99	108	0.3	394
Energy Fuels	NYSE	2.27	177	201	0.5	419
Average			1,192	1,335		300
Berkeley Energia	LSE/ASX	47.5	130	142	4.4*	32

*Note: Berkeley Energia estimated steady state production

Source: Tamesis, FactSet

EV/production lb U₃O₈ multiples become secondary to earnings and cashflow metric in our view once production is reached. Of the companies above, only Cameco has reached reliable steady state production. Peninsula Energy and Ur-Energy are ramping up new production and thus are the closest comparable to the company. Energy Fuels looks to be the most stable of the producing comparable companies, with a range of producing and development assets.

Comparative Earnings Multiples

The earnings based comparative metrics below reveal the state the current producers are in. Clearly the market is dominated by Cameco, however we are looking to two emerging producers Peninsula Energy and Ur-Energy for our longer-term forecast price (average 2018E EV/EBITDA of 6.6x).

Figure 17 – Uranium Producers Financial Multiples

Company	2018E EBITDA (US\$m)	2019E EBITDA (US\$m)	2018E Net Income (US\$m)	2019E Net Income (US\$m)	2018 EV/EBITDA (x)	2019 EV/EBITDA (x)	2018 P/E (x)	2019 P/E (x)
Cameco	459	545	113	194	10.8	9.1	39.4	22.9
Peninsula Energy	(3)	11	(15)	3	4.7	8.7	-	13.5
Ur-Energy	14	2	5	5	9.2	9.2	19.9	19.9
Energy Fuels	4	(5)	(18)	(16)	-	-	-	-
Average/Median					9.3	24.0	29.6	18.8

Source: Tamesis, FactSet

Relative share price performance discussion

Berkeley Energia has traded below a of uranium developers over the last 12 months despite being considerably further along the licencing route and moving into its construction phase in the near future. The producer basket is dominated by Cameco, which has had its own struggles due to production stoppages at MacArthur River and tax disputes. We would expect some stronger performance as we pass through this current catalyst-rich period in which capex to first production is confirmed, final licensing at Retortillo continues, and project construction gets underway.

Figure 18 – Comparable share price performance (30 June 2017 = 100)



Source: Tamesis, FastSet

M&A Comparative Analysis

Whilst there has been little recent M&A activity in the space, the uranium sector is dominated by end-users and sovereign nations who seek control of resources for strategic reasons. Accordingly, their investment horizons are much longer than typical mining sector investors. Recent transactions identified by Tamesis include:

Figure 19 – Recent M&A activity in the Uranium Space

Target	Counterparty	Year	Deal Value (US\$m)	Resources (Mlb U ₃ O ₈)	Price/Resource (US\$/lb)
Uramin	Areva	2007	2,500	157	15.9
Aurora	Paladin	2008	261	137	1.9
Mantra	AMRZ	2011	1,000	101	9.9
Hathor	Rio Tinto	2011	654	57	11.5
Extract	CGNP	2012	2,051	367	5.6
Millenium	Cameco	2012	150	19	7.9
Rockgate	Denison	2013	26	28	0.9
Langer Heinrich	CNNC	2014	190	37	5.1
Four Mile	Quasar	2015	54	13	4.2
Fission	CGN	2015	59	22	2.7
Average			695	94	6.6
Implied Berkeley Energia Valuation			589	89	6.6

Source: Tamesis, Company Filings, Bloomberg

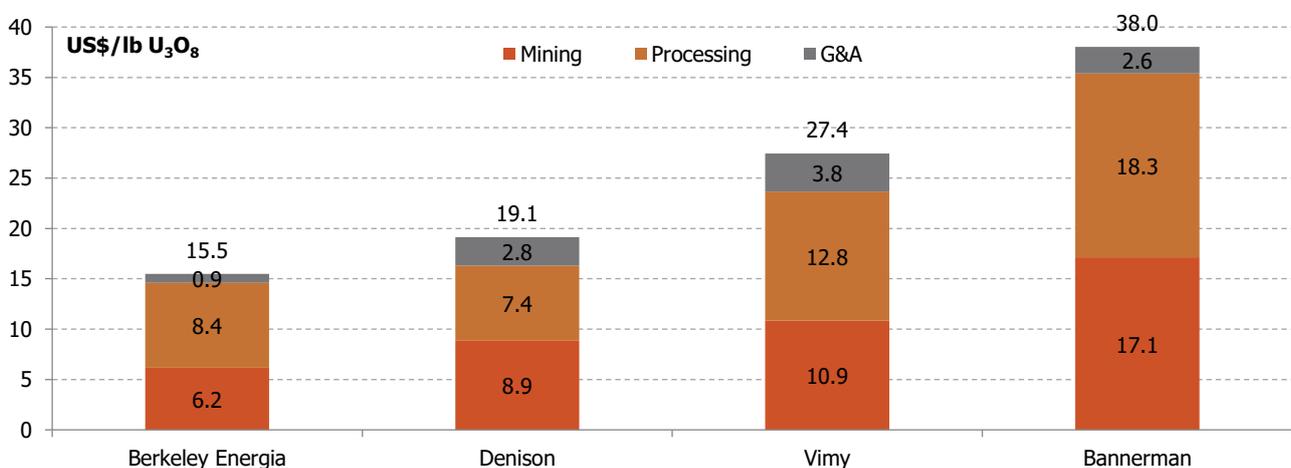
We would consider Berkeley Energia an M&A target. Near term production of 5+ million lb U₃O₈ in a Western European jurisdiction should be attractive to a range of investors seeking geographic surety of supply in even the most bearish uranium demand forecast scenarios. Canada's restriction on foreign-owned enterprises owning majority stakes in producing assets increases the potential for M&A. Using the average of Tamesis identified transactions of US\$6.6/lb U₃O₈ this implies a takeout valuation of US\$589 million, a multiple of 3.0x on the current market capitalisation of US\$195m (including the conversion of the SGRF convertible note).

Project Comps

Berkeley Energia compares favourably in mining costs to three comparable development projects identified by Tamesis. The company outperforms the Australian (Mulga Rock, operated by Vimy Resources) and Namibian (Etango, operated by Bannerman Resources) projects on an operating cost basis primarily due to lower mined waste to ore ratio (strip ratio). Costs on a unit basis are also helped by the higher grades of uranium ore mined at Salamanca. Mining costs are similar to the Canadian project (Wheeler River, Denison), however as this is an underground project this will be offset against higher development capital costs for shaft sinking.

Salamanca is expected to have lower processing costs than the Australian and Namibian projects due to lower labour costs, availability of power and water, and readily available sulphuric acid from regional smelters. The Canadian project intends to truck ore to a nearby processing plant for toll treatment

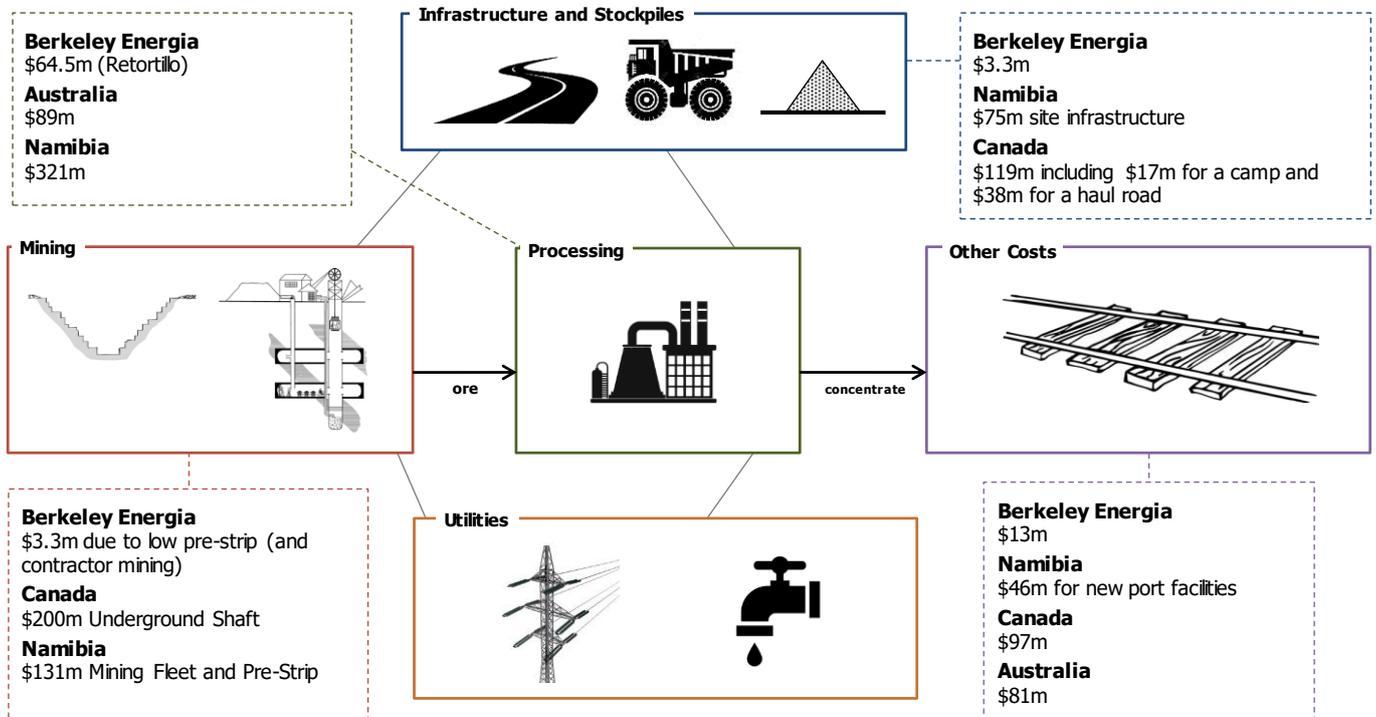
Figure 20 – Operating cost comparison (taken from respective technical reports)



Source: Berkeley Energia, Company Filings

Berkeley Energia is saving US\$60 million – US\$599 million in overall capital expenditure versus comparable uranium development projects.

Figure 21 – Capital cost comparison (taken from respective technical reports)



Source: Tamesis, Company Filings

Operational Review

Summary

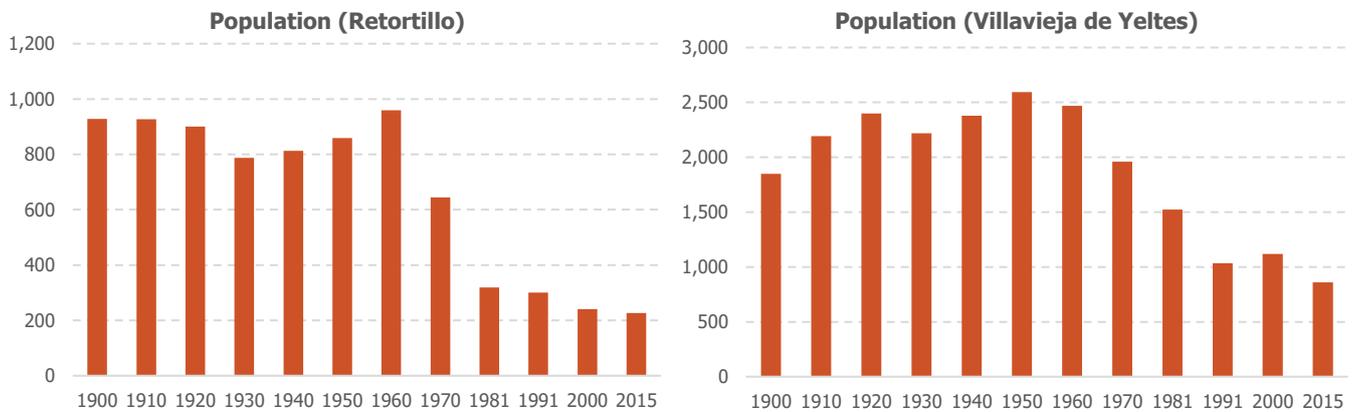
Some of the key competitive advantages of Berkeley Energia are immediately evident from our recent site visit from London: i.e. the proximity to capital markets and the first-class infrastructure to get there. As we discuss in more detail below, the assets comprise three ore bodies to be mined with two processing plants. It should be said that the company hasn't just stumbled on these deposits by accident (although Zona 7 was a more recent discovery). It has taken 10 years of refining and defining the resource base and location of the deposits, in areas that have a long history of uranium mining.

Berkeley Energia released a scoping study in 2012, a pre feasibility study in 2015, and then a definitive feasibility study in 2016. The company confirmed the initial capex number in Q2/2017, with the assistance of Amec Foster Wheeler, at US\$93.8 million. Interestingly the number was little changed from the previous estimate, although we would point out that this is the capex for Retortillo only – see financials for peak funding.

Social Licence

It is clear too that the villages that surround the projects as we approached them are in sharp decline in both population and economy so we were not surprised when management informed us that there is at least a 100:1 job application ratio. We suspect too that the population charts below are probably understating the decline in numbers. Up to 100 people per day are leaving the Castilla y León region which has unemployment statistics well above the EU average. Over the past five years 100,000, mainly young, people have left looking for work. This year a further 20,000 people are expected to leave the region, principally in the working age groups of 26-55 years old.

Figure 22 – Local Population Decline



Source: Berkeley Energia

Berkeley is creating 450 direct jobs and it has been estimated by the University of Salamanca to create a further 2000 indirect jobs. Recently in one of the biggest turnouts in recent times over 200 members of Salamanca’s business community came together to show its support for the project. Berkeley’s extensive community efforts bore fruit recently when the local football team it supports gained promotion to the Spanish second division.

Reserves and Resources

The table for reserves and resources is shown below. The grade, for open cut, shallow mining is decent although is less than typical resources in Athabasca, which are only accessible underground. Zona 7 is the largest and highest grade of the three which is why the production schedule is as described in the next section.

Figure 23 – Salamanca Resources Table

Deposit Name	Resource Category	Tonnes (Mt)	U ₃ O ₈ (ppm)	U ₃ O ₈ (Mlbs)
Retortillo	Measured	4.1	498	4.5
	Indicated	11.3	395	9.8
	Inferred	0.2	368	0.2
	Total	15.6	422	14.5
Zona 7	Measured	5.2	674	7.8
	Indicated	10.5	761	17.6
	Inferred	6	364	4.8
	Total	21.7	631	30.2
Alameda	Indicated	20	455	20.1
	Inferred	0.7	657	1
	Total	20.7	462	21.1
Las Carbas	Inferred	0.6	443	0.6
Cristina	Inferred	0.8	460	0.8
Caridad	Inferred	0.4	382	0.4
Villares	Inferred	0.7	672	1.1
Villares North	Inferred	0.3	388	0.2
Total Retortillo Satellites	Total	2.8	492	3
Villar	Inferred	5	446	4.9
Alameda Nth Zone 2	Inferred	1.2	472	1.3
Alameda Nth Zone 19	Inferred	1.1	492	1.2

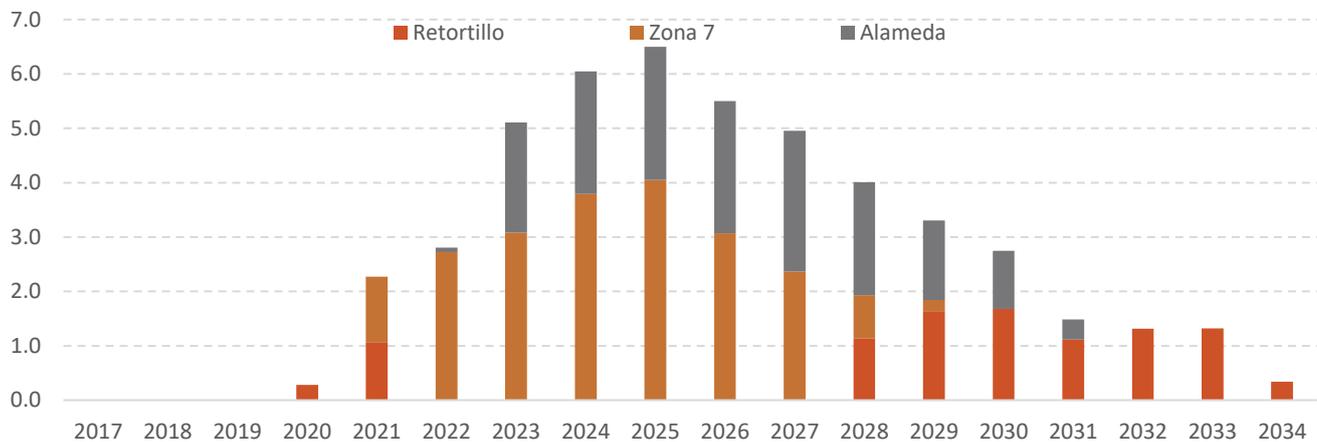
Alameda Nth Zone 21	Inferred	1.8	531	2.1
Total Alameda Satellites	Total	9.1	472	9.5
Gambuta	Inferred	12.7	394	11.1
	Measured	9.3	597	12.3
Salamanca Total	Indicated	41.8	516	47.5
	Inferred	31.5	395	29.6
	Total	82.6	514	89.3

Source: Berkeley Energia

Production

The three mines have a different development profile with Retortillo being mined first before Zona 7 starts producing in the 2021 financial year. Mining at Retortillo then stops to allow the higher grade, lower cost Zona 7 to ramp up before coming back on stream as production from Zona 7 declines in 2028.

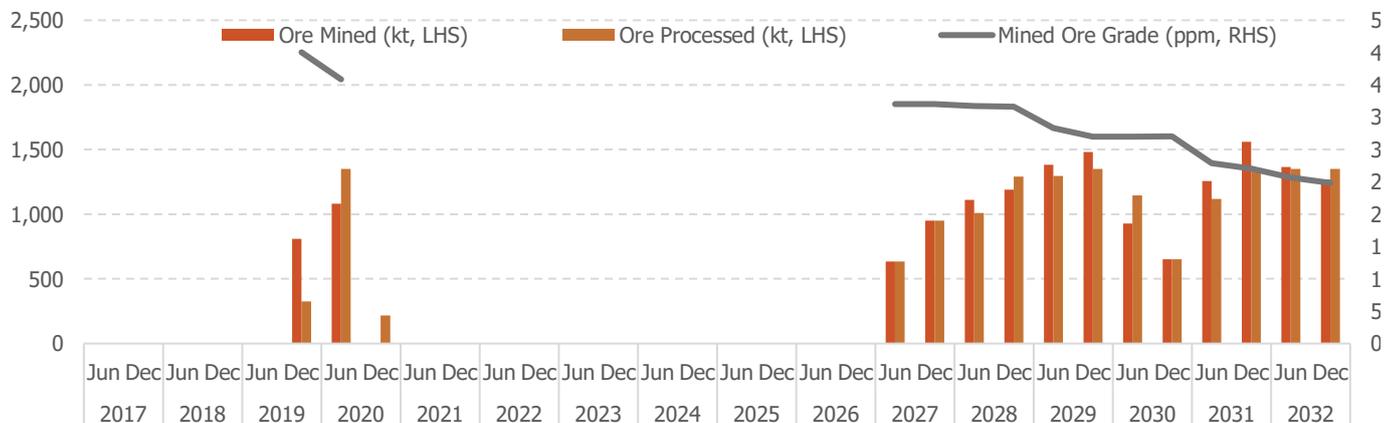
Figure 24 – Salamanca production by mine



Source: Berkeley Energia

The mining method is straightforward truck and shovel open pit with the deepest pit being only 130m at Alameda. The centralised processing plant will be at Retortillo which will also process crushed ore from Zona 7, 10km away. The ore from Zona 7 will be transferred on a two-way conveyor belt to the plant which has a throughput capacity of 2.7Mtpa, and ripois from the leach pad will be transferred back to Zona 7 and used for backfilling and rehabilitation.

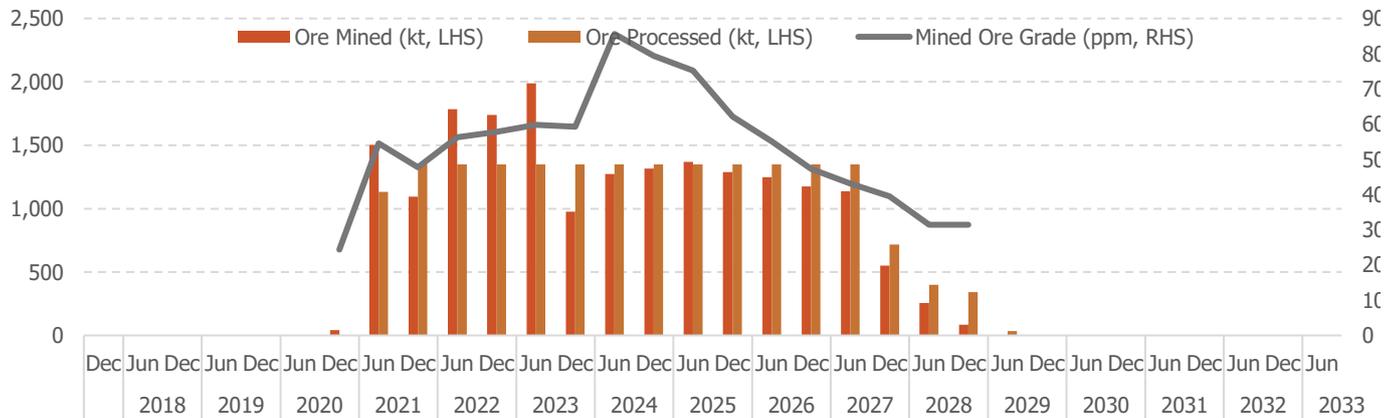
Figure 25 – Retortillo ore mining and processing schedule



Source: Berkeley Energia

Processing of ore mining at Retortillo will switch to Zona 7 once the deposit is permitted and construction on the overland conveyor is complete. Mining is scheduled to recommence at Retortillo once the higher-grade material at Zona 7 is depleted.

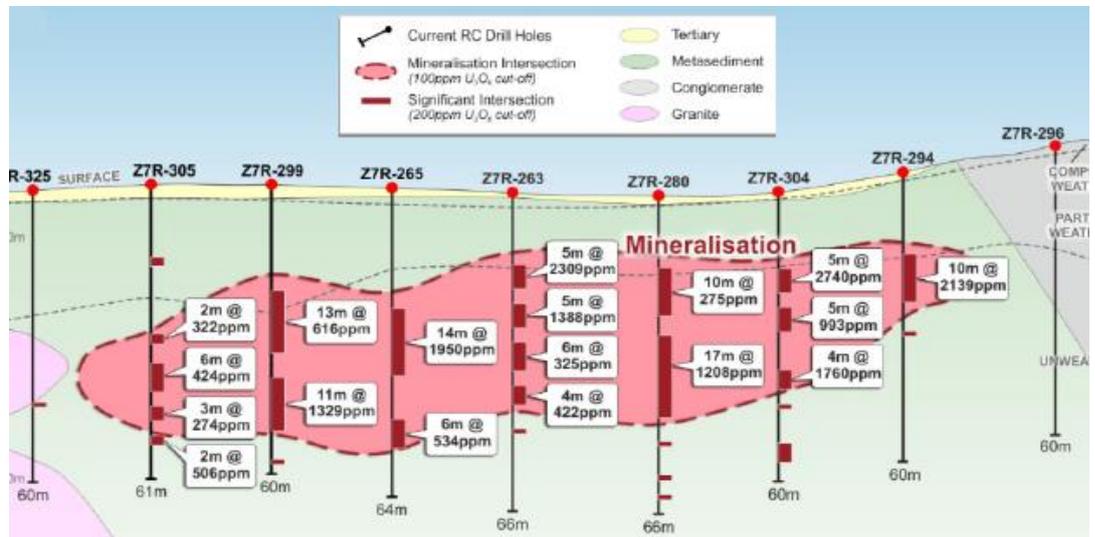
Figure 26 – Zona 7 ore mining and processing schedule



Source: Berkeley Energia

Based on the published cross section of the Zona 7, we are assuming grades increase steadily as the ore body is mined then decline towards the end of its current forecast life.

Figure 27 – Zona 7 cross section



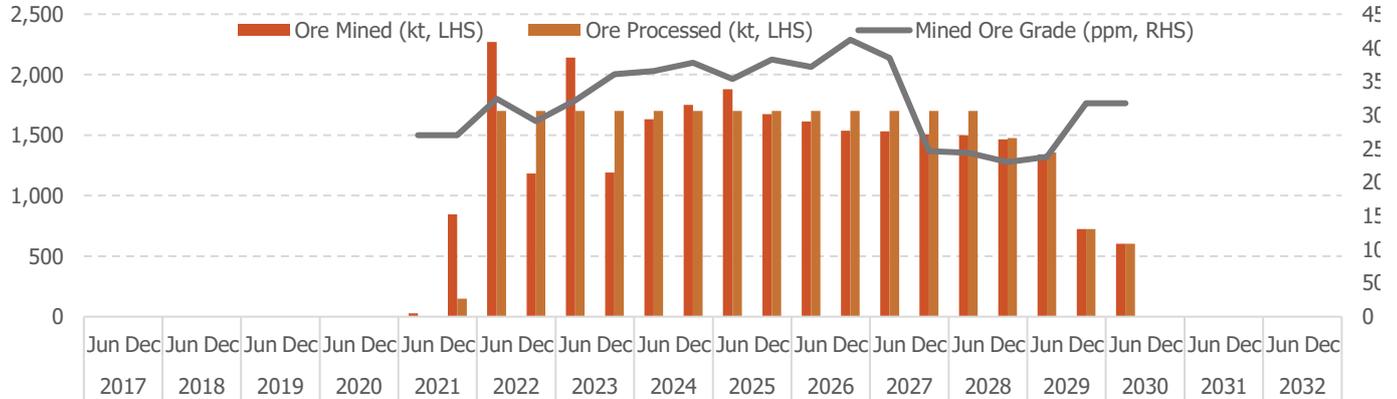
Source: Berkeley Energia

Simultaneously, the Company will continue to permit and develop the Alameda deposit.

Alameda is 36km away so a conveyor belt is impractical and too costly. As such the ore will be processed via a heap leach and ion exchange plant at site into a pregnant leachable solution that will then be adsorbed into a resin and transported on trucks to Retortillo. We noted that this will only require a handful of trucks weekly so will have a minimal environmental impact. Positively, the proposed transport route does not travel through any villages or settled areas.

Once at Retortillo, the resin will enter the back-end of the centralised processing plant at Retortillo plant prior to the solvent extraction stage. There is additional processing capacity built into this stage of the ore processing so we do not expect any bottleneck effect from processing Alameda resin through the plant at Retortillo.

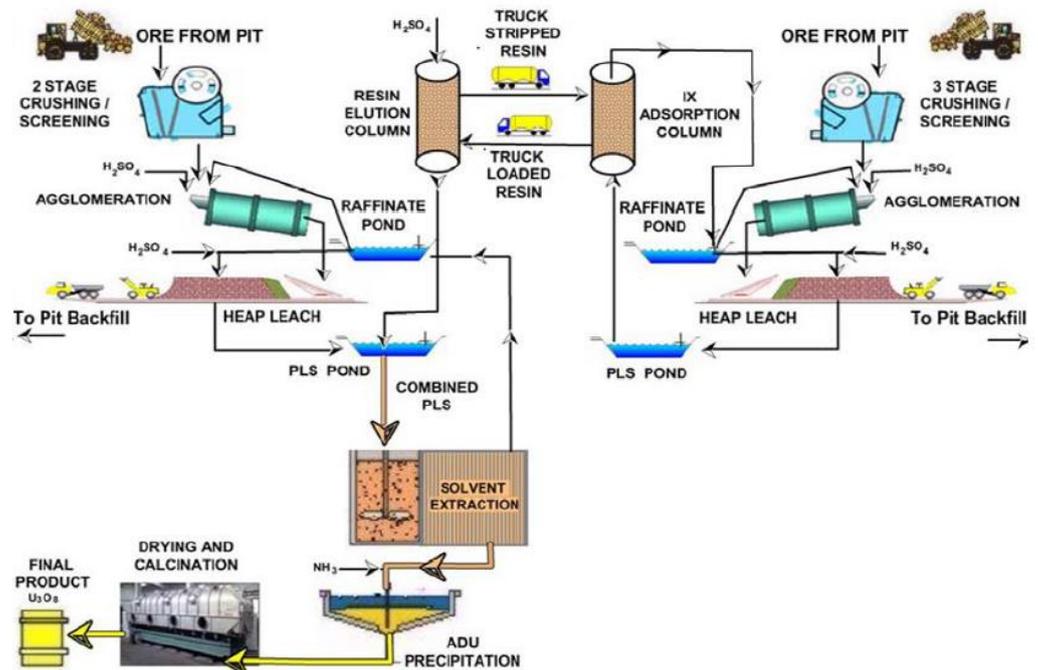
Figure 28 – Alameda ore mining and processing schedule



Source: Berkeley Energia

The process of heap leaching and solvent extraction is shown below. Interestingly, acid is planned to be added in the agglomeration stage, starting the leaching process prior to the ore being placed on the leach pad. The use of heap leach versus tank leach is expected to save 30% on power costs.

Figure 29 – Process flow sheet



Source: Berkeley Energia

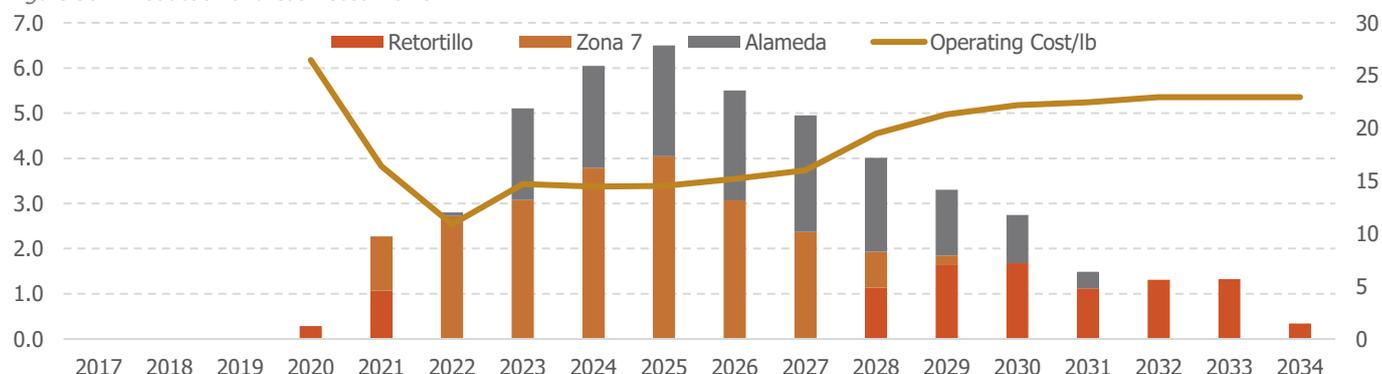
Perhaps the most notable aspect of this simple and well-practised ore extraction is the immediate use of backfill and rehabilitation. This is obviously to reduce the environmental impact. This technique has been used in Spain before, the Puertollano

We noted on the site visit that the Retortillo deposit was located in a natural dip in the topography so the already minimal visual impact will be further reduced. The company also plans to build a 16m high berm screening Zona 7 from the village of Viellavieja, which will also substantially reduce noise and air pollution.

Cost of Production

The grade to a certain extent, depth and mineralogy of the three deposits means that costs will be very competitive particularly at the highest-grade mine – Zona 7 – see chart below.

Figure 30 – Production and Cash Cost Profile



Source: Berkeley Energia

We are assuming these costs are split out as follows:

Figure 31 – Cash Cost Assumptions

Deposit	Business Unit	Cash Cost		All-in Sustaining Cash Cost*	
		(US\$/lb U ₃ O ₈)	(€/lb U ₃ O ₈)	(US\$/lb U ₃ O ₈)	(€/lb U ₃ O ₈)
Retortillo	Mining	8.9	9.4		
	Processing	9.6	10.2		
	G&A	2.0	2.1		
	Royalty and Commercialisation	1.2	1.1		
	Total	23.0	21.6	31.5	29.6
Zona 7	Mining	3.1	3.3		
	Processing	4.9	5.2		
	G&A	0.8	0.9		
	Royalty and Commercialisation	1.2	1.0		
	Total	10.6	9.9	14.6	13.7
Alameda	Mining	6.7	7.1		
	Processing	10.0	10.6		
	G&A	0.9	1.0		
	Royalty and Commercialisation	2.3	2.1		
	Total	21.0	19.7	25.2	23.7

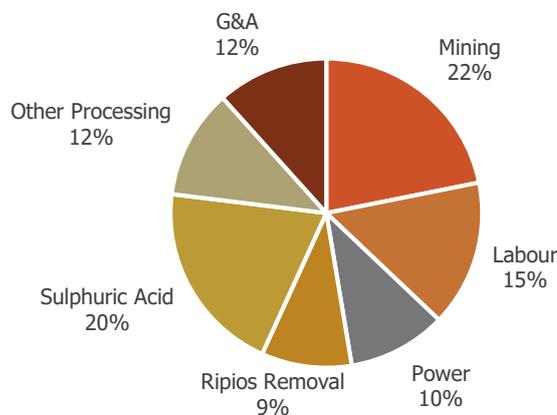
*Note: includes attributable by mine head office overheads, sustaining capital, tax, and rehabilitation expenses

Source: Berkeley Energia

The uraninite is deposited in the fractures of granitic breccia making it amenable to heap leaching. Test work has given management confidence they can expect a relatively high recovery rate of 90%.

The main cost components are shown in the pie chart below:

Figure 32 – Operating Cost Split



Source: Tamesis, Berkeley Energia

The mining work will be contractor-based, but in a region with unemployment as high as 33% the cost of labour for the processing and administrative business units is clearly going to be competitive. As with infrastructure in general, power is readily available from the grid and again competitive at 7c/kwh.

One key input cost is sulphuric acid – thankfully the ore is readily leachable which means that sulphuric acid consumption is relatively low at 18kg/t at Retortillo, 10kg/t at Zona 7 and 20kg/t at Alameda.

Water will be sourced from bore holes associated with pit watering and other adjacent watercourses and collection systems that will capture rain and surface water run-off during the wet season. On-site accommodation is not required, the company envisages hiring its workforce predominantly from nearby villages as well as the cities of Leon and Salamanca, approximately 70km away.

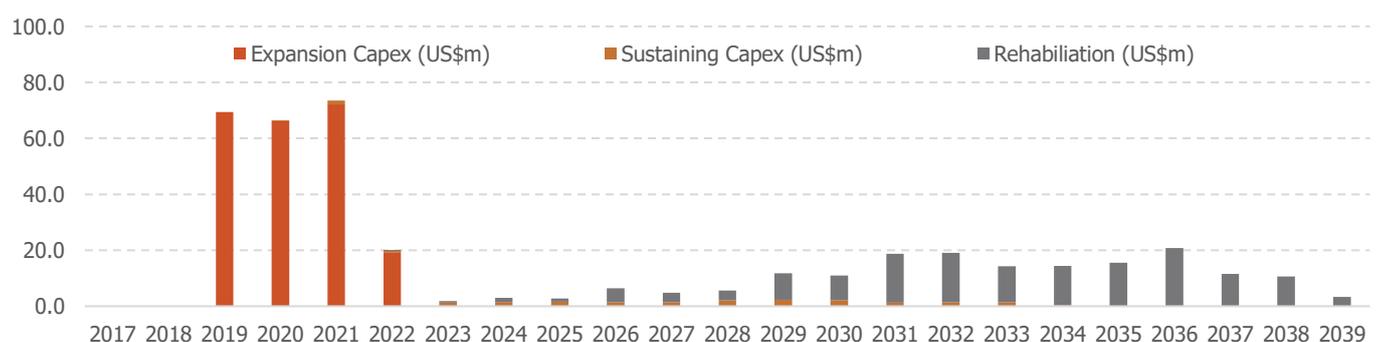
We would also point out that effectively 100% of the cost base is in Euro. There is no clear trend at the moment on the EUR/USD exchange rate but any weakening in the Euro vs the USD will clearly have notable benefits as our NPV sensitivity charts show.

Capex profile

The company has confirmed a capex number of €87.0m for Retortillo. We show the spending profile below. We also show in the chart below the effective closure costs incurred by the three deposits which total €48 million, €47 million and €59 million for Retortillo, Alameda and Zona 7 respectively.

Given the relatively quick construction time and the Company’s strategy to engage an EPC contractor to complete the construction for a fixed sum we believe there is little risk to a change in the capex. Our recent site visit saw teams completing desktop work on optimising the initial capital expenditure, and we see potential in reducing the overall size and improving the timing of the cash outflow. Clearly the company will announce any improvements when the study work is completed to the required level of confidence.

Figure 33 – Capital Expenditure and Rehabilitation Assumptions

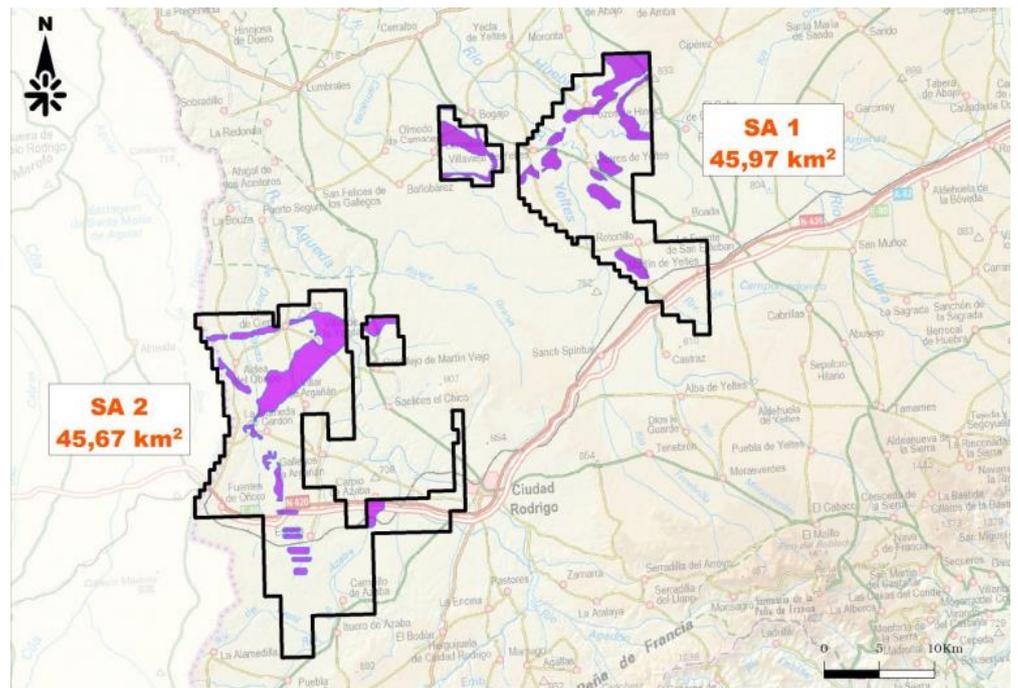


Source: Berkeley Energia

Exploration Potential

Berkeley Energia is continuing to identify additional targets across its two licence areas. Given that the high-grade discovery at Zona 7 was not from outcropping material, and the ineffectiveness of radiometric analysis if the targets are covered by over 5 metres of topsoil, the company is conducting a soil sampling programme that will allow large areas of ground to be explored at little cost. A “fingerprint” has been developed for the levels of marker elements based on the soil chemistry at Retortillo and Zona 7, and the soil is then tested for repetitions of this signature. Berkeley Energia have identified 12 areas which will be used to generate near term drilling targets.

Figure 34 – Salamanca soil sampling programme



Source: Berkeley Energia

Management

The CEO, Paul Atherley, is a mining engineer who was previously Executive Director at HSBC Australia and was the Managing Director of Leyshon Resources. Whilst at Leyshon, Mr Athleley was responsible for the exploration, development and successful sale of the Zheng Guang Gold-Zinc Project in China. He was the Chairman of the British Chamber of Commerce in China and Vice Chairman of the China Britain Business Council in London.

It is also clear that Berkeley have chosen well to hire Francisco Bellón as the project’s Chief Operating Officer. He is extremely experienced in building new mines, including the El Valle-Boinàs/Carlés copper mine in Spain currently owned by Orvana Minerals (ORV:TSX), the Aguablanca nickel-copper mine in Spain currently owned by Lundin Mining (LUN:TSX), and the Tasiast Gold Mine in Mauritania currently owned by Kinross (K:TSX). He has particular experience in construction, commissioning and licencing new projects through his role as Manager of the Mining Business at Duro Felguera, a large Spanish engineering house.

Licensing

Berkeley Energia management consider licencing to be a continuous process from first discovery to the final closure of the mine. The company currently has all the permits needed for the work it is currently doing. That said, obtaining the necessary licenses to build and operate a mine in Spain, let alone a uranium mine is always going to be a laborious and timeous process.

Currently, the urbanism licence for the Retortillo mine is waiting for the express resolution from the local municipality which will be in place straight after the appointment of the municipal secretary. The prior authorisation from the Nuclear Safety Council has been approved at Retortillo, although we note there is an appeal outstanding from an NGO, and Berkeley have and now only need Nuclear Safety Council Construction Authorisation relating to certain radiological elements of the plant to be constructed late in the development schedule. We would expect this to be granted much nearer to first production.

At the Zona 7 mine, environmental and mining licence applications have been submitted alongside the NSC prior authorisation application. Further submissions will take place on commissioning at Retortillo. At Alameda, the exploitation plan and reclamation and closure plan have been submitted and the Environmental Impact Assessment has been prepared for submission.

Figure 35 – Retortillo permitting summary

Licence and Regulatory Authority	Details
European Commission EU	<ul style="list-style-type: none"> ✓ Favourable report confirming that the Company has fulfilled its obligations in accordance with the Euratom Treaty and that the Salamanca project fulfils the energy strategy of the EU
Nuclear Safety Council Spanish Government	<ul style="list-style-type: none"> ✓ Initial Authorisation of the plant as a radioactive facility — NSC 2 - Construction Authorisation (Analytical Radiological Study & Pre-Ops Surveillance Plan are approved). Expected shortly
Mining Concession Regional Government	<ul style="list-style-type: none"> ✓ Exploitation Plan ✓ Reclamation & Closure Plan ✓ Environmental Impact Assessment (DEI)
Urbanism Licence Municipalities	<ul style="list-style-type: none"> — Conversion of land use from Rural to Industrial: the March 2018 quarterly reports that the Urbanism Commission of Salamanca gave an Express Resolution for the granting of the Authorisation of Exceptional Land Use with the licence to be formally issued in due course — Awaiting appointment of a municipal secretary to award the licence
Municipal Licence Municipalities	<ul style="list-style-type: none"> ✓ Power Line -permits obtained. Communication to Municipalities is required upon granting of the Execution Project to contractor. ✓ Road Deviation- permits obtained. Communication to Municipalities is required upon granting of the Execution Project to contractor.
Water Licence Municipalities	<ul style="list-style-type: none"> ✓ Surface and underground water capture permit obtained ✓ Water discharge permit obtained

Source: Berkeley Energia

The company will also need to comply with noise, dust and visual regulations particularly around Zona 7 which is in relative close proximity to Viellavieja.

To comply with this, the company will be building a berm to screen the mine site from the town and using dust suppression techniques on the mining operation. The prevailing westerly wind means that dust is likely to be less of an issue than one would normally imagine, and the blasting schedule will take into account wind direction towards the town.

Financials

We show our summary projections for Berkeley's P&L, Balance Sheet and Cash Flow Statement below.

P&L Discussion

We would make the following points with respect to the P&L:

Figure 36 – Profit and Loss Statement

June Year End		2017	2018	2019	2020	2021	2022
Revenue	A\$m	-	-	-	17.7	141.2	174.4
Royalties & Selling Costs	A\$m	-	-	-	(0.5)	(3.6)	(4.6)
COGS	A\$m	-	-	-	(8.5)	(47.5)	(37.2)
Operating profit	A\$m	-	-	-	8.7	90.1	132.6
Admin expenses	A\$m	(4.4)	(4.6)	(5.4)	(5.4)	(5.4)	(5.4)
Exploration Expenses	A\$m	(11.0)	(8.8)	(2.0)	(1.0)	-	-
Depreciation	A\$m	-	-	-	(7.3)	(20.4)	(28.7)
Other expenses	A\$m	(1.0)	(27.8)	-	-	-	-
Profit before interest & tax	A\$m	(16.5)	(41.3)	(7.4)	(5.0)	64.3	98.4
Interest paid	A\$m	-	-	-	(0.6)	(2.6)	(2.6)
Interest received	A\$m	0.5	0.1	-	-	-	-
Corporate tax	A\$m	-	-	-	-	-	-
Profit after tax	A\$m	(16.0)	(41.1)	(7.4)	(5.6)	61.7	95.9
Non-controlling interests	A\$m	-	-	-	-	-	-
Foreign exchange	A\$m	(0.3)	(3.1)	-	-	-	-
Net income	A\$m	(16.4)	(44.2)	(7.4)	(5.6)	61.7	95.9

Source: Berkeley Energia, Tamesis Partners

- **There is a royalty** payable to the local region and two royalties payable to investors that Berkeley Energia has used to finance development to this point. Anglo Pacific (APF:LON) receive a 1.0% royalty further to its investment made in 2009 and finance company RCF receives a 0.375% NSR royalty further to its investment made in July 2016. We note both private investors are notorious for deep dive due diligence on their investment targets and we view their participation in the Salamanca project as an endorsement of the company The company will be paying a 2.5% NSR to the government for production from the Alameda deposit (this is not payable at Retortillo or Zona 7) and also a 0.2% royalty payable to the local municipalities at all deposit sites.
- **The projects deliver positive EBITDA** fairly early on although it is the arrival of Zona 7 that really sees it take off; more than trebling between FY2021 and FY2024. By 2023 the EBITDA margin is 65% and averages 58% over the life of mine
- **The company is not due to pay Spanish corporate tax until 2022** according to our model. This is due to accelerated depreciation allowances, carried forward tax allowances, followed by the national corporate tax rate of 25%. Whilst there is also a depletion allowance in the Spanish tax code, we are treating it as neutral for valuation purposes as it can only be used against exploration expenses (of which we are giving Berkeley Energia no credit for any upside), acquisitions (on which we do not have a view), or reclamation (which we charge to the capital account for tax purposes in any case)
- **There are no minorities** – the company owns 100% of each deposit

Cash Flow Statement

Figure 37 – Cash Flow Statement

June Year End		2017	2018	2019	2020	2021	2022
Profit / (loss)	A\$m	(16.5)	(41.3)	(7.4)	(5.0)	64.3	98.4
Depreciation	A\$m	-	-	-	7.3	20.4	28.7
Interest received	A\$m	0.4	0.1	-	-	-	-
Interest paid	A\$m	-	-	-	-	-	-
Movement in working capital	A\$m	-	-	-	(2.1)	(5.3)	(2.3)
Corporate tax	A\$m	-	-	-	-	-	-

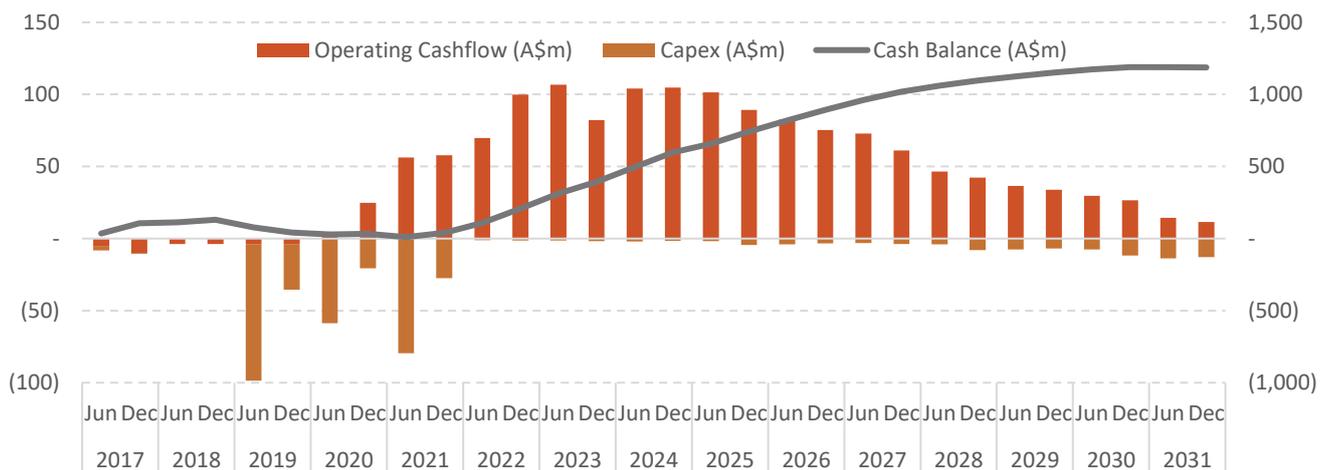
Cash flow from operations	A\$m	(16.1)	(41.1)	(7.4)	0.2	79.4	124.9
Capital expenditure (PP&E)	A\$m	(8.1)	(0.6)	(93.0)	(88.5)	(98.0)	(28.0)
Cash flow from investing	A\$m	(8.1)	(0.6)	(93.0)	(88.5)	(98.0)	(28.0)
Proceeds of equity offering	A\$m	39.7	97.9	66.6	-	-	-
Proceeds from royalty sale	A\$m	6.5	-	-	-	-	-
Transaction costs from financing	A\$m	(2.2)	(2.7)	-	-	-	-
Borrowings / (repayments)	A\$m	-	-	-	40.5	-	-
Cash flow from financing	A\$m	44.0	95.2	66.6	40.5	-	-
Net change in cash	A\$m	23.7	80.9	(33.8)	(47.8)	(18.6)	96.9
Foreign Exchange		(0.3)	(2.0)	-	-	-	-
Cash balance	A\$m	34.8	113.7	79.9	32.1	13.6	110.5

Source: Berkeley Energia, Tamesis Partners

Cashflow starts to pick up in 2022 (FCF yield 55%) and peaks in FY2023 at A\$203.8 million when both Zona 7 and Alameda are forecast to achieve peak grade and throughput allowing further dilution free growth potentially, dividend payment or even M&A in the future.

The company has not yet delivered a dividend policy naturally for this stage of development.

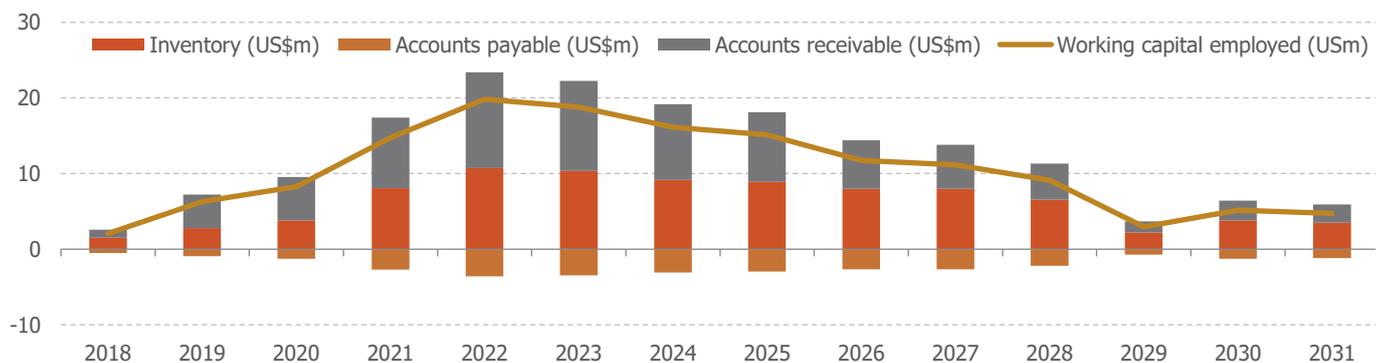
Figure 38 – Cash forecast (cash balance RHS)



Source: Tamesis Partners

We are forecasting that working capital increases to a total net outflow of US\$19.8 million, and steadily declines as the deposits deplete.

Figure 39 – Salamanca working capital schedule



Source: Tamesis Partners

Balance Sheet

We show the summary balance sheet below. It is a reasonably straightforward operating company directly held by a UK based company. We are not modelling any provisions for rehabilitation; these are treated as a cash item when incurred by the company and are financed by way of an insurance bond with local insurance companies.

Figure 40 – Balance Sheet

June Year End		2017	2018	2019	2020	2021	2022
Cash and cash equivalents	A\$m	34.8	113.7	79.9	32.1	13.6	110.5
Trade and other receivables	A\$m	1.5	1.1	1.1	4.0	9.8	12.5
Other assets	A\$m	-	-	-	-	-	-
Total current assets	A\$m	36.3	114.9	81.1	36.1	23.4	123.0
Mining tenements & PP&E	A\$m	17.7	14.7	107.7	188.9	266.5	265.7
Other assets	A\$m	0.2	0.2	0.2	0.2	0.2	0.2
Total non-current assets	A\$m	17.9	14.8	107.8	189.0	266.6	265.9
TOTAL ASSETS	A\$m	54.2	129.7	188.9	225.1	290.0	388.9
Trade and other payables	A\$m	5.7	1.2	1.2	1.9	2.4	2.9
Current debt	A\$m	-	-	-	-	-	-
Total current liabilities	A\$m	5.7	1.2	1.2	1.9	2.4	2.9
Long term debt	A\$m	-	-	-	40.5	40.5	40.5
Total non-current liabilities	A\$m	-	-	-	40.5	40.5	40.5
TOTAL LIABILITIES	A\$m	5.7	1.2	1.2	42.4	43.0	43.4
NET ASSETS	A\$m	48.5	128.5	187.7	182.7	247.0	345.4
Contributed equity	A\$m	168.1	263.2	329.8	329.8	329.8	329.8
Reserves	A\$m	0.1	0.1	0.1	0.1	0.1	0.1
Accumulated profits / (losses)	A\$m	(119.7)	(134.8)	(142.2)	(147.2)	(82.9)	15.5
TOTAL EQUITY	A\$m	48.5	128.5	187.7	182.7	247.0	345.4

Source: Tamesis, Berkeley Energia

Financing

Berkeley Energia has announced a US\$65 million fundraising from the State General Reserve Fund ("SGRF"), the sovereign wealth fund of the Sultanate of Oman. The company will issue 102 million shares at GBP0.50/share along with a half warrant at increasing strike prices and duration.:

Based on our forecasted NPV progression (see Figure 11 – NAV), all three tranches of the warrants issued to SGRF will be in the money at expiry, thus we are assuming they will all be exercised. On our forecasts, the cash from the SGRF investment, warrants and subsequent financing will leave the company fully funded to develop all three deposits. We are assuming the company funds short term working capital requirements through a US\$30 million facility.

Uranium Market Review

The balance of risk remains positive for pricing

We have taken a simple approach to the uranium price and adopted \$45/lb flat from 2019 into perpetuity. We have confidence in this mainly because the company is starting to settle price contracts out to 2020 at c.\$42/lb and above.

No price prediction will be accurate so it is more a judgement on the balance of risks as to the direction and at the moment the balance looks positive for uranium. There are, for instance, some powerful near to medium term positive catalysts. These include:

Strong new reactor construction

There is a very visible build out in nuclear power plants with 59 under construction at the moment most of which are being built in China, an additional 170 being planned within 8-10 years and +372 proposed by 2030. In terms of what impact that has on the uranium demand market, the WNA says that newer plants are consuming 192 U₃O₈ tonnes (0.42Mlb) per GWe per year. Consumption trend is declining on a unit basis as newer plants are more efficient and have less uranium content in tails, however this efficiency is more than offset by the new plants coming online.

Figure 41 – Nuclear power reactors historical and forecast

Region	2010		2015		2020E		2025E		2030E	
	Units	GWe								
North America	124	115	120	114	117	113	112	111	111	111
Western Europe	130	122	117	113	109	108	101	88	87	92
Eastern Europe	67	47	69	50	76	57	73	57	74	59
Asia and Oceania	113	85	125	96	130	105	163	143	203	188
<i>o/w China</i>	<i>13</i>	<i>10</i>	<i>28</i>	<i>24</i>	<i>49</i>	<i>46</i>	<i>76</i>	<i>75</i>	<i>109</i>	<i>113</i>
Africa and Middle East	2	2	3	3	6	7	8	9	15	17
South America	4	3	5	4	7	5	7	5	11	9
Totals	440	375	439	380	445	395	464	424	501	478

Source: Tamesis, UxC

Restart of the Japanese nuclear programme

Since the complete closure of the Japanese nuclear power industry power prices have risen 25% crimping economic recovery. The Govt has in recent months restarted 5 reactors out of the 42 that have been closed down and a further 12 have been approved for restart.

Potential for further Kazatomprom supply discipline

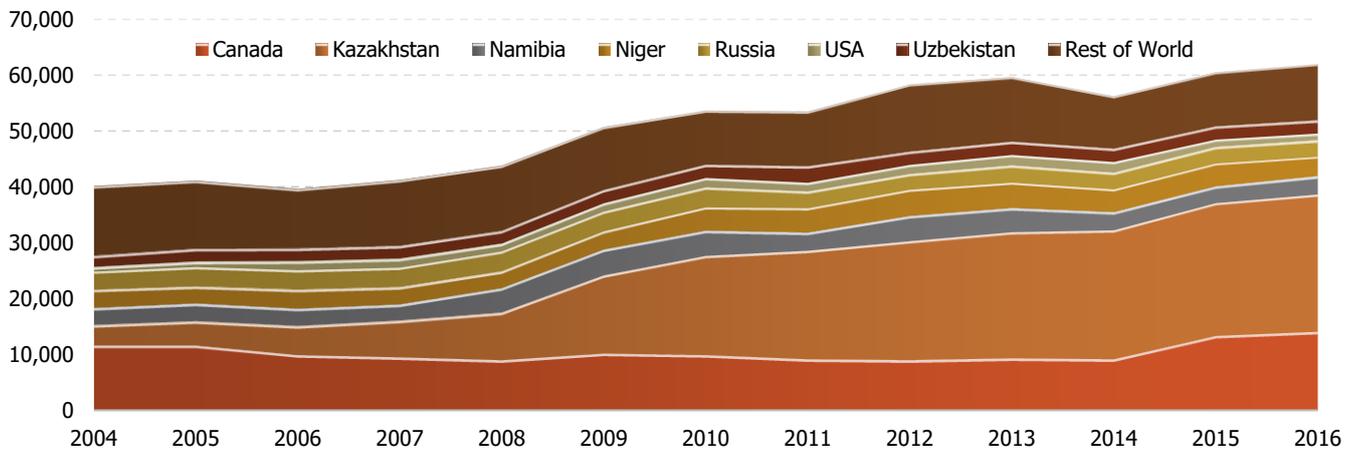
Kazakhstan has been the wild card in the uranium markets over the last ten years with the country's uranium production increasing fivefold in 10 yrs. There are a number of strategic reasons purported for this. We would also point out that not only does the country enjoy some high grade uranium ore bodies that are amenable to low cost in situ leaching, but it has been a strong beneficiary of the aggressive devaluation of the Tenge. So the plans of Kazatomprom are clearly important for the rest of the industry. As such its recent decision to cut supply by 10% in 2017 and more beyond is a critical step.

If there is ever a sure sign of a commodity price cycle reaching its nadir it is when seemingly profitable operations start to cut supply. As an example we would point to Glencore in copper (along with others) and zinc. We saw the same in iron ore with Vale and to a lesser extent Rio Tinto. There is speculation that Kazatomprom may be revisiting a listing too which again would have extremely positive implications for the uranium price.

Care and Maintenance at Langer Heinrich, Temporary Closure at McArthur River

On May 25 2018 Paladin Energy announced that it's Langer Heinrich mine in Namibia would be placed on care and maintenance. Whilst the mine has potential to produce over 5Mlb annually, year-on-year production has been declining steadily as continued low commodity prices forced the company to cease mining and focus on processing stockpiles. Additionally, the world's largest uranium mine, Cameco's McArthur River, and the Key Lake mill was placed on care and maintenance in November 2017.

Figure 42 – Historical Uranium production by country (Mlb U₃O₈)



Source: Tamesis, WNA

A Piece of Yellow Cake

A uranium investment vehicle, Yellow Cake, is to trade on the AIM market of the London Stock Exchange from 5 July 2018 having raised £151.7 million to purchase and hold uranium. The company has arranged a 25% offtake of Kazatomprom’s annual production, approximately 8.1Mlb U₃O₈, at a 7.7% discount to the spot price and the option to purchase a further US\$100 million of uranium each year for the next nine years.

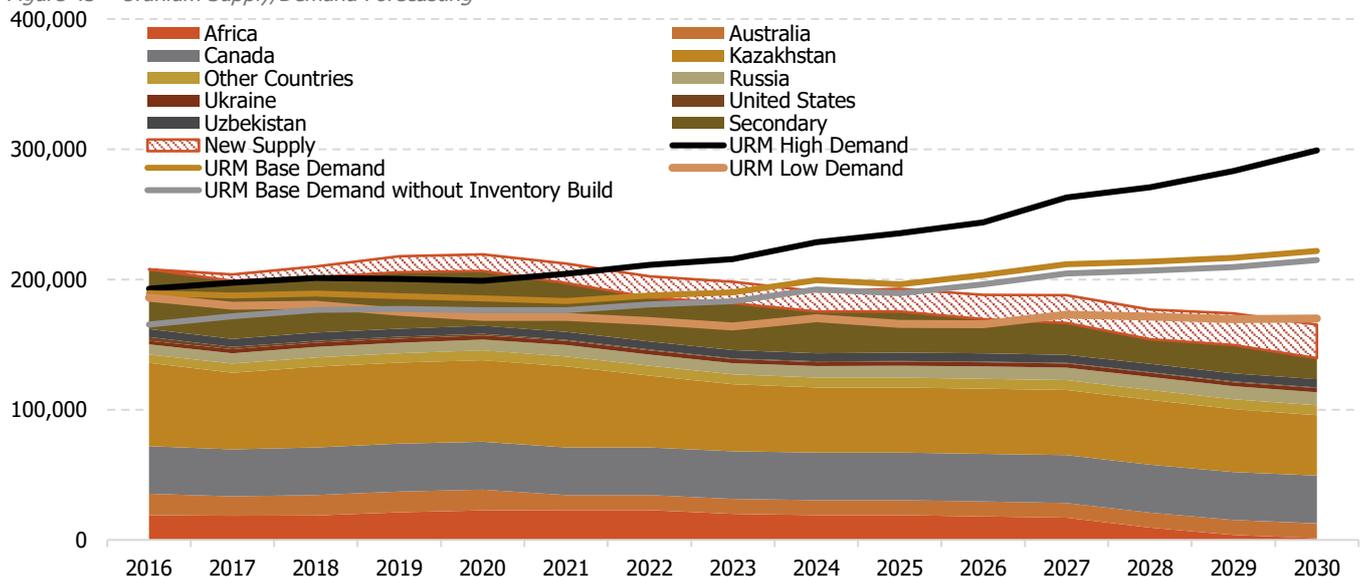
Potential US tariffs

In January 2018, Energy Fuels (EFR:TSX) and Ur-Energy (UUUU:NYSE) submitted a Section 232 petition to reduce the amount of imported uranium into the United States. The Secretary of Commerce has 270 days to prepare a report to the President, who in turn has 90 days to act. Given the Trump administration’s recent protectionist moves on steel and aluminium tariffs, there is the strong possibility that the US may target the uranium sector for strategic purposes.

Emerging supply deficit

Under a range of UxC demand scenarios we see a supply deficit in the medium term.

Figure 43 – Uranium Supply/Demand Forecasting

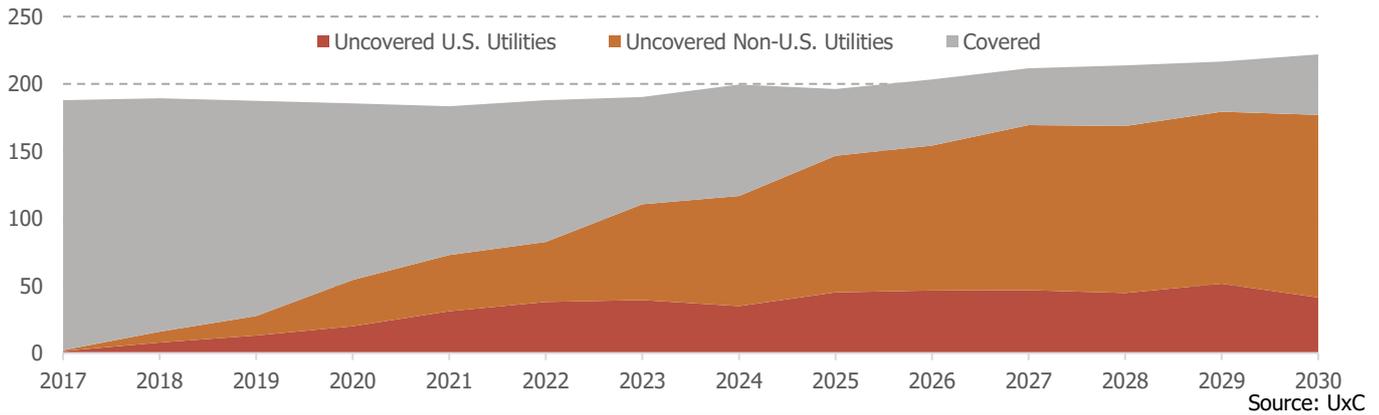


Source: UxC, Tamesis

Utilities will need to replace maturing contracts with new long term arrangements

Into the emerging supply deficit it is apparent that utilities which require long term stable supplies of uranium for their reactor fleets are faced with an increasingly uncovered contracting position. The chart below suggests that competition for long term contracts for new sources of supply will be healthy in the coming years. This is partly driven by the increasing maturities in current contracts.

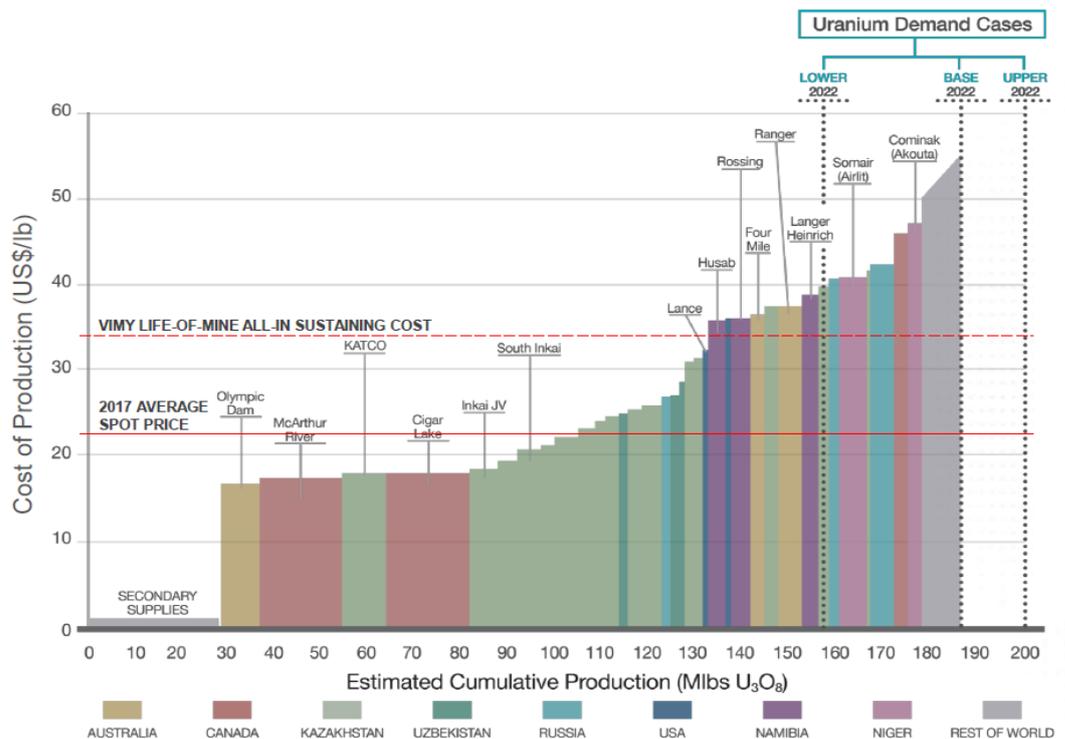
Figure 44 – Utility Uranium Requirements (Mlb U₃O₈)



Industry cost curve requires higher pricing

Cost curves can be misleading since they go out of date almost the moment they are published as costs will follow pricing both up and down. However, the chart of operating costs below has to be supportive, especially given the generally accepted view that the incentive price of uranium is over \$50/lb.

Figure 45 – 2017 Uranium cost curve



Appendix: Block Model

Berkeley Energia		BKY	
As at 03-Jul-18		LSE/ASX	
Share Price (GBP)	42	Target Price (GBP)	75
Share Price (AUD)	0.80	Target Price (AUD)	1.34
Model Derived:		Model Derived:	
NPV (US\$m, 8.7%)	334.9	NPV (GBP/sh, 8.8%)	187.5
NPV (A\$m, 8.7%)	242.8		
Ordinary Shares (M)	254.5		
Options + Notes (M)	15.9		
Market Cap (A\$m)	193.1	Market Cap (GBP\$m)	108.1
Enterprise Value (A\$m)	181.2	Enterprise Value (GBPm)	101.5

Price Assumptions	2016A	2017E	2018E	2019E	2020E
(June Year end)					
EUR:US\$ Exchange Rate	0.94	0.95	0.95	0.95	0.95
A\$:US\$ Exchange Rate	1.25	1.38	1.38	1.38	1.38
A\$:EUR Exchange Rate	1.33	1.45	1.45	1.45	1.45
Realised Price (US\$/lb, U3O8)	40.0	45.0	45.0	45.0	45.0

FINANCIAL SUMMARY - A\$m	2016A	2017E	2018E	2019E	2020E
(June Year end)					
Revenue	-	-	-	-	18.0
EBITDA	(13.8)	(16.9)	(44.4)	(7.5)	2.4
Profit before Tax	(13.9)	(16.5)	(41.3)	(7.5)	(5.0)
Profit after Tax	(13.5)	(16.4)	(44.3)	(7.5)	(5.7)
Earnings per Share	(0.14)	(0.14)	(0.14)	(0.04)	(0.04)
Operating Cashflow per share	(0.14)	(0.14)	(0.14)	(0.04)	0.00
Free Cash Flow (unlevered) per Share	(0.14)	(0.14)	(0.14)	(0.24)	(0.24)
P/E	-	-	-	-	-
EV/EBITDA	-	-	-	-	75.8x
Price / Operating Cash Flow	-	-	-	-	1703.4x
Price / unlevered FCF	-	-	-	-	-

PROFIT AND LOSS STATEMENT - A\$m	2016A	2017E	2018E	2019E	2020E
(June Year end)					
Sales Revenue	-	-	-	-	18.0
Operating Costs	-	-	-	-	(9.1)
Gross Profit	-	-	-	-	8.9
Exploration Costs	(9.2)	(11.0)	(8.8)	(2.0)	(1.0)
Administration Costs	(3.0)	(4.4)	(4.7)	(5.5)	(5.5)
EBITDA	(12.2)	(15.5)	(13.5)	(7.5)	2.4
Depreciation	-	-	-	-	(7.4)
EBIT	(12.2)	(15.5)	(13.5)	(7.5)	(5.0)
Finance Charges and Other	0.2	0.5	0.1	-	(0.6)
Pre-Tax Profits	(11.9)	(15.0)	(13.3)	(7.5)	(5.7)
Less Tax	-	-	-	-	-
NPAT	(11.9)	(15.0)	(13.3)	(7.5)	(5.7)

VALUATION	GBP	A\$	US\$
Salamanca	218	389	282
Cash	57	102	74
Cash from Financing	42	75	54
Debt	-23	-41	-30
SG&A	-35	-62	-45
TOTAL NPV	259	462	335
NPV per Share (diluted)	0.61	1.10	0.79
Resources not in mine plan	0.14	0.24	0.18

CASH FLOW ANALYSIS - A\$m	2016A	2017E	2018E	2019E	2020E
(June Year end)					
Cash Flows From Operating Activities	(11.3)	(12.2)	(13.8)	(7.5)	0.2
Cash from Operations	(11.5)	(12.7)	(13.9)	(7.5)	3.0
Working Capital inflow/(outflow)	-	-	-	-	(2.2)
Net Interest	0.2	0.5	0.1	-	(0.6)
Tax	-	-	-	-	-
Cash Flows From Investing Activities	(0.3)	(8.1)	(0.6)	(94.9)	(90.3)
Acq. of Property, Plant and Equip.	(0.3)	(8.1)	(0.6)	(94.9)	(90.3)
Other	-	-	-	-	-
Cash Flows From Financing Activities	9.6	38.6	93.2	63.5	(4.4)
Proceeds from Equity Offering	9.6	39.7	97.9	66.6	-
Net Change in Borrowings	-	-	-	-	-
Financing Costs	(0.0)	(2.2)	(2.7)	-	-
Dividends Paid	-	(5.4)	(2.0)	(3.1)	(4.4)
Other	-	6.5	-	-	-
Net Increase in Cash Held	(2.1)	18.3	78.9	(39.0)	(94.5)
Cash At End of Year	11.3	29.6	108.4	69.5	(25.1)

BALANCE SHEET ANALYSIS - A\$m	2016A	2017E	2018E	2019E	2020E
(June Year end)					
Current Assets					
Cash and Liquids	11.3	12.7	10.9	17.2	26.8
Inventory	-	-	-	-	1.3
Prepaid and Receivables	-	-	-	-	1.4
Other	-	-	-	-	-
Non-Current Assets					
Investments	-	-	-	-	-
Fixed Assets	9.6	17.7	14.7	109.6	192.5
Other	0.1	0.2	0.2	0.2	0.2
Current Liabilities					
Borrowings	0.0	-	-	-	-
Creditors	-	-	-	-	2.5
Other	-	-	-	-	-
Non-Current Liabilities					
Borrowings	-	-	-	-	41.4
Other	-	-	-	-	-
Equity	26.3	48.5	99.4	158.5	152.8
Net Cash/(Debt)	11.3	12.7	10.9	17.2	(14.6)

DIVISIONAL CASHFLOW - USDm	2016A	2017E	2018E	2019E	2020E
Retortillo	-	-	-	(68.8)	(16.5)
Zona 7	-	-	-	-	(42.6)
Alameda	-	-	-	-	-
Total	-	-	-	(68.8)	(59.0)
Note: excludes working capital, S&GA, corporate tax					

URANIUM PRODUCTION (mlb U ₃ O ₈)	2016A	2017E	2018E	2019E	2020E
Retortillo	-	-	-	-	0.3
Zona 7	-	-	-	-	-
Alameda	-	-	-	-	-
Total	-	-	-	-	0.3
Cash Cost (US\$/lb U ₃ O ₈)	-	-	-	-	27.6
All in Sustaining Cost (US\$/lb U ₃ O ₈)	-	-	-	-	27.6

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