

Uranium – Waiting for Godot or Forging Ahead?

The long-held theory during the prolonged mining sector slump was that Uranium as an energy metal could potentially break away irrespective of the rest of the metals space. How true they were, but not in the way they intended, for just as the mining space has broken out of its swoon the Uranium price has not only been left behind but has gone into reverse. This is truly dismaying for the trigger for a uranium rebound was supposed to be the Japanese nuclear restart and yet it has had zero effect and indeed maybe has somehow (though the logic escapes us) resulted in a lower price.

Admittedly the cheap seats never understood that the Japanese kept taking uranium under their contracts all through the closure period so now that plants are reopening they did not need to go on a buying binge. If anything, they did not need to change one iota what they were acquiring. And also they were acquiring under contracts, not in the spot market, which is notorious for its divergence from the long-term price paid by the big players for guaranteed supplies.

Vague Stirrings

The yellow mineral had made fools and liars of many in recent years, including ourselves. That said, every dog has its day and some of the things that weighed on the uranium price (most notably the Japanese plant shutdown) are retreating as issues. At the risk of being made to look foolish again, we think the tide has turned for Uranium and would not be surprised to see it close to \$40 per lb by year end and break through \$50 per lb by the end of next year. This is scarcely the stuff of which booms are made but players in the uranium space need the price going consistently in one direction to restore confidence. As we have seen before the WORST thing is a spike

because it inevitably presages a plunge.



This is a mineral that needs a consolidation and a slow build NOT another pump and dump.

The Tale of Three Processors

Rather than focus on miners or even explorers, we thought it might be useful to look at the provision of processing facilities. After all hard rock mining or ISL/ISR extraction of Uranium from the ground is not enormously complicated or costly. The key part of the process is owning a processing facility and whether one builds it from scratch or buys an existing one then the permitting and environmental approvals are a key component of the equation.

In recent times we have come across two up-and-coming US-focused "millers" (Peninsula Energy and Western Uranium while last year we looked at Anfield Resources).

Peninsula Energy (PEN.ax) is Australian-listed but operates mainly in the US (though it has some Uranium assets in South Africa). It's not correct of us to call Peninsula's Lance facility in Wyoming a mill as it is not grinding anything. It attracts our attention though because we have long ago tired of all the sound and fury of UEC's promotional efforts on their ISL activities in Texas and found Peninsula refreshing in the way they have "just got on with it".

Production at Lance commenced in December 2015 with construction on-schedule and on-budget building to 2.3mn lbs of U308 per annum. Peninsula wants to acquire a satellite deposit (as its plant capacity is licensed for 3mn lbs p.a.).

- Stage 1 (equity funded) production rate of up to 700,000 lbs p.a. of U308 over 2H15 to 1H17
- Stage 2 development plan based on debt funding and construction in H1 2017 with additional production of 500,000 lbs p.a. of U308 over 2H17 to 2019 (1,200,000lbs)
- Stage 3 development plan based on debt funding and construction in 2018 -19 with additional production of 1,100,000 lbs p.a. of U308 2H19 onwards (2,300,000lbs)

The ISL plant is state of the art and up and running. Here is the osmosis facility.



Western Uranium (WUC.cx) was created by a transaction between Homeland Uranium Inc. and Pinon Ridge Mining LLC. following the acquisition of Pinon Ridge Mining LLC at \$3.00 per share (post consolidation price) and the name change to the current designation. Confusingly its website is www.blackrangeminerals.com which has the potential to muddle matters with the company that had originally tried to buy the mill that Anfield Resources acquired.

In any case, In August 2014, WUC acquired its mining assets from Energy Fuels and in September 2015 acquired additional properties from Black Range Minerals. The most interesting part if the milling ambitions but it is worth mentioning that it claims to have is the second largest uranium resource holder in the United States with assets totaling over 100mn pounds of U308 and 35mn pounds of vanadium at its Sunday Mine Complex is fully permitted and production at the project is slated to commence later in 2016

It plans to build the licensed and permitted Piñon Ridge Mill site near Nucla, Colorado. This mill project was part of a

package, sold in August 2014 by Energy Fuels, including historic uranium production sites and uranium exploration projects (including the Sunday Complex, the Willhunt and San Rafael projects, the Sage and Van 4 mines, and the Farmer Girl, Dunn and Yellow Cat projects) to a private investor group led by Baobab Asset Management and former Energy Fuels president George Glasier, who now heads WUC.

The mining assets are located along the Colorado-Utah border. Energy Fuels retained a 1% production royalty on all of the properties. Energy Fuels had acquired Piñon Ridge in 2007, and had been looking to build a 500 ton per day mill there and first received a licence in 2011. The company subsequently acquired the already operational 2,000 ton per day White Mesa mill in Utah, meaning it no longer needed to construct a mill at Piñon Ridge. WUC's goal is that production should begin in 2017

Western also holds an exclusive license to use ablation mining technology, a technology that improves the efficiency of the sandstone hosted uranium mining process

As for **Anfield Resources (ARY.v)** it has been relatively quiet of late. In mid-August of 2015 the company made its move into uranium, but not much has happened since. At that time, it entered into a definitive agreements with the Russian energy materials group, Uranium One, to acquire the Shootaring Canyon uranium mill located in Garfield County, Utah, and a portfolio of conventional uranium assets containing a historical estimate of U_3O_8 resource of 6.8 million pounds of U3O8. The deal, which was valued at around US\$5mn, is to be settled over a period of up to four years with a combination of cash and shares.

The Shootaring Canyon mill is a small conventional acid--leach facility that is permitted to process up to 750 tonnes of ore per day, with a capacity to process up to 1,000 tonnes per

day. The mill was built in 1980 and during its period of operation it produced and sold 27,825 pounds of U308 (with recoveries of 90%). In an oft-heard story, the mill ceased operations in 1982 due to the depressed price of uranium, and has since been kept on care and maintenance, and apparently is in "good" condition. It also has at its disposal some surface stockpiles at the facility with a historical estimate of 250,000 pounds of U308 at an average grade of 0.13% U308. Maybe of most importance though is that the Shootaring Canyon Mill is one of only three licensed uranium mills in the United States.



Going back one sees that this asset was sold by Uranium One only in November 2014 to the aforementioned Australian company, Black Range Minerals (ASX: BLR) who were going to pay \$10mn for the mill. Anfield clearly been profited from being the buyer on the rebound when that deal came to grief. Whether it will actually get the mill into operation again remains the

question at this point.

Supply Crunch

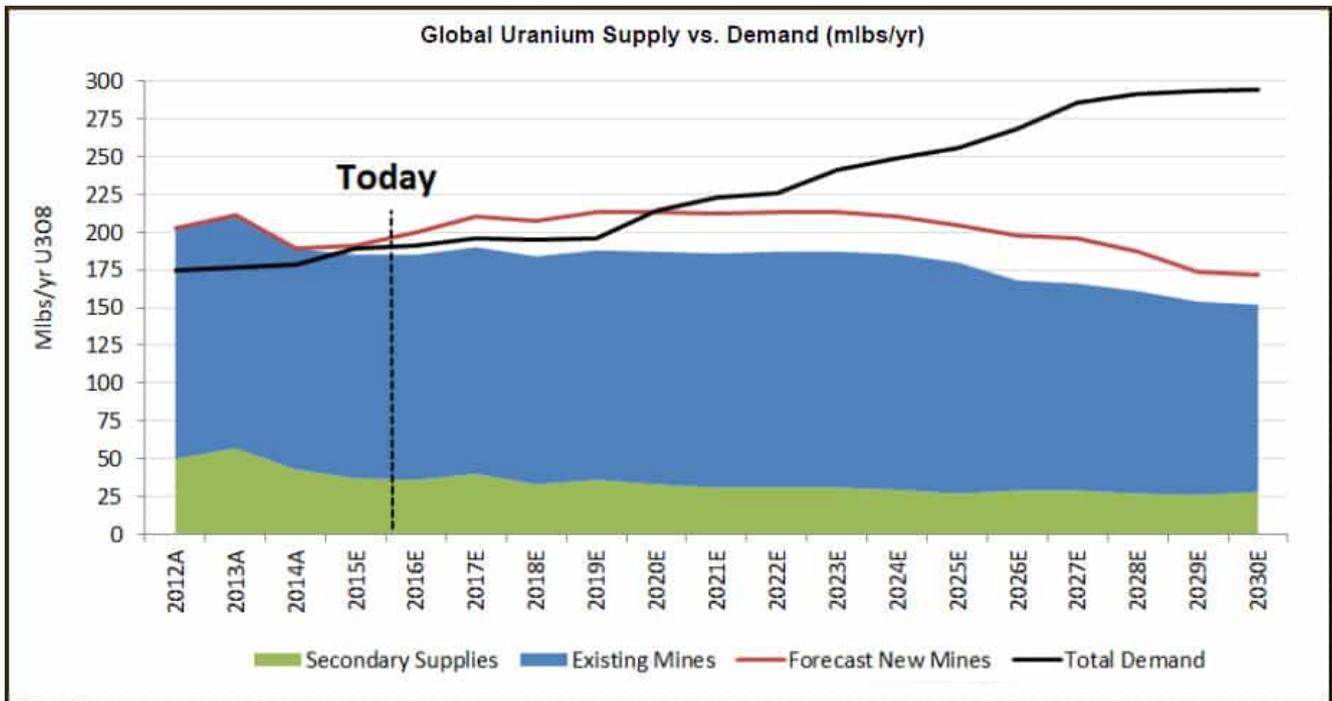
Hard core Uranium bulls know how Moses felt when he was destined to wander forty years in the desert and never get to see the Promised Land. The great hope had been that the Japanese reopening would help matters and yet it hasn't (at least not yet). The second hope (quite a vain one) was that the Germans would see the light on their unilateral closure actions (and they have not). The one consolation being that everyone else in Europe regards the Germans as crazy for taking the action they did while still mouthing platitudes to low carbon emissions and ramping up coal-fired power at the same time!

COUNTRY	NUCLEAR ELECTRICITY GENERATION 2014		REACTORS OPERABLE (1 Dec 2015)		REACTORS UNDER CONSTRUCTION (1 Dec 2015)		REACTORS PLANNED (1 Dec 2015)		REACTORS PROPOSED (1 Dec 2015)	
	Billion kWh	% e	No.	MWe net	No.	MWe gross	No.	MWe gross	No.	MWe gross
China	123.8	2.4	30	26,849	21	23,483	43	49,990	136	153,000
India	33.2	3.5	21	5,302	6	4,300	22	21,300	35	40,000
Japan	0	0	43	40,480	3	3,036	9	12,947	3	4,145
Russia	169.1	18.6	34	25,264	9	7,968	25	27,755	23	22,800
WORLD	2411	c 11.5	439	382,248	64	67,797	159	180,015	329	374,020

Source: *Western Uranium*

Probably all one needs to know is encompassed in the preceding table, which says more than any number of price charts. There is massive future demand baked into construction schedules that, with the amounts of money expended, will not be derailed.

Current production (and even planned production below) is not even vaguely able to meet this demand.



Source: Peninsula Energy

Conclusion

Is there a trend in the uranium space beyond the ever lower spot price? We believe that, yes, there is. Quite clearly exploration (anywhere, but the Athabasca) is for the birds. The market won't fund it and investors won't give credit for whatever you find. Paradoxically though, we have stumbled on these two examples of companies that are moving rapidly to production with nary a mention of the type of bloated budgets and phone-book thick PFS/BFS underpinnings that keep Uranium wannabes and their investors in a state of permanent expectation/disappointment/trepidation.

Hopefully this will be the start of a trend. Heavyweight investors (whether they be Resource Capital at Peninsula or Baobab Asset Management at Western Uranium) are clearly not fazed by the current flaccid spot price or the torpid Germans and are looking for the payday when the post-Fukushima phase comes to its inevitable end.