Uraniumletter international

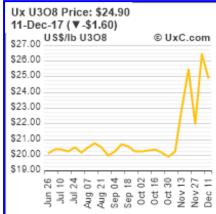
the international independent information and advice bulletin for uranium resource investments

December 2017

Uranium Market Outlook



Marino G. Pieterse, publisher and editor



Narrowing gap between spot price and long-term U308 price needed to improve uranium market sentiment

Expected by the market that **Cameco** would not extend the announced suspending operations period for 10 months, unless it purchases more uranium in the market, which it should if uranium prices remain at the current low price level, the U3O8 spot price moved up to a high for the year of \$ 26.50 on December 4, 2017.

However, followed by the announced production cut of **Kazatomprom** by 20% over a period of 3 years, this longer-term expectations on the duration of a price recovery, pushed the spot price down by \$ 1.60 to \$ 24.90 last week.

	Spot	Long-term		Spot	Long-term
2017	•	•		-	•
December 11	24.90	31.00	Year-end 2016	20.25	30.00
December 4 (high)	26.50	31.00	Year-end 2015	34.25	44.00
November 27	22.00	31.00	May 31, 2015 (year high)	39.50	50.00
October 31	20.15	30.00	Year-end 2014	35.50	49.00
September 27	20.25	31.50	May 14, 2014 (year low)	28.25	49.00
August 28	20.00	32.00	Year-end 2013	34.50	50.00
July 31	20.15	32.00	Year-end 2012	43.50	56.50
June 26	20.10	32.50	Year-end 2011	61.75	64.00
May 29	19.25	32.50			
May 1	22.50	33.00	Pre-Fukushima accident		
March 27	24.50	33.99	March 11, 2011	67.75	73.00
February 28	22.25	32.50			
February 6	26.00	32.50			
January 31	24.50	32.50			
January 9	22.00	30.00			
2016					
December 26	20.25	30.00			
November 28	18.00	* 33.00			
October 31	18.75	35.50			
September 26	23.75	38.00			
June 27	27.00	40.50			
March 28	29.15	43.50			

Cameco announced on December 4 that it will be suspending operations at its flagship McArthur River and Key Lake operations for 10 months, beginning February 2018. On a 100% basis the suspension removes about 13.7 million pounds U3O8 from the market, leaving total production of 14.4 million pounds U3O8 next year.

Based on committed sales volumes of 28 to 30 million pounds for the year, **Cameco** is expected to withdraw 13.6 million pounds from its U3O8 inventory to fulfil these commitments. As of its Q3/17 financials, **Cameco** reported U3O8 inventory of 27.6 million pounds at an average cost of C\$ 31.59 (US\$ 24.86/lb).

The Company's current contract book has average sales of 26 million pounds U3O8 per year over the next 5 years, with more being sold in earlier years.

► Kazatomprom to cut uranium production by 20% over a period of 3 years

On <u>December 4, 2017</u>, **Kazatomprom** announced that it will reduce planned uranium production by 20% to better align output with demand. <u>The cuts will be enacted for a period of 3 years beginning in January 2018</u>.

The 20% of uranium production cuts under Subsoil Use Contracts of Company enterprises will result in <u>deferral of the production of 11,000 tU over the period of 3 years</u>. The estimated cut of 4,000 tU in 2018 alone represents about 7.5% of global uranium production for 2018, as forecast by UxC.

The Company said it has informed all of its major customers of its decision, and confirmed that future contractual delivery obligations will not be affected.

1

Given the challenging market conditions and "in the light of continued oversupply in the uranium market, we have taken the strategic decision to reduce production in order to better align our production levels with market demand", Kazatomprom chairman Galymzhan Pirmatov said. "We believe that these measures strongly underline our commitment to ensuring long-term sustainability of uranium mining; a critical component in the generation of clean carbon-free electricity around the globe".

Kazakhstan has 12% of the world's uranium resources and has been the world's leading uranium producer since 2009. In 2016 production of 24,575 tU accounted or 40% of world production. The country had planned to increase its production year on year to 2018, but in January **Kazatomprom** announced that it would produce 10% less uranium in 2017 than previously planned in response to ongoing oversupply in the uranium market. The country's 2017 uranium production is forecast to be 22,150 tU.

► Restructuring JV Inkai completed and will take effect on January 1, 2018 Cameco's ownership interest adjusted from 60% to 40%

On <u>December 11, 2017</u>, **Cameco** announced that the restructuring of <u>Joint Venture Inkai</u>, outlined in the implementation agreement dated May 27, 2016 with **Kazatomprom** and **JV Inkai** will take effect on January 1, 2018. The Inkai operation is an in situ recovery (ISR) uranium mine in south Kazakhstan.

The agreement is positive for **Cameco** as it secures the Company's access to a large low-cost production source through 2045. Production decisions will depend on market conditions and the terms of its <u>Resource Use Contract</u>.

<u>Under the implementation agreement</u>, <u>Cameco</u>'s <u>ownership interest in JV Inkai will be adjusted to 40% from 60%</u> and <u>Kazatomprom</u>'s ownership of JV Inkai will be adjusted to 60% from 40% on January 1, 2018. Also on January 1, 2018 a new governance framework for JV Inkai protecting the rights of **Cameco** as a minority owner will take effect.

The amendment to the Resource Use Contract provides as follows:

- JV Inkai has the right to increase production to 10.4 million pounds U3O8 per year (Cameco's share 4.2 million pounds), an increase from the current licenced production of 5.2 million pounds (Cameco's share 3.0 million pounds).
- JV Inkai has the right to produce from block's 1, 2 and 3 until 2045 (currently the lease terms are to 2024 for block 1 and to 2030 for blocks 2 and 3).
- The current boundaries of blocks 1, 2 and 3 have been adjusted to match the agreed production profile for JV Inkai to 2045.

The loan previously funded by a Cameco subsidiary of JV Inkai to fund exploration and evaluation of block 3 was restructured to provide for priority repayment. Such priority repayment commenced in 2017 and the balance of the loan was US\$ 124 million at the end of the third quarter.

► Inkai Mineral Reserves and Mineral Resources of the Inkai operations as of January 1, 2018 are:

- <u>Proven and Probable Reserves 378.76 million tonnes</u> grading 0.032% U3O8, **containing 269.6 million pounds U3O8** (<u>Cameco's share</u> **107.9 million pounds U3O8**)
- Measured and Indicated Resources 51.81 million tonnes grading 0.025% U3O8, containing 32.0 million pounds U3O8 (Cameco's share 12.8 million pounds U3O8)
- <u>Inferred Resources 116.39 million tonnes</u> grading 0.029% U3O8, **containing 75.0 million pounds U3O8** (<u>Cameco's share</u> **30.0 million pounds U3O8**)

Compared to mineral reserves reported as of December 31, 2016, **Cameco**'s share of <u>JV Inkai Mineral Reserves</u> increases by approximately 62 million pounds U3O8. <u>Measured and Indicated Mineral Resources</u> decrease by nearly 68 million ponds U3O8 and <u>Inferred Resources</u> decrease by nearly 56 million ponds U3O8.

Cameco and **Kazatomprom** have also completed a <u>feasibility study to evaluate the design construction and operation of a uranium refinery in Kazakhstan with the capacity to produce 6,000 tU annually as uranium trioxide (U3O). A formal joint decision has not been made as to whether the refinery will be built.</u>

	Production in tonnes U	2016 in %	Production in tonnes U				201 in 1
	2016	world total	2015	2014	2013	2010	world tot
Kazakhstan	24,575	40	23,800	23,127	22,451	17,803	;
Canada	14,039	23	13,325	9,134	9,331	9,783	
Australia	6,315	10	5,672	5,001	6,350	5,900	
Niger	3,477	6	4,116	4,057	4,518	4,198	
Russia	3,004	5	3,055	2,990	3,135	3,562	
Namibia	3,315	5	2,993	3,255	4,323	4,496	
Jzbekistan (est)	2,404	4	2,385	2,400	2,400	2,400	
China (est)	1,616	3	1,616	1,500	1,500	827	
JSA	1,125	2	1,256	1,919	1,792	1,660	
Ukraine (est)	<u>1,005</u>	<u>2</u>	<u>1,200</u>	<u>926</u>	<u>922</u>	<u>850</u>	
Гор-10 total	60,875	98	59,418	54,309	56,722	51,479	
Others	<u>1,137</u>	<u>2</u>	<u>1,100</u>	<u>1,908</u>	<u>2,648</u>	<u>2,192</u>	
otal world production tU	62,012	100	60 519	56,217	E0 270	E2 671	1

of the world's major nuclear energy generating countries						
Country	Reactors operable	% total electricity generation	Under construction	Planned *	Uranium required in tonnes 2017	
USA	99	19.7	2	14	18,996	
France	58	72.3	1	-	9,502	
China	37	3.6	20	40	8,289	
Russia	35	17.1	7	26	5,380	
South Korea	24	30.3	3	2	4,730	
ndia	22	3.4	6	19	843	
Canada	19	15.6	-	2	1,592	
Ukraine	15	52.3	-	2	1,944	
United Kngdom	15	20.4	-	11	1,772	
Germany	8	13.1	-	-	1,480	
Japan x	5	2.2	-	-	662	
Total	337			116	55,190	
Total world	447	c10.6	57	159	65,014	
Top 11 in % world total	75		68	73	85	

source: WNA

With the country's 50+ main reactors having provided some 30% of electricity before the Fukushima nuclear accident, this was expected to increase to at least 40% by 2017. The prospect now is for two-thirds (about 27%) of this from a depleted fleet.

x In **Japan**, currently 42 reactors are operable and potentially able to restart, of which 5 reactors have restarted to date. A further 21 reactors are in the process of restart approval.