

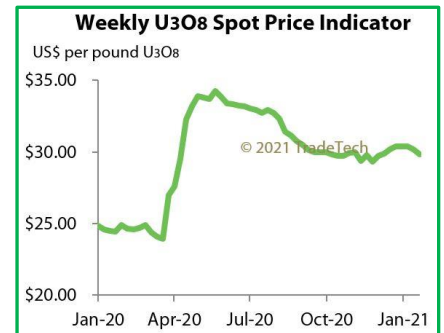
# Uraniumletter INTERNATIONAL

the international independent information and advice bulletin for uranium resource investments

## Overviews as at January 31, 2021



Marino G. Pieterse, publisher and editor



► To be included in index composition of **Global X Uranium ETF (NYSE – URA)** encourages valuation of small-sized exploration/development companies

### OVERVIEW of U3O8 PRICES

	Spot	Long-term		Spot	Long-term
<b>2021</b>			► <b>Year-end 2017</b>	<b>22.32</b>	<b>30.67</b>
January 31	30.20	35.00	<b>December 4 (high)</b>	<b>26.50</b>	31.00
► <b>Year-end 2020</b>	<b>30.40</b>	<b>35.00</b>	September 27	20.25	31.50
November 30	29.35	35.00	June 26	20.10	32.50
October 30	29.70	35.00	<b>May 29 (low)</b>	<b>19.25</b>	32.50
September 30	30.00	35.00	May 1	22.50	33.00
August 31	30.85	35.00	March 27	24.50	33.99
July 31	32.70	35.50	February 28	22.25	32.50
June 30	33.20	35.50	February 6	26.00	32.50
<b>June 1 (high)</b>	<b>34.25</b>	<b>35.50</b>	January 31	24.50	32.50
April 30	33.20	32.50	► <b>Year-end 2016</b>	<b>20.25</b>	<b>30.00</b>
March 30	27.35	32.50	<b>November 28</b>	<b>18.00</b> *	33.00
<b>March 20 (low)</b>	<b>23.95</b>	32.50	October 31	18.75	35.50
February 21	24.70	32.50	September 26	23.75	38.00
January 31	24.45	32.50	June 27	27.00	40.50
► <b>Year-end 2019</b>	<b>25.00</b>	<b>32.50</b>	March 28	29.15	43.50
November 29	26.05	32.50	► <b>Year-end 2015</b>	<b>34.23</b>	<b>44.00</b>
October 31	24.85	31.50	<b>May 31, 2015 (high)</b>	<b>39.50</b>	50.00
September 30	25.80	31.00	Year-end 2014	35.50	49.50
August 30	25.30	31.50	<b>May 14, 2014 (low)</b>	<b>28.25</b>	49.00
June 28	24.30	31.00	► Year-end 2013	34.50	50.00
<b>May 27 (low)</b>	<b>24.10</b>	<b>32.00</b>	► Year-end 2012	43.50	56.50
April 30	25.20	32.00	► Year-end 2011	61.75	64.00
February 28	28.60	32.00			
<b>January 31 (high)</b>	<b>28.85</b>	32.00	Pre-Fukushima accident		
► <b>Year-end 2018</b>	<b>28.70</b>	<b>32.00</b>	March 11, 2011	67.75	73.00
<b>November 30 (high)</b>	<b>29.10</b>	31.25			
October 29	27.95	31.25			
September 24	27.35	31.75			
August 27	26.20	31.50			
July 31	25.70	31.50			
June 30	22.55	29.00			
May 28	22.75	29.00			
<b>April 30 (low)</b>	<b>21.00</b>	29.00			
March 26	21.10	29.50			
February 26	21.25	30.00			
January 29	21.88	30.00			

## ► Shift in geological blocks dictates international uranium market

**China, Russia and India** together are currently accounting for 23 reactors under construction and 84 reactors planned, representing 51% and 76% respectively of the world total. With the required uranium to feed future operational reactors, this is broadly seen as the key driver of a strong uranium price recovery.

**It should be realized however, that China's and Russia's required uranium supply can be fully covered by long-term supply agreements, which in particular counts for Kazakhstan. These fixed agreements withhold a revival of the American uranium industry at U3O8 l/b prices (current long-term price having stabilized at \$ 35).**

Based on the current supply situation, with the **USA** with 95 reactors almost hosting 22% of the world's 439 operable reactors and this year requiring 19,746 tonnes uranium (29% of the world total of 68,240 tonnes), it is notable that **Russia** supplies approximately 38% of US imports of enriched uranium and **Canada** approximately 93% of natural uranium imports.

This means that for the USA there is no urgent need to lower current imports of more than 95% of the uranium it uses for other than international political tensions.

Considering that globalization is creating a new economic world order, it is noteworthy to see which countries are supplying uranium. This is of crucial importance for the course of uranium pricing, as it demonstrates that the long-awaited strong recovery to a pre-Fukushima price level of \$ 65-70/lb to enable an economically viable production is factually not justified.

**Anticipating a strong growth of nuclear reactors under construction and of planned reactors, led by China, Russia and India, one has to know through which countries supply of required uranium is met, notably Kazakhstan, Australia, Namibia and Niger.**

From this perspective, I refer to my overview of geographical strategic blocks, that shows that Kazakhstan based at a production of 28,808 tonnes in 2019, is not only by far the world's biggest uranium supplier but can easily fully feed growing uranium market demand from Russia, without any effect on the uranium price.

In addition, part of the USSR block, **Kazakhstan** and **Russia** also are in a strategic position to trade uranium with other strategic blocks that are facing deficits in supply. In this respect, it is also of interest to know that uranium export to the USA is partly provided through Canada to escape an import ban of uranium supply from Russia. Also, there is a possibility to export uranium to the USA via Cameco's 40% interest in the **JV Inkai** and 60% owned by **Kazatomprom** as at January 1, 2018.

No reliable insight in current stocks exists for **Japan**, where required uranium from the anticipated restart of nuclear reactors probably to be fully met by still available reserves from before the Fukushima accident in March 2011. Currently, **Japan** is operating 9 reactors and 17 reactors are in the process of restart approval.

Concerning **South Korea**, the deficit of 4,594 tonnes uranium can be provided by different international sources. Noteworthy is the growing anti-nuclear sentiment in the country, which may result in a significant reduction of the current share of approximately 30% of total electricity generating.

**Europe** has no national sources of uranium supply. First production is expected to come from Berkeley Energia's Salamanca mine, Spain in 2021 (see overview on page 6), and is exporting most of its nuclear energy to other EU countries. With 56 reactors operable providing a share of 70.6% of total electricity generating, **France** is the biggest generator of nuclear energy in Europe.

- **Kazakhstan** supplies 46% of the world's totally required uranium in 2019, mainly covered by long-term delivery contracts, including to the **USA**

### Overview of strategic geopolitical uranium blocks

	Uranium production 2019 (tonnes U)	in %	Uranium required 2019 (tonnes U)	Surplus (+) Deficit (-) <b>x</b>
<b>USSR</b>				
Kazakhstan	22,808	42.5	0	22,808
Russia	2,911	5.4	5,616	-2,705
Uzbekistan *	2,404	4.5	0	2,404
Ukraine	801	1.5	1,890	-1,089
	<b>28,924</b>	<b>53.9</b>	<b>7,506</b>	<b>21,418</b>
<b>USA</b>				
USA	67	0.1	19,461	-18,281
Canada	6,938	12.9	1,616	5,385
	<b>7,005</b>	<b>13.1</b>	<b>21,077</b>	<b>-12,896</b>
<b>China *</b>				
China *	1,885	3.5	8,713	-6,828
Australia	6,613	12.3	0	6,613
	<b>8,498</b>	<b>15.8</b>	<b>8,713</b>	<b>-215</b>
<b>Japan <b>x</b></b>				
Japan <b>x</b>	0	0.0	1336 <b>x</b>	-1,336
South Korea	0	0.0	4592	-4,592
	<b>0</b>	<b>0.0</b>	<b>5,928</b>	<b>-5,928</b>
<b>Namibia</b>				
Namibia	5,476	10.2	0	5,476
<b>Niger</b>				
Niger	2,983	5.6	0	2,983
	<b>8,459</b>	<b>15.8</b>	<b>0</b>	<b>8,459</b>
<b>Total strategic blocks</b>	<b>52,886</b>	<b>98.6</b>		
<b>Total world production</b>	<b>53,656</b>			

**surplus in production 10, 838 tonnes U**

\* estimated

**x** uranium required based on 5 operating nuclear reactors; 22 reactors are in process of restart

**WORLD NUCLEAR POWER REACTORS & URANIUM REQUIREMENTS**  
of the world's major nuclear energy generating countries (as at January 2021)

Country	Reactors operable	% total electricity generation	Under construction	Planned x	Uranium required in tonnes 2021
USA	94	19.7	2	3	18,295
France *	56	71.6	1	-	8,701
China	49	4.9	16	39	10,814
Russia	38	19.7	2	21	6,227
South Korea **	24	26.2	4	-	5,121
India	23	3.2	6	14	1,080
Canada	19	14.9	-	-	1,409
Ukraine	15	53.9	2	-	1,879
United Kingdom	15	15.6	-	2	1,820
Germany ***	6	12.4	-	-	587
Japan x ****	9	7.5	-	-	2,344
<b>Total</b>	<b>348</b>		<b>33</b>	<b>79</b>	<b>58,277</b>
<b>Total world</b>	<b>442</b>	<b>10.1</b>	<b>53</b>	<b>98</b>	<b>68,269</b>
<b>Top 11 in % world total</b>	<b>79</b>		<b>62</b>	<b>82</b>	<b>85</b>

x Future reactors envisaged in specific plans and proposals and expected to be operating by 2030

\* France generates 71.6% from its electricity from nuclear energy. To be more balanced through an increase of renewables, this share may be reduced to 50% or approximately 40 reactors by 2025

\*\* South Korea's 2017 elected government has introduced strongly opposed nuclear phase-out plans by 2040; nuclear production to drop from 31% today to 22% by 2030

\*\*\* Up until 2011, Germany obtained 25% of its electricity from its 17 nuclear reactors, but nuclear energy phased out in 2011 when 8 reactors shut down immediately and currently 7 remaining reactors to be closed by 2022

\*\*\*\* Up until 2011, Japan was generating some 30% of electricity from its 55 reactors and this was expected to increase to at least 40% by 2017. The plan is now for at least 20% by 2030 from a depleted fleet. Currently, 42 reactors are operable, with 9 having restarted since, 21 reactors are currently in the process of restart approval and expected on line by 2040

New plants coming online are largely balanced by old plants being retired. Over 1998-2018, 89 reactors were retired as 98 started operations. The reference scenario in the 2019 edition of The Nuclear Fuel Report has 154 reactors closing by 2040 and 289 new ones coming online, including 21 restarted Japanese reactors

source : WNA

**WORLD NUCLEAR POWER REACTORS & URANIUM REQUIREMENTS**  
of the world's major nuclear energy generating countries - comparison November 2020 to February 2011

Developed countries:	Reactors operable		% Electricity Generation		Under construction		Planned x		Uranium required (in tonnes)	
	Nov. 2020	Febr.2011	Nov. 2020	Febr.2011	Nov. 2020	Febr.2011	Nov. 2020	Febr.2011	Nov. 2020	Febr. 2011
USA	94	104	19.7	20.2	2	1	3	9	19,746	19,427
France	56	58	70.6	75.2	1	1	0	1	8,936	9,221
Canada	19	18	14.9	14.8	0	2	0	3	1,538	1,884
United Kingdom	15	19	15.6	17.9	2	0	2	4	1,820	2,235
Germany	6	17	12.4	26.1	0	0	0	0	1,264	3,453
South Korea	24	21	26.2	34.8	4	5	0	6	4,903	3,586
Japan x	9	55	7.5	28.9	0	2	0	12	2,000	8,195
<b>Subtotal</b>	<b>223</b>	<b>292</b>			<b>9</b>	<b>11</b>	<b>5</b>	<b>35</b>	<b>40,207</b>	<b>48,001</b>
<b>Emerging countries:</b>										
China	49	13	4.9	1.9	14	27	41	50	9,834	4,402
Russia	38	32	19.7	17.8	2	10	21	14	4,834	3,757
India	22	20	3.2	2.2	7	5	14	18	967	1,053
Ukraine	15	15	53.9	0	2	2	-	2	1,893	2,037
<b>Subtotal</b>	<b>124</b>	<b>80</b>			<b>25</b>	<b>44</b>	<b>76</b>	<b>84</b>	<b>17,528</b>	<b>11,249</b>
<b>Total world</b>	<b>442</b>	<b>443</b>	<b>10.1</b>	<b>14</b>	<b>52</b>	<b>62</b>	<b>106</b>	<b>156</b>	<b>68,240</b>	<b>68,971</b>
		<b>2020</b>	<b>2011</b>							
<b>Developed countries in % total world</b>		<b>50</b>	<b>66</b>			<b>17</b>	<b>5</b>			
<b>Emerging countries in % total world</b>		<b>28</b>	<b>18</b>			<b>48</b>	<b>71</b>			

source: WNA

## Peer Group of the world's top-20 listed Uranium Companies

January 31, 2021		Trade symbol		Share price		Change in %	12 months		Market cap. million	
Location of trading				January 31 2021	year-end 2020		H	L	local	US\$
<b>Kazakhstan (1)</b>				<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>
	Kazatomprom 1)	LSE	KAP:LI	17.20	18.00	-4	19.90	11.40	3,248.6	3,248.6
<b>Canada (9)</b>				<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>	<b>C\$</b>	<b>US\$</b>
	Cameco	TSX	CCO	15.91	17.05	-7	18.91	7.69	6,304.5	4,917.5
	NexGen Energy	TSX	NXE	3.61	3.51	3	3.92	0.76	1,363.2	1,063.3
	Denison Mines	TSX	DML	0.85	0.84	1	1.04	0.24	577.1	450.1
	Global Atomic * 2)	TSX.V	GLO	1.46	1.59	-8	1.68	0.23	221.6	172.8
	Fission Uranium	TSX	FCU	0.35	0.39	-12	0.49	0.10	195.7	169.6
	IsoEnergy 3)	TSX.V	ISO	1.97	1.87	5	2.66	0.23	180.8	141.0
	EnCore Energy * 4)	TSX.V	EU	0.89	0.94	-5	1.13	0.08	153.6	119.8
	UEX	TSX	UEX	0.25	0.26	-4	0.30	0.07	113.0	88.1
	GoviEx Uranium *	TSX.V	GXU	0.25	0.23	7	0.30	0.08	116.6	85.3
<b>Sub-total</b>									<b>9,226.1</b>	<b>7,207.5</b>
<b>United States (4)</b>				<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>	<b>US\$</b>	<b>US\$</b>
	Energy Fuels 6)	NYSE MKT	UUUU	3.80	4.26	-11	4.82	0.78	510.3	510.3
	Uranium Energy	AMEX	UEC	1.63	1.76	-7	2.18	0.35	324.5	324.5
	Ur-Energy	NYSE MKT	URG	0.80	0.80	0	1.35	0.28	136.2	136.2
	Peninsula Energy	NYSE OTC	PENMF	0.12	0.11	6	0.13	0.02	102.7	102.7
<b>Sub-total</b>									<b>1,073.7</b>	<b>1,073.7</b>
<b>Australia (6)</b>				<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>	<b>A\$</b>	<b>US\$</b>
	Energy Resources of Australia 7)	ASX	ERA	0.23	0.33	-32	0.34	0.14	830.6	631.3
	Paladin Energy 8)	ASX	PDN	0.27	0.25	8	0.36	0.04	555.5	422.2
	Boss Energy 9)	ASX	BOE	0.09	0.10	-10	0.12	0.03	170.5	129.6
	Berkeley Energia	ASX	BKY	0.61	0.72	-15	1.00	0.10	157.7	119.9
	Deep Yellow *	ASX	DYL	0.58	0.47	22	0.79	0.11	146.1	111.0
	Bannerman Resources	ASX	BMN	0.11	0.09	22	0.17	0.02	118.2	89.8
	Lotus Resources	ASX	LOT	0.14	0.13	8	0.18	0.02	113.8	86.5
<b>Sub-total</b>									<b>2,092.4</b>	<b>1,590.3</b>

\* featured as a **Special Situation** and included in Shortlist of investment recommendations

1) listed on London Stock Exchange) as at November 16, 2018 through an IPO offering of 15% of the Company's outstanding shares at US\$ 11.60

2) also 49% interest in zinc project in Turkey

3) 53% held by Nexgen Energy

4) announced on September 8, 2020 to acquire all of Westwater Resources ' United States uranium assets in enCore shares; transaction to be closed on or before December 31, 2020

5) sold 70% interest in UrAsia in Kyrgyzstan to government entity

6) combined uranium-vanadium project

7) Rio Tinto sold entire 68.62% interest in Rössing Mine, Namibia to CNNC of China

8) holds 75% interest in flagship uranium-vanadium Langer Heinrich Mine in Namibia; CNNC of China holds 25% stake; also assets in Canada and Australia; sold 85% interest in uranium mine in Malawi to Lotus Resources

9) name change from Boss Resources effective November 26, 2020; also nickel-copper project in Sweden and gold project in Senegal

**Total market capitalization top listed uranium companies - January 31, 2021: US\$ 13,120.1 million**

**World's top 10 listed uranium exploration/development companies**  
**focused on traditional countries** (by market valuation)

	Country focus	Trade symbol	Share price January 31 2021	Share price Year-end 2020	Change to Year-end 2020 in %	Market valuation (US\$ million)
NexGen Energy	Canada	TSX.V NXE	C\$ 3.61	C\$ 3.51	3	1,063.3
Denison Mines	Canada	TSX DML	C\$ 0.85	C\$ 0.84	1	450.1
Fission Uranium	Canada	TSX FCU	C\$ 0.35	C\$ 0.39	-12	169.6
Iso Energy	Canada	TSX.V ISO	C\$ 1.97	C\$ 1.87	5	141.0
Boss Energy	1) Australia	ASX BOE	A\$ 0.09	A\$ 0.10	-10	129.6
Encore Energy *	2) USA	TSX.V EU	C\$ 0.89	C\$ 0.94	-5	119.8
UEX	Canada	TSX UEX	C\$ 0.25	C\$ 0.26	-4	88.1
Laramide Resources	USA/Australia	TSX LAM	C\$ 0.31	C\$ 0.36	-14	41.0
Azarga Uranium	USA	TSX.V AZZ	C\$ 0.19	C\$ 0.24	-21	34.3
CanAlaska Uranium *	Canada	TSX CVV	C\$ 0.40	C\$ 0.49	-19	23.3
<b>Total market capitalization</b>						<b>2,260.2</b>

\* featured as a **Special Situation** and included in the **2021 Shortlist of investment recommendations**

1) name change from Boss Resources effective November 26, 2020; also nickel-copper project in Sweden and gold project in Senegal  
 2) entered into a binding agreement effective September 1, 2020 to acquire all of Westwater Resources' United States uranium assets

**World's top 10 listed uranium exploration/development companies**  
**focused on emerging countries** (by market valuation)

	Country focus	Trade symbol	Share price January 31 2021	Share price Year-end 2020	Change to Year-end 2020 in %	Market valuation (US\$ million)
Global Atomic *	1) Niger	TSX.V GLO	C\$ 1.46	C\$ 1.59	-8	172.8
Berkeley Energia	Spain	ASX BKY	A\$ 0.61	A\$ 0.72	-15	119.9
Deep Yellow *	Namibia	ASX DYL	A\$ 0.58	A\$ 0.47	23	111.0
GoviEx *	Niger/other African countries	TSX.V GXU	C\$ 0.25	C\$ 0.23	9	90.9
Bannerman Resources	Namibia	ASX BMN	A\$ 0.11	A\$ 0.09	22	89.8
Lotus Resources	2) Malawi	ASX LOT	A\$ 0.14	A\$ 0.13	8	86.5
Forsys Metals	Namibia	TSX FSY	C\$ 0.30	C\$ 0.30	-2	42.3
Plateau Energy Metals	3) Peru	TSX.V PLU	C\$ 0.49	C\$ 0.37	31	37.1
Marenica Energy	Namibia	ASX MEY	A\$ 0.13	A\$ 0.16	-22	21.7
Blue Sky Uranium *	4) Argentina	TSX BSK	C\$ 0.18	C\$ 0.19	-8	17.3
<b>Total market capitalization</b>						<b>789.4</b>

\* featured as a **Special Situation** and included in the **2021 Shortlist of investment recommendations**

1) also 49% interest in operating zinc project in Turkey  
 2) acquired 85% stake in major uranium project in Malawi from Paladin Energy; also cobalt project in NSW Australia  
 3) uranium-lithium project; main focus on lithium  
 4) uranium-vanadium project

# CALENDAR OF MINING EVENTS 2021



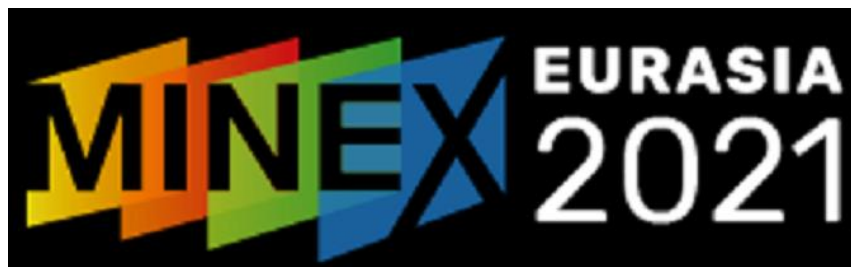
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February	2 – 3	<b>African Mining Indaba – Capetown, South Africa - <a href="#">online event</a></b>
March	7 – 10	<b>PDAC Convention - Toronto, Canada - <a href="#">online event</a></b>
March	23 – 25	<b>Mines and Money Online Connect – <a href="#">online event</a></b>
April	13 – 15	<b>MINEX Kazakhstan – Nur Sultan, Kazakhstan</b>
May	25 – 26	<b>BME Mining Investment Botswana – Gaborone, Botswana</b>
June	2 – 4	<b>WAMPEX 2021 – Accra, Ghana</b>
June	15 – 17	<b>DRC Mining Week – Lubumbashi, DRC</b>
September	8 – 10	<b>World Nuclear Symposium - London</b>
October	26 – 28	<b>IMARC Intern. Mining and Resources Conference – Melbourne, Australia</b>
November	30	<b>MINEX Eurasia – London</b>



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