

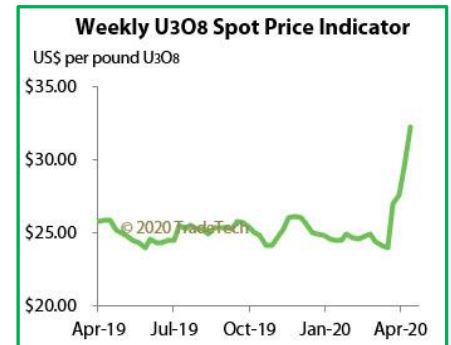
# Uraniumletter INTERNATIONAL

the international independent information and advice bulletin for uranium resource investments

## Overviews as at May 1, 2020



Marino G. Pieterse, publisher and editor



- With projects of major US producers and Cameco of Canada on stand-by and not economically viable at U3O8 prices below \$ 50/lb, American strategic action to expand inventory stockpile at 17 to 19 million pounds over a 10-year period will not work to save Northamerica's uranium industry
- For first time in history spot price higher than long-term price thanks to profitable high premium long-term delivery contracts having dried up

OVERVIEW of U3O8 PRICES					
	Spot	Long-term		Spot	Long-term
2020					
April 30	33.20	32.50			
March 30	27.35	32.50	Year-end 2016	20.25	30.00
March 20	23.95	32.50	Year-end 2015	34.23	44.00
February 21	24.70	32.50	May 31, 2015 (high)	39.50	50.00
January 31	24.45	32.50	Year-end 2014	35.50	49.50
► Year-end 2019	25.00	32.50	May 14, 2014 (low)	28.25	49.00
November 29	26.05	32.50	Year-end 2013	34.50	50.00
October 31	24.85	31.50	Year-end 2012	43.50	56.50
September 30	25.80	31.00	Year-end 2011	61.75	64.00
August 30	25.30	31.50			
June 28	24.30	31.00	Pre-Fukushima accident		
May 27 (low)	24.10	32.00	March 11, 2011	67.75	73.00
April 30	25.20	32.00			
February 28	28.60	32.00			
January 31 (high)	28.85	32.00			
► Year-end 2018	28.70	32.00			
November 30 (high)	29.10	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			
April 30 (low)	21.00	29.00			
March 26	21.10	29.50			
February 26	21.25	30.00			
January 29	21.88	30.00			
► Year-end 2017	22.32	30.67			
December 4 (high)	26.50	31.00			
September 27	20.25	31.50			
June 26	20.10	32.50			
May 29 (low)	19.25	32.50			
May 1	22.50	33.00			
March 27	24.50	33.99			
February 28	22.25	32.50			
February 6	26.00	32.50			
January 31	24.50	32.50			
► Year-end 2016	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			

\* 12-year low      month-end prices published by UxC and TradeTech

## WORLD NUCLEAR POWER REACTORS & URANIUM REQUIREMENTS of the world's major nuclear energy generating countries (as at May 2020)

Country		Reactors operable	% total electricity generation	Under construction	Planned x	Uranium required in tonnes 2020
USA		95	19.3	4	3	19,746
France	*	57	71.7	1	-	8,936
China		47	4.2	12	44	9,834
Russia		38	17.9	4	24	4,834
South Korea	**	24	23.7	4	-	4,903
India		22	3.1	7	14	967
Canada		19	14.9	-	-	1,538
Ukraine		15	53.0	-	2	1,893
United Kingdom		15	17.7	2	2	1,820
Germany	***	6	11.7	-	-	1,264
Japan x	****	9	6.2	-	-	2,000
<b>Total</b>		<b>347</b>		<b>34</b>	<b>89</b>	<b>57,735</b>
<b>Total world</b>		<b>440</b>	<b>10.3</b>	<b>55</b>	<b>109</b>	<b>68,240</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 2019

\*\*\*\* 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, 18 reactors are currently in the process of restart approval

New plants coming online are largely balanced by old plants being retired. Over 1996-2018, 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 2020 and 289 new ones coming online, including 22 restarted Japanese reactors

source : WNA

### ► Reactor shutdowns outweigh start-ups in 2019

In January 2020, the **World Nuclear Association** reported that global nuclear generation stood at 392.4 GWe net at the end of 2019, down slightly from 2018, according to their data. Six power reactors were added to the grid last year and construction of three large projects started. Nine units were permanently shut down.

### ► Six New nuclear reactors with a combined generating capacity of 5,241 MWe came online in 2019.

**Two of those** – Taishan 2 and Yangjian 6 were in **China**. Unit 4 of **South Korea's Ushin Kori** plant was also connected to the grid, as was **Russia's Novoronezh II unit 2**. Russia's first floating nuclear power plant, the Akademik Lomonosov - comprising two 32 MWe reactors – was also connected to the grid towards the end of the year.

In 2018, 10,420 MWe of new nuclear generating capacity was connected to the grid, while 3,345 MWe was added in 2017.

### ► Power uprates of existing reactors also added 212 MWe of generating capacity during 2019. Some 35 MWe was added at the Embalse plant in **Argentina**, while 155 MWe and 22 MWe were added at **USA's Browns Ferry 2** and Peach Bottom 2 units, respectively. In comparison, four uprates in the **USA** added 350 MWe of capacity in 2018.

► **Construction** was started last year of three new power reactors: unit 2 of the Kursk II plant in Russia; unit 1 of China's Zhangzhou plant; and unit 2 of Iran's Buser plant.

► **Nine more reactors with a combined capacity of 5,976 MWe were officially shut down in 2019.**

These were Bulibino 1 in Russia, Chinshan 2 in Taiwan, Genkai 2 in Japan, Mühleberg in Switzerland, Philippsburg 2 in Germany, Pilgrim in the USA, Ringhals 2 in Sweden and Three Mile Island 1 in the USA. South Korea's Wolsong plant, which had not operated since June 2018, was declared as having been shut down on December 24, 2019.

Source: WNA

<b>WORLD NUCLEAR POWER REACTORS &amp; URANIUM REQUIREMENTS</b>										
<b>of the world's major nuclear energy generating countries - comparison May 2020 to February 2011</b>										
Developed countries:	Reactors operable		% Electricity Generation		Under construction		Planned x		Uranium required (in tonnes)	
	May 2020	Febr.2011	May 2020	Febr.2011	May 2020	Febr.2011	May 2020	Febr.2011	May 2020	Febr. 2011
USA	95	104	19.3	20.2	4	1	3	9	19,746	19,427
France	57	58	71.7	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	17.7	17.9	1	0	3	4	1,820	2,235
Germany	6	17	11.7	26.1	0	0	0	0	1,264	3,453
South Korea	24	21	34.8	34.8	4	5	0	6	4,903	3,586
Japan x	9	55	6.2	28.9	0	2	0	12	2,000	8,195
<b>Subtotal</b>	<b>225</b>	<b>292</b>			<b>10</b>	<b>11</b>	<b>6</b>	<b>35</b>	<b>40,207</b>	<b>48,001</b>
<b>Emerging countries:</b>										
China	47	13	4.2	1.9	12	27	44	50	9,834	4,402
Russia	38	32	17.9	17.8	4	10	24	14	4,834	3,757
India	22	20	3.1	2.2	7	5	14	18	967	1,053
Ukraine	15	15	53.0	0	0	2	2	2	1,893	2,037
<b>Subtotal</b>	<b>122</b>	<b>80</b>			<b>23</b>	<b>44</b>	<b>84</b>	<b>84</b>	<b>17,528</b>	<b>11,249</b>
<b>Total world</b>	<b>440</b>	<b>443</b>	<b>10.3</b>	<b>14</b>	<b>55</b>	<b>62</b>	<b>109</b>	<b>156</b>	<b>68,240</b>	<b>68,240</b>
		<b>2020</b>	<b>2011</b>							
Developed countries in % total world		<b>50</b>	<b>66</b>							
Emerging countries in % total world		<b>28</b>	<b>18</b>							

source: WNA

## Overview of strategic geopolitical uranium blocks

	Uranium production 2018 (tonnes)	in %	Uranium required 2018 (tonnes)	Surplus (+) Deficit (-)
<b>USSR</b>				
Kazakhstan	21,705	41.3	0	21,705
Russia	2,904	5.5	5,616	-2,712
Uzbekistan	2,404	4.6	0	2,404
Ukraine	582	1.1	1,890	-1,308
	27,595	52.5	7,506	20,089
<b>USA</b>				
USA	1,180	2.2	19,461	-18,281
Canada	7,001	13.3	1,616	5,385
	8,181	15.5	21,077	-12,896
<b>China</b>				
China	1,885	3.6	8,713	-6,828
Australia	6,517	12.4	0	6,517
	8,402	16.0	8,713	-311
<b>Japan *</b>				
Japan *	0	0.0	1336 <b>xx</b>	-1,336
South Korea	0	0.0	4592	-4,592
	0	0.0	5,928	-5,928
<b>Namibia</b>				
Namibia	5,525	10.5	0	5,525
<b>Niger</b>				
Niger	2,911	5.5	0	2,911
	2,911	5.5	0	2,911
<b>Total strategic blocks</b>	<b>52,614</b>	<b>100</b>		
<b>Total world production</b>	<b>53,498</b>			

**x surplus in production 10,390 tonnes**

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

## ► Shift in geological blocks is dictating non-transparent uranium market

In September 2015, Jonathan Hinze of UxConsulting Company (UxC) at the WNA Annual Symposium said that with global uranium inventories upwards of 1.1 billion pounds U<sub>3</sub>O<sub>8</sub> equivalent (423,100 tU) were likely to drive the uranium market for some time to come, affecting not just uranium suppliers, but also the conversion and enrichment industries. At that time the U<sub>3</sub>O<sub>8</sub> spot price and long-term price were \$ 36.50/lb and \$ 45.00/lb, respectively

Today, more than 3 years later, at prices of \$ 25.00 and \$ 32.00, respectively, **China, Russia and India** together are currently accounting for 30 reactors under construction and 72 reactors planned, representing 54% and 47% 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 is not realized however, that China's and Russia's required uranium supply is mainly covered by long-term supply agreements, in particular with Kazakhstan.**

Based on the current supply situation, with the **USA** with 97 reactors hosting 22% of the world's 448 operable reactors and in 2017 having required 18,996 tonnes U (30% of the world total of 65,014 tonnes), it is notable that **Russia** supplies 45.5% of US imports of enriched uranium and **Canada** 90.6% of natural uranium imports. This indicates that for the USA there is no urgent need to lower current imports of more than 95% of the uranium it uses other than for political tensions.

The overview below of world nuclear power reactors and uranium required in 2017 confirms the dominance of the U.S. on nuclear energy generation and as such by far the provider of clean energy, despite an only limited added share of renewables.

Considering that globalization is creating a new economical 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 shows 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 should know which countries will meet supply of the required uranium.**

From this perspective, I refer to my overview of geographical strategic blocks, that shows that Kazakhstan based at a production of 23,301 tonnes in 2017, is not only by far the world's biggest uranium supplier but can easily fully feed growing uranium market demand from Russia, without any impact 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 currently in the process of restart approval.

Concerning **South Korea**, the deficit of 4,730 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 own sources of uranium supply. First production is to come from Berkeley Energia's Salamanca mine in 2020. With a share of approximately 72% of total electricity generating, **France** is the biggest generator of nuclear energy in Europe.

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

May 1, 2020		Trade symbol		Share price		Change in %	12 months		Net shares issued million	Market cap. million	
Location of mining				May 1 2020	year-end 2019		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	14.90	13.00	15	15.80	10.20	259.4	3,865.1	3,865.1
<b>Canada (8)</b>				<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>US\$</b>
Cameco		TSX	CCO	14.42	11.54	25	14.68	7.70	395.8	5,707.4	4,109.4
NexGen Energy		TSX	NXE	1.88	1.67	13	2.31	0.76	360.3	677.4	487.7
Denison Mines		TSX	DML	0.62	0.54	15	0.73	0.24	626.0	388.1	279.4
Fission Uranium		TSX	FCU	0.31	0.29	7	0.56	0.10	486.6	150.8	108.6
Global Atomic	* 2)	TSX.V	GLO	0.67	0.48	40	0.90	0.24	145.4	97.4	70.1
GovEx Uranium	*	TSX.V	GXU	0.16	0.16	0	0.20	0.08	438.6	70.2	50.5
UEX	3)	TSX	UEX	0.16	0.15	7	0.20	0.07	394.2	63.1	45.4
Laramide Resources		TSX	LAM	0.29	0.20	43	0.40	0.11	165.4	47.1	33.9
<b>Sub-total</b>										<b>7,201.5</b>	<b>5,186.0</b>
<b>United States (4)</b>				<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>
Uranium Energy	4)	AMEX	UEC	1.14	0.92	24	1.48	0.35	183.9	209.6	209.6
Energy Fuels		NYSE MKT	UUUU	1.80	1.91	-6	3.32	0.78	115.0	207.0	207.0
Ur-Energy		NYSE MKT	URG	0.60	0.59	2	0.99	0.27	160.5	96.3	96.3
Peninsula Energy		NYSE OTC	PENMF	0.12	0.11	9	0.22	0.06	315.1	37.8	37.8
<b>Sub-total</b>										<b>328.7</b>	<b>328.7</b>
<b>Australia (5)</b>				<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>US\$</b>
Energy Resources of Australia	5)	ASX	ERA	0.17	0.17	0	0.20	0.14	3,690.0	627.3	407.7
Paladin Energy	* 6)	ASX	PDN	0.11	0.10	10	0.16	0.04	2,030.0	223.3	145.1
Boss Resources	7)	ASX	BOE	0.07	0.05	40	0.08	0.03	1,590.0	111.3	72.3
Deep Yellow	*	ASX	DYL	0.26	0.29	-10	0.39	0.11	244.9	63.7	41.4
Berkeley Energia		ASX	BKY	0.20	0.22	-9	0.40	0.10	258.6	51.7	33.6
<b>Sub-total</b>										<b>1,077.3</b>	<b>700.1</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) also cobalt-nickel deposit

4) combined uranium-vanadium project

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

6) 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

7) also nickel/copper project in Sweden and gold project in Senegal

**Total market capitalization top listed uranium companies - May 1, 2020: US\$ 10,079.9 million**

**MARKET VALUATION OF THE WORLD'S LISTED URANIUM PRODUCERS and STANDBY PRODUCERS**

(in US\$ million)

Country focus	Company Name		May 1 2020	Year-end 2019	Year-end 2018	Change in %	Year-end 2017	Year-end 2016	Year-end 2015	Year-end 2014	Year-end 2012	Year-end 2011	Year-end 2010	Change % 2019 / 2010
Kazakhstan	<a href="#">Kazatomprom</a>	1)	3865.1	3,372	3,530	-4								
Canada	<a href="#"> Cameco</a>	2)	4109.4	3,508	4,491	-22	3,630	4,112	4,865	6,477	7,744	7,306	15,866	-78
United States	<a href="#"> Uranium Energy</a>	3)	209.6	169	222	-24	276	132	105	160	218	253	421	-60
	<a href="#"> Energy Fuels</a>	4)	207.0	189	255	-26	133	109	134	121	123	167	158	19
	<a href="#"> Ur-Energy</a>	5)	96.3	94	104	-9	99	76	138	110	101	96	303	-69
	<a href="#"> Peninsula Energy</a>	6)	37.9	33	36	-10	81	75	85	113	122	122	158	-79
Australia	<a href="#"> ERA (68% CNNC)</a>	7)	407.7	62	91	-32	367	164	136	549	676	663	2,165	-97
Namibia	<a href="#"> Paladin Energy</a> *	8)	145.1	142	230	-38	67	111	300	489	902	1,118	3,649	-96
	<b>Total</b>		<b>9078.1</b>	<b>7,569</b>	<b>8,959</b>	<b>-16</b>	<b>4,653</b>	<b>4,779</b>	<b>5,763</b>	<b>8,019</b>	<b>9,886</b>	<b>9,725</b>	<b>22,720</b>	<b>-67</b>
	<b>U3O8 spot price (April 24, 2020)</b>		<b>33.20</b>	<b>25.00</b>	28.70	-13	<b>22.32</b>	<b>20.25</b>	<b>34.23</b>	<b>35.50</b>	<b>43.50</b>	<b>51.75</b>	<b>62.50</b>	-60
	<b>U3O8 long-term price</b>		<b>32.50</b>	<b>32.50</b>	31.25	4	<b>30.67</b>	<b>30.00</b>	<b>44.00</b>	<b>49.50</b>	<b>56.50</b>	<b>64.00</b>	<b>65.00</b>	-50

 \* featured as Special Situation and included in 2020 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 a price of US\$ 11.60

 2) stand-by producer; suspended production [McArthur Lake](#) began in February 2018 and [Cigar Lake](#) on April 13, 2020

3) ISR production commencement in November 2010; stopped production since 2014; stand-by producer

 4) stand-by producer; also vanadium recovery operations from company's [White Mesa Mill](#), Utah

5) ISR production commenced 1n August 2013

6) first ISR production commenced in December 2015

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

 8) stand-by producer; [CNNC Overseas Uranium Holding of China](#) holds 25% equity interest; IN flagship [Langser Heinrich Mine](#); also assets in [Canada](#) and [Australia](#); sold 85% in [Kavalekera Mine](#), [Malawi](#) to [Lotus Resources](#); 15% owned by Malawi government

**MARKET VALUATION OF THE WORLD'S MOST ADVANCED LISTED URANIUM DEVELOPMENT COMPANIES**

(commercial production target &lt;5 years)

(in US\$ million)

Country focus			May 1 2020	Year-end 2019	Year-end 2018	Change in %	Year-end 2017	Year-end 2016	Year-end 2015	Year-end 2014	Year-end 2012	Year-end 2011	Year-end 2010	Change in % 2019/2010
Canada	<a href="#"> Denison Mines</a>		279.4	247.7	272.1	-9	305	276	261	491	428	464	1,248	-80
	<a href="#"> UEX</a>		45.4	43.9	48.9	-10	89	54	27	58	131	145	456	-90
Australia	<a href="#"> Boss Resources</a>		72.3	55.7	66.8	-17	42	38	-	-	-	-	-	
Spain	<a href="#"> Berkeley Energia</a>		33.6	39.8	32.1	24	202	165	65	41	74	66	- x	
Namibia	<a href="#"> Deep Yellow</a>	1)	41.4	50.1	55.8	-10	48	37	9	22	86	89	379	-87
Niger	<a href="#"> Global Atomic</a>		70.1	53.6	40.7									
	<a href="#"> GoviEx Uranium</a>	2)	50.5	52.0	43.5	20	70	35	5	39 *	-	-	-	x
	<b>Total</b>		<b>592.7</b>	<b>542.8</b>	<b>559.9</b>	<b>-3</b>	<b>756</b>	<b>605</b>	<b>367</b>	<b>651</b>	<b>719</b>	<b>764</b>	<b>2,083 x</b>	<b>-64</b>

x not included in year total

\* listing date June 20, 2014

 1) strategic relationship with an affiliate of the [Sprott Group](#) completed on October 28, 2016 and concurrently an initial A\$ 1.42 million investment at A\$ 0.004 per share (after share holding a 15% equity interest in Deep Yellow; announced a strategic earn-in agreement with JOGMEC of Japan in March 2017 to earn a 39.5% interest in the [Nova Venture](#) within 4 years

 2) bought [African uranium assets](#) in [Zambia](#), [Mali](#) and [Namibia](#) from [Denison Mines](#) in consideration of 25% of GoviEx' shares; current equity interest 18.65%

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

	<b>Country focus</b>	<b>Trade symbol</b>		<b>Share price May 1 2020</b>	<b>Share price Year-end 2019</b>	<b>Change Year-end 2019 in %</b>	<b>Market valuation (US\$ million)</b>
NexGen Energy	Canada	TSX.V	NXE	C\$ 1.88	C\$ 1.67	13	487.7
Denison Mines	Canada	TSX	DML	C\$ 0.62	C\$ 0.54	15	279.4
Fission Uranium	Canada	TSX	FCU	C\$ 0.31	C\$ 0.29	7	108.6
Boss Resources	Australia	ASX	BOE	A\$ 0.07	A\$ 0.05	40	72.3
UEX	Canada	TSX	UEX	C\$ 0.16	C\$ 0.15	7	45.4
Laramide Resources	USA/Australia	TSX	LAM	C\$ 0.29	C\$ 0.20	45	33.9
Iso Energy	1) Canada	TSX.V	ISO	C\$ 0.52	C\$ 0.20	160	31.6
Azarga Uranium	2) USA	TSX.V	AZZ	C\$ 0.20	C\$ 0.20	0	28.4
<b>Total market capitalization</b>							<b>1,087.3</b>
1) 63.30% held by <u>NexGen Energy</u>							
2) sold 93.1% owned subsidiary <u>UrAsia</u> , <u>Kyrgyz Republic</u> in November 2019 to government entity; entitled to 93.1% cash consideration of US\$ 250,000 and 2% NSR royalty on Kyrgyz project for up to US\$ 5.0 million							

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

	<b>Country focus</b>	<b>Trade symbol</b>		<b>Share price May 1 2020</b>	<b>Share price Year-end 2019</b>	<b>Change Year-end 2019 in %</b>	<b>Market valuation (US\$ million)</b>
Global Atomic *	1) Niger	TSX.V	GLO	C\$ 0.67	C\$ 0.48	40	70.1
GoviEx *	Niger/other African countries	TSX.V	GXJ	C\$ 0.16	C\$ 0.16	0	50.5
Deep Yellow *	Namibia	ASX	DYL	A\$ 0.26	A\$ 0.29	-10	41.4
Berkeley Energia	Spain	ASX	BKY	A\$ 0.20	A\$ 0.22	-9	33.6
Bannerman Resources	Namibia	ASX	BMN	A\$ 0.04	A\$ 0.04	0	27.6
Lotus Resources	2) Malawi	ASX	LOT	A\$ 0.06	A\$ 0.05	20	25.5
Forsys Metals	Namibia	TSX	FSY	C\$ 0.18	C\$ 0.12	50	21.6
Blue Sky Uranium	3) Argetina	TSX	BSK	C\$ 0.18	C\$ 0.11	64	15.1
Plateau Energy Metals	4) Peru	TSX.V	PLU	C\$ 0.23	C\$ 0.26	-12	13.9
<b>Total market capitalization</b>							<b>299.3</b>
* featured as a <b>Special Situation</b> and included in the 2019 Shortlist of investment recommendations							
1) also 49% interest in operating zinc project in <u>Turkey</u>							
2) acquired 85% stake in major uranium project in <u>Malawi</u> from <u>Paladin Energy</u> ; also cobalt project in NSW Australia							
3) uranium-vanadium project							
4) uranium-lithium project; main focus on lithium							



## Geographical overview of the world's highest valued uranium exploration and development companies

### Traditional countries (10)

(market capitalization in million as at May 1, 2020)

Canada (5)		C\$	United States (3)		US\$	Australia (2)		A\$
NexGen Energy		677.4	Laramide Resources	1)	33.9	Boss Resources		113.1
Denison Mines		388.1	Azarga Uranium	2)	28.4	Vimy Resources	1)	30.9
Fission Uranium		150.8	Encore Energy		24.1			
UEX	1)	63.1						
Iso Energy	2)	43.8						

#### notes Canada:

1) also cobalt-nickel project

2) 33.0 % owned by NexGen Energy from spin-off

#### notes US:

1) also uranium projects in Australia

2) sold 91% owned subsidiary UrAsia, Kyrgyz Republic to government entity

#### notes Australia:

1) also stand-alone battery metals project

## Geographical overview of the world's highest valued uranium exploration and development companies

### Emerging countries (9)

(market capitalization in million as at May 1, 2020)

AFRICA (6)			Niger (2)		C\$	SOUTH AMERICA (2)		
<b>Namibia (3)</b>		A\$	Global Atomic		97.4	<b>Argentina(1)</b>		C\$
Deep Yellow		63.7	GoviEx Uranium	1)	70.2	Blue Sky Uranium	1)	21.0
Bannerman Resources		42.4						
		C\$	<b>Malawi (1)</b>			<b>Peru (1)</b>		C\$
Forsys Metals		30.0	Lotus Resources		39.2	Plateau Energy Metals	2)	19.2

1) bought African uranium assets in Zambia, Mali and Namibia from Denison Mines in consideration of 25% of GoviEx' shares;

#### EUROPE (1)

##### Spain (1)

Berkeley Energia 51.7

1) uranium-vanadium project

2) uranium-lithium project

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares issued million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		US\$	US\$
			C\$	C\$		C\$	C\$		US\$	US\$
<b>Canada</b>										
<b>Producers:</b>										
Cameco	TSX	CCO	14.42	11.54	25	14.68	7.70	395.8	5,707.4	4,109.4
<b>Development / Exploration:</b>										
NexGen Energy	TSX	NXE	1.88	1.67	13	2.31	0.76	360.3	677.4	487.7
Denison Mines	TSX	DML	0.62	0.54	15	0.73	0.24	626.0	388.1	279.4
Fission Uranium	TSX	FCU	0.31	0.29	7	0.56	0.10	486.6	150.8	108.6
UEX	TSX	UEX	0.16	0.15	7	0.20	0.07	394.2	63.1	45.4
IsoEnergy	TSX.V	ISO	0.52	0.40	30	0.80	0.24	84.3	43.8	31.6
ValOre Metals 1)	TSX.V	VO	0.28	0.33	-17	0.41	0.14	85.0	23.4	16.8
Purepoint Uranium Group	TSX.V	PTU	0.07	0.06	8	0.09	0.03	223.4	14.5	10.5
Skyharbour Resources	TSX.V	SYH	0.17	0.17	0	0.38	0.08	75.4	12.8	9.2
Forum Energy Metals	TSX.V	FMC	0.09	0.09	-6	0.11	0.04	108.7	9.2	6.7
CanAlaska Uranium	TSX.V	CVV	0.15	0.25	-40	0.29	0.10	57.6	8.6	6.2
Fission 3.0	TSX.V	FUU	0.06	0.07	-14	0.12	0.03	141.9	8.5	6.1
Azincourt Energy 2)	TSX.V	AAZ	0.05	0.03	50	0.06	0.02	154.9	7.0	5.0
ALX Resources 3)	TSX.V	AL	0.04	0.05	-20	0.07	0.02	128.8	5.2	3.7
Uravan Minerals	TSX.V	UVN	0.02	0.04	-50	0.04	0.01	47.3	0.9	0.7

1) currently main focus on Platinum Group Elements (PGE) property in Brazil; also gold project in Canada  
2) also lithium joint venture in Canada and letters of intent to acquire lithium-uranium project in Peru and Ontario cobalt project  
3) name change from ALX Uranium effective January 13, 2020

## Overview of uranium companies focused on the Athabasca Basin, Saskatchewan

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares total million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		US\$	US\$
			C\$	C\$		C\$	C\$		US\$	US\$
<b>Producers (1)</b>										
Cameco	TSX	CCO	14.42	11.54	25	14.68	7.70	395.8	5,707.4	4,109.4
<b>Exploration / Development (16)</b>										
NexGen Energy	TSX	NXE	1.88	1.67	13	2.31	0.76	360.3	677.4	487.7
Denison Mines	TSX	DML	0.62	0.54	15	0.73	0.24	626.0	388.1	279.4
Fission Uranium	TSX	FCU	0.31	0.29	7	0.56	0.10	486.6	150.8	108.6
UEX	TSX	UEX	0.16	0.15	7	0.20	0.07	394.2	63.1	45.4
IsoEnergy	TSX.V	ISO	0.52	0.40	30	0.80	0.24	84.3	43.8	31.6
Purepoint Uranium Group	TSX.V	PTU	0.07	0.06	8	0.09	0.03	223.4	14.5	10.5
Skyharbour Resources	TSX.V	SYH	0.17	0.17	0	0.38	0.08	75.4	12.8	9.2
Forum Energy Metals	TSX.V	FMC	0.09	0.09	-6	0.11	0.04	108.7	9.2	6.7
CanAlaska Uranium	TSX.V	CVV	0.15	0.25	-40	0.29	0.10	57.6	8.6	6.2
Fission 3.0	TSX.V	FUU	0.06	0.07	-14	0.12	0.03	141.9	8.5	6.1
Azincourt Energy	TSX.V	AAZ	0.05	0.03	50	0.06	0.02	154.9	7.0	5.0
ALX Uranium	TSX.V	AL	0.04	0.05	-20	0.07	0.02	128.8	5.2	3.7
Uravan Minerals	TSX.V	UVN	0.02	0.04	-50	0.04	0.01	47.3	0.9	0.7

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares issued million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		US\$	US\$
<b>United States</b>										
<b>Producers:</b>										
Uranium Energy	AMEX	UEC	US\$ 1.14	US\$ 0.92	24	US\$ 1.48	US\$ 0.35	183.9	US\$ 209.6	US\$ 209.6
Energy Fuels 1)	NYSE MKT	UUUU	1.80	1.91	-6	3.32	0.78	115.0	207.0	207.0
Ur-Energy	NYSE MKT	URG	0.60	0.59	2	0.99	0.27	160.5	96.3	96.3
Peninsula Energy 2)	NYSE OTC	PENMF	0.12	0.11	9	0.22	0.06	315.1	37.8	37.8
<b>Development / Exploration:</b>										
Western Uranium & Vanadium 3)	OTC	WSTRF	US\$ 0.61	US\$ 0.82	-26	US\$ 1.15	US\$ 0.15	30.1	US\$ 18.4	US\$ 18.4
<b>Laramide Resources 4)</b>										
Azarga Uranium 5)	TSX	LAM	C\$ 0.29	C\$ 0.20	43	C\$ 0.40	C\$ 0.11	165.4	C\$ 47.1	US\$ 33.9
EnCore Energy	TSX.V	AZZ	0.20	0.20	0	0.29	0.07	197.0	39.4	28.4
Anfield Energy	TSX.V	EU	0.21	0.17	24	0.22	0.08	159.2	33.4	24.1
Virginia Energy 6)	TSX.V	AEC	0.10	0.11	-9	0.22	0.04	94.7	9.5	6.8
	TSX.V	VUI	0.10	0.09	6	0.38	0.04	57.2	5.4	3.9

1) combined uranium-vanadium project  
2) also uranium assets in South Africa  
3) uranium-vanadium project  
4) also projects in Australia  
5) sold 70% interest in UrAsia in Kyrgyzstan to government entity  
6) new battle on suing state of Virginia on uranium ban to access \$ 6 billion deposit; trial still to be scheduled

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares issued million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		A\$	US\$
<b>Australia</b>										
<b>Producer:</b>										
Energy Resources of Australia	ASX	ERA	A\$ 0.17	A\$ 0.17	0	A\$ 0.20	A\$ 0.14	3,690.0	A\$ 627.3	US\$ 407.7
<b>Development / Exploration:</b>										
Boss Resources 1)	ASX	BOE	0.07	0.05	40	0.08	0.03	1,590.0	111.3	72.3
Vimy Resources 2)	ASX	VMY	0.05	0.05	0	0.08	0.02	618.9	30.9	20.1
Toro Energy 3)	ASX	TOE	0.01	0.01	0	0.03	0.01	2,610.0	26.1	17.0
Energy Metals Ltd.	ASX	EME	0.12	0.09	33	0.16	0.06	209.7	25.2	16.4
DevEx Resources	ASX	DEV	0.08	0.07	14	0.13	0.03	190.4	15.2	9.9
Cauldron Energy 4)	ASX	CXU	0.02	0.02	0	0.03	0.01	376.3	7.5	4.9
<b>Mega Uranium 5)</b>										
	TSX	MGA	C\$ 0.11	C\$ 0.10	5	C\$ 0.12	C\$ 0.05	326.4	C\$ 34.3	US\$ 24.7

1) also nickel/copper project in Sweden, and gold project in Senegal  
2) acquisition of Cameco's Alligator River Project; also stand-alone battery metals project  
3) also recent focus on gold project  
4) also uranium assets in Argentina  
5) uranium properties in Australia and Canada; equity position in Uranium Royalty Corp; 18.28% equity interest in Toro Energy and 5.44% investment in NexGen Energy

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change	12 months		Shares	Market	
			May 1 2020	year-end 2019	in %	H	L	issued million	capitalization million	
<b>CENTRAL ASIA</b>										
<b>Kazakhstan</b>										
<b>Producers:</b>										
Kazatomprom 1)	LSE	KAP:LI	US\$ 14.90	US\$ 13.00	15	US\$ 15.80	US\$ 10.20	259.4	3,865.1	3,865.1
<b>AFRICA</b>										
<b>Namibia</b>										
<b>Standby producer:</b>										
Paladin Energy	ASX	PDN	A\$ 0.11	A\$ 0.10	10	A\$ 0.16	A\$ 0.04	2,030.0	223.3	145.1
<b>Development / Exploration:</b>										
Deep Yellow 2)	ASX	DYL	A\$ 0.26	A\$ 0.29	-10	A\$ 0.39	A\$ 0.11	244.9	63.7	41.4
Bannerman Resources	ASX	BMN	0.04	0.04	0	0.06	0.02	1,060.0	42.4	27.6
Marenica Energy	ASX	MEY	0.07	0.09	-22	0.12	0.03	130.2	9.1	5.9
Forsys Metals	TSX	FSY	C\$ 0.18	C\$ 0.12	50	C\$ 0.24	C\$ 0.06	166.9	30.0	21.6
<b>Niger</b>										
Global Atomic 3)	TSX.V	GLO	C\$ 0.67	C\$ 0.48	40	C\$ 0.90	C\$ 0.24	145.4	97.4	70.1
GoviEx Uranium 4)	TSX.V	GXU	0.16	0.16	0	0.20	0.08	438.6	70.2	50.5
<b>Malawi</b>										
Lotus Resources	ASX	LOT	A\$ 0.06	A\$ 0.05	20	A\$ 0.07	A\$ 0.01	653.2	39.2	25.5
<b>Mauritania</b>										
Aura Energy 5)	ASX	AEE	A\$ 0.005	A\$ 0.01	-50	A\$ 0.01	A\$ 0.005	1,999.0	10.0	6.5

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

2) strategic relationship with an affiliate of the Sprott Group concurrently with an initial A\$ 1.42 million investment at A\$ 0.04 per share equivalent to a 15% equity interest in Deep Yellow; announced a strategic earn-in agreement with JOGMEC of Japan on March 29, 2017 to earn a 39.5% interest in the Nova Joint Venture within 4 years

3) also 49% interest in operating zinc project in Turkey

4) also major uranium assets in Zambia, and assets in Mali and Namibia

5) also one of world's largest undeveloped vanadium resources in Sweden

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares issued million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		C\$	US\$
<b>LATIN + CENTRAL AMERICA</b>										
<b>Argentina</b>										
Blue Sky Uranium 1)	TSX.V	BSK	C\$ 0.18	C\$ 0.11	59	C\$ 0.24	C\$ 0.05	120.1	C\$ 21.0	US\$ 15.1
<b>Peru</b>										
Plateau Energy Metals 2)	TSX.V	PLU	C\$ 0.23	C\$ 0.25	-10	C\$ 0.75	C\$ 0.16	85.5	C\$ 19.2	US\$ 13.9
1) uranium-vanadium project										
2) combined uranium-lithium project										

## Overviews of worldwide uranium production and exploration companies

May 1, 2020	Trade symbol		Share price		Change in %	12 months		Shares issued million	Market capitalization million	
			May 1 2020	year-end 2019		H	L		A\$	US\$
<b>Other countries: EUROPE</b>										
<b>Spain</b>										
Berkeley Energia	ASX	BKY	A\$ 0.20	A\$ 0.22	-9	A\$ 0.40	A\$ 0.10	258.6	A\$ 51.7	US\$ 33.6

# CALENDAR OF MINING EVENTS 2020



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## EVENTS being POSTPONED due to Coronavirus crisis – New dates to be set in due course

May	18 – 20	<b>MINEX Tajikistan – Dushambe, Tajikistan</b>
June	1	<b>Energy Mines and Money – Brisbane, Australia</b>
June	22 – 23	<b>Mining Journal Select – London</b>
July	14 – 16	<b>4<sup>th</sup> CHINA Gold Congress and Expo – Beijing, China</b>

## We will regularly check on any future postponements

September	9 – 11	<b>World Nuclear Symposium – London</b>
October	6 – 8	<b>MINEX Russia - Moscow, Russia</b>
October	7 – 9	<b>DRC Mining Week – Lubumbashi – Democratic Republic Congo</b>
October	27 – 29	<b>IMARC Intern. Mining and Resource Conference – Melbourne, Australia</b>
November	2 – 3	<b>ARAB &amp; AFRICAN MINING – London</b>
November	10 – 12	<b>MINEX Kazakhstan – Nur Sultan, Kazakhstan</b>
November	16 – 17	<b>Mining Peru 2020 – Lima, Peru</b>
November	17 – 18	<b>The Mining Show – Dubai</b>
November	24 – 25	<b>BME Mining Investment Botswana – Gaborone, Botswana</b>
November	25 – 26	<b>2<sup>nd</sup> Lithium Latin America Congress – Buenos Aires, Argentina</b>
November	30	<b>MINEX Eurasia – London</b>

## POSTPONEMENT FROM 2020 TO 2021 – new date:

June	2 – 4	<b>WAMPEX 2021 - Accra, Ghana</b>
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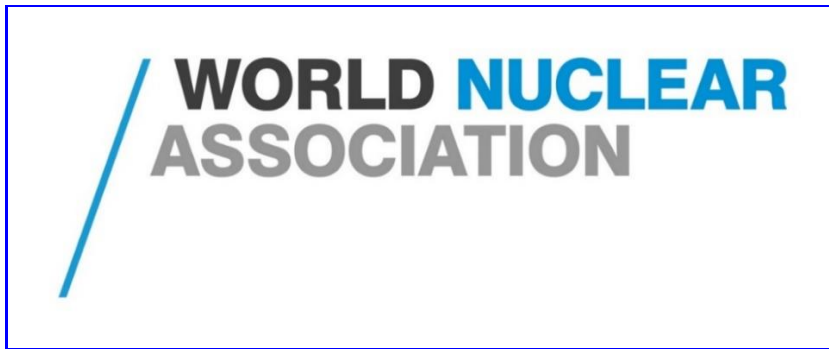
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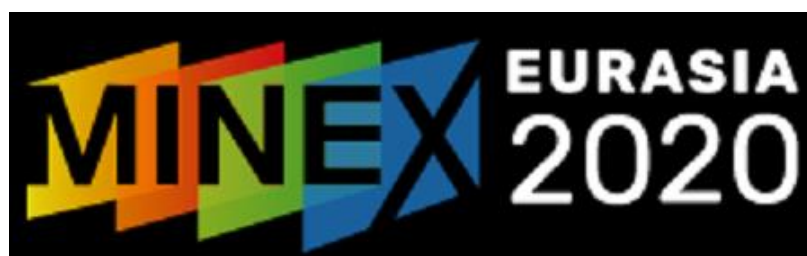
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The  
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## CALENDAR OF MINING EVENTS 2021



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