

URANIUM PRICES <sup>1</sup>	As of 06/30/2020	MoM	YTD	YoY
Spot Price US\$/lb U <sub>3</sub> O <sub>8</sub>	\$32.90	-3.1%	32.0%	34.0%
Long-Term Price US\$/lb U <sub>3</sub> O <sub>8</sub>	\$32.00	0%	0%	0%

GLOBAL REACTOR <sup>2</sup>	COUNT	GWe	MoM	YTD	YoY
Operable	440	391	0%	-0.5%	-1.3%
Under Construction	55	63	1.8%	3.7%	0%
Planned	109	118	-0.9%	-0.9%	-2.7%
Proposed	329	360	0%	-0.3%	0.3%

SLU <sub>3</sub> O <sub>8</sub> EQUITIES PERFORMANCE	As of 06/30/2020	MoM	YTD	YoY
SLU <sub>3</sub> O <sub>8</sub> Equity Index <sup>3</sup>	484.40	-12.2%	0.1%	-24.9%
UProducers Average <sup>4</sup>	MoM Top Performer: A.ERA: 0%	-16.2%	-6.1%	-30.9%
UDevelopers Average <sup>4</sup>	MoM Top Performer: L.BKL: +50.0%	-10.2%	-3.9%	-33.6%
UExplorers Average <sup>4</sup>	MoM Top Performer: A.BMN: 0%	-14.5%	-11.6%	-33.1%

1. Price as per UxC, LLC.  
 2. As per World Nuclear Association; MoM, YTD and YoY percentages based on Global Reactor Count  
 3. SLU<sub>3</sub>O<sub>8</sub> Equity Index Performance based on CCO, DML, EFR, UEX, URE, UEC & U  
 4. Performance Averages from the SLU<sub>3</sub>O<sub>8</sub> UEquity list of companies;

Updated on July 1, 2020

### MONTH IN REVIEW

Uranium prices calmed down considerably in June as the markets internalize the affects of mine closures and evaluate the potential timeline for restarts. After the spot price's big leap in April and May, it drifted down in June to close at US\$32.90 per lb U<sub>3</sub>O<sub>8</sub>. None the less, it remains higher than the long-term price of US\$32.00 per lb. U<sub>3</sub>O<sub>8</sub>.

Equities pulled back considerably, with the SLU<sub>3</sub>O<sub>8</sub> Equity Index losing almost all its 2020 gains to close down 12.2% at 484.40.

This month our cover story comes from one of our readers, who took the time to respond to an article we published. We would like to thank him and welcome any comments and suggestions regarding the information we make available.

Ask us on Twitter ([@SightlineU3O8](https://twitter.com/SightlineU3O8)) or email us at [editor@sightlineu3o8.com](mailto:editor@sightlineu3o8.com).

## CAPACITY FACTOR MISCONCEPTIONS IN THE ENERGY SECTOR



At SLU<sub>3</sub>O<sub>8</sub>, we share unbiased aggregation of news that affect the uranium industry and have recently posted an article featured on Forbes titled "[Uranium Supply Isn't the Crisis in the Nuclear Industry](#)".

Although a good article, one of our readers has pointed out some miscalculations on the effects of the Capacity Factor (CF) cited on the article, so we felt compelled to publish his comments so more readers can understand the Capacity Factor and why it is so important.

Thanks Malcolm R. for clarifying it with your comments, as per below:

"Many energy writers make this mistake by forgetting – or not knowing about - the effects of Capacity Factor.

It is the crucial number that affects both

**CONTINUED ON PG 2**

## CAPACITY FACTOR MISCONCEPTIONS IN THE ENERGY SECTOR (CONT'D)

the economics and system design. For wind and solar it means vastly more units are required to replace nuclear and coal...which I think is the reason why wind and solar enthusiasts are always silent on the matter.

The author states:

"These nuclear workhorses offer a huge, 24/7 tranche of carbon-free electricity. Most of this power is being replaced with natural gas, a fossil fuel less polluting than coal but still a source of carbon in the atmosphere. If they are to be replaced with wind, a rough but conservative calculation, based on the average wind turbine output of 2 megawatts (MW), means that for every 1,200 megawatt electrical (MWe) nuclear plant, you'll need at least 600 wind turbines, plus storage on a massive scale or a gas-fired generator to be standing by."

The idea that 600 x 2 MW wind turbines can replace 1 x 1200MW nuclear reactor is completely false. That ONLY applies when the capacity factor of each and every wind turbine is 100% and the capacity factor of the nuclear power plant is also 100%. In other words when you use the nameplate ratings of the equipment. As anyone with any experience of any power plant will tell you no plant operates 100% all of the time. They are machines and they have to be maintained periodically.

However the REAL issue is this. Wind turbines frequently run out of fuel...because the wind does not blow to provide the fuel to achieve 100% capacity factor. Just because the blades are turning does NOT mean they are producing full power. In fact they almost never achieve nameplate ratings.

So what is the REAL number. The capacity factor of wind turbines varies. Usually over a full year they operate at 25% CF...some are higher some are lower...depends on the weather and where they are located. So Capacity factor which is the ratio of the total MW-hours produced by the machine to the MW-hours it WOULD have produced if it ran at nameplate capacity all the time.

So, to correct this you clearly need FOUR TIMES the number of wind turbines operating at 2 MW at 25% CF.

So to replace one nuclear plant operating at 100% CF you require 4 x 600 =2400 wind turbines....quite a few more than the 600 quoted.

The article implies that batteries can solve that problem. Batteries DO NOT solve that problem at all. You cannot store electricity you do not make and wind turbines are not making electricity 75% of the time.

Nuclear plants of course also do not operate 100% of the time but their average capacity factor comes in at around 95%, a far cry from the 25% from wind.

So with or without batteries you need thousands of wind turbines to replace one nuclear plant and of course when the wind does not blow as happens for weeks at a time some years - there is no electricity at all.

And that, I think you will agree, is a very big problem.

As Michael Moore's excellent movie Planet of Humans (now blatantly removed from You Tube) states...wind turbines make pollution from fossil fueled plants worse not better and of course the gas industry knows this full well and takes advantage of public ignorance to burn more gas at the expense of shutting down the true zero carbon source which is nuclear power."

*We appreciate the comments and the readership on our site, so if you have any comments, questions or suggestions, feel free to reach us at [editor@sightlineu3o8.com](mailto:editor@sightlineu3o8.com).*

*Keep on reading, but don't take it all you see as facts, research and education are essential to weed out the good, the bad and the ugly out there!! Stay safe and educated!*

## TOP SUPPLY NEWS

[The US uranium purchases from non-allies exceeded those from allies for the first time](#)  
June 2, 2020

[Uranium Supply Isn't The Crisis In The Nuclear Industry](#)  
June 8, 2020

[Uranium Price Steadies as Sector Awaits Mine Restarts](#)  
June 9, 2020

[Saudi Arabia aims to boost investment with new mining law](#)  
June 9, 2020

[Power sector problems see greenhouse gas target missed](#)  
June 16, 2020

[IEA recovery plan says investing in nuclear will generate jobs and help secure a sustainable clean energy future](#)  
June 18, 2020

## TOP DEMAND NEWS

[French nuclear output slumps to multi-year low in May](#)  
June 1, 2020

[The Astravets Nuclear Power Plant in Belarus Is Nearing Completion](#)  
June 9, 2020

[Progress continues at Russia's Kursk II](#)  
June 9, 2020

[Framatome completes modernization project at Doel nuclear power plant](#)  
June 11, 2020

[Construction of nuclear power plant from 2026, first reactor in 2033](#)  
June 15, 2020

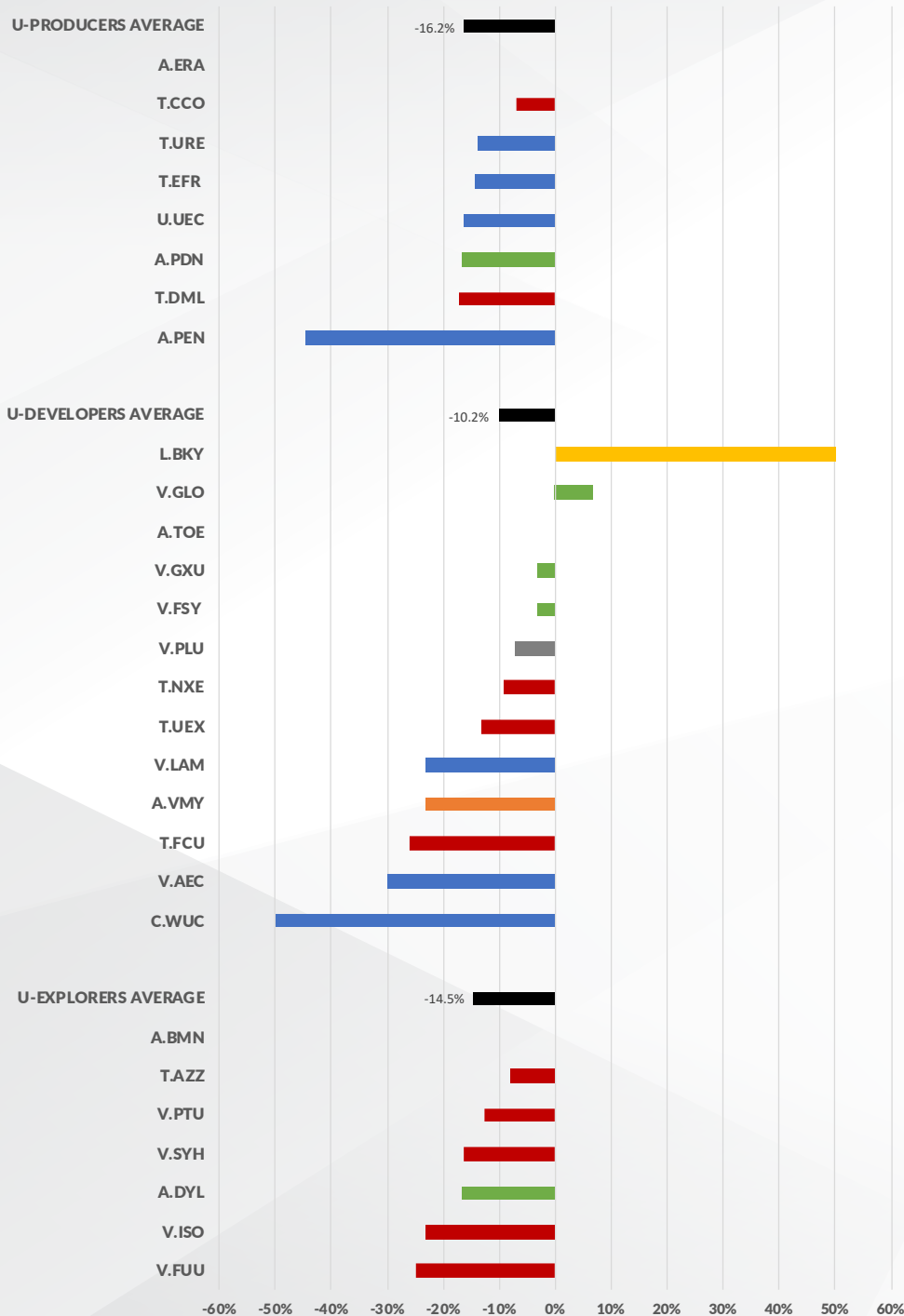
[South Africa kickstarts nuclear plans](#)  
June 16, 2020

## SLUO EQUITIES MONTHLY PERFORMANCE (MAY 31, 2020)

### TOP EQUITIES NEWS

**Project Regional Focus:**

Red: Canada    Blue: USA    Green: Africa    Orange: Australia    Yellow: Spain    Gray: Peru



[T.DML Announces Independent "Proof of Concept" of ISR Mining Method at Phoenix and Details of 2020 ISR Field Program](#)  
June 4, 2020

[U.UEC Files Fiscal 2020 Q3 Report](#)  
June 9, 2020

[T.EFR Announces Partial Cash Redemption of Floating Rate Convertible Unsecured Subordinated Debentures](#)  
June 11, 2020

[V.PTU: Uncovering the Patterson Uranium District](#)  
June 11, 2020

[T.CCO Provides Updated Date for Q2 Results and Conference Call](#)  
June 19, 2020

[V.SYH Doubles Extent of Maverick East Zone with Additional High Grade Uranium Drill Results and Announces Upcoming Fully-Funded Summer 2020 Drill Program](#)  
June 23, 2020

[T.CCO Pleaded as Federal Court of Appeal Unanimously Upholds Tax Court Decision](#)  
June 26, 2020

[V.PTU: Uranium Investor's Guide to the Next Big Discovery - Part 1: The Patterson Model](#)  
June 30, 2020

URANIUM PRICES	SPOT PRICE US\$/lb U <sub>3</sub> O <sub>8</sub>	LONG TERM PRICE US\$/lb U <sub>3</sub> O <sub>8</sub>
<b>U<sub>3</sub>O<sub>8</sub> PRICES</b>		
June 30, 2020	\$32.90 ↓	\$32.00 ●

## TOP POLITICS NEWS

[China to dominate nuclear power as Beijing bets on homegrown reactors](#)  
June 2, 2020

[Kazakhstan loosens grip on world's top uranium miner](#)  
June 4, 2020

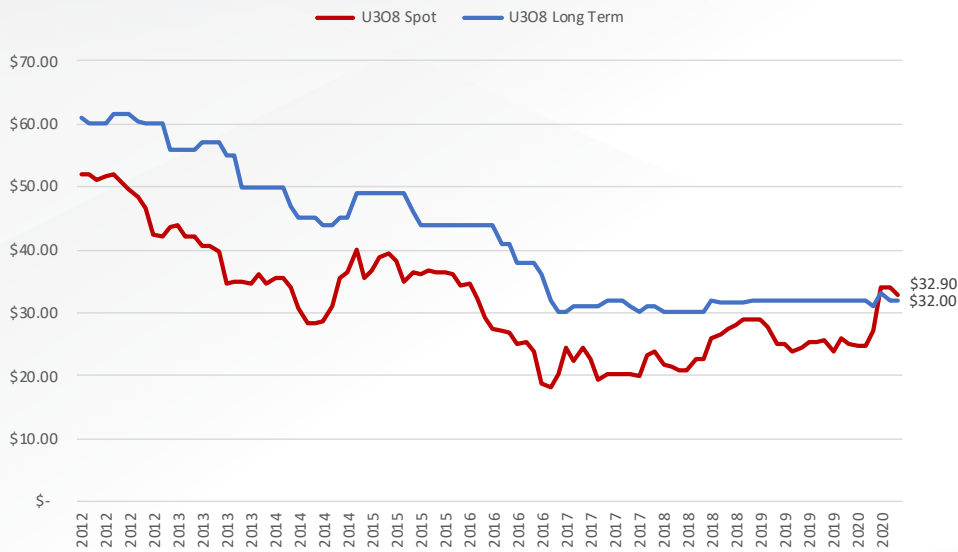
[Tonko sees role for nuclear in net-zero emissions push](#)  
June 9, 2020

[Trump administration seeks to use global aid for nuclear projects](#)  
June 11, 2020

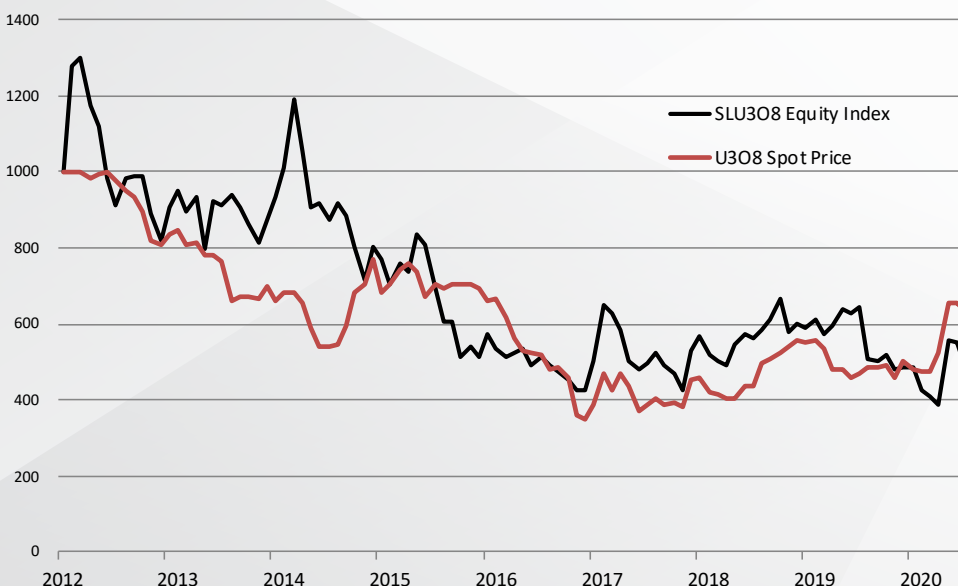
[IEA says nuclear is not on track to meet sustainability goals](#)  
June 15, 2020

[Net Zero at Risk without Nuclear Power](#)  
June 24, 2020

## U<sub>3</sub>O<sub>8</sub> PRICES - HISTORIC



## SLU<sub>3</sub>O<sub>8</sub> EQUITY INDEX



## TOP ALTERNATIVE NEWS

[Rosatom to convert fast reactor to MOX fuel in 2022](#)  
June 10, 2020

[Joint venture created for Chalk River MMR project](#)  
June 10, 2020

[IEA recovery plan proposes investment in nuclear](#)  
June 18, 2020

[X-energy receives \\$6mm grant from the US Government](#)  
June 22, 2020

[Saskatchewan sets up nuclear secretariat to plan for reactors](#)  
June 24, 2020



**SLUO EQUITIES**

PRODUCING COMPANIES		COUNTRY FOCUS	PRICE AS OF 06/30/2020	52 WEEK HIGH	52 WEEK LOW	MARKET CAP (MILLIONS)
T.CCO	Cameco Corp	Canada	\$13.92	\$15.77	\$7.69	\$5,469.92
T.DML	Denison Mines Corp	Canada	\$0.48	\$0.72	\$0.235	\$287.95
T.EFR	Energy Fuels Inc	United States	\$2.04	\$4.25	\$1.10	\$229.93
A.ERA	Energy Resources of Australia Limited	Australia	\$0.16	\$0.20	\$0.14	\$554.28
A.PDN	Paladin Energy Ltd	Namibia	\$0.10	\$0.16	\$0.035	\$202.79
A.PEN	Peninsula Energy Limited	United States	\$0.072	\$0.27	\$0.069	\$22.68
T.URE	Ur-Energy Inc	United States	\$0.69	\$1.30	\$0.39	\$110.73
U.UEC	Uranium Energy Corp	United States	\$0.877	\$1.48	\$0.35	\$161.66
DEVELOPMENT COMPANIES						
V.AEC	Anfield Energy Inc	United States	\$0.07	\$0.205	\$0.04	\$6.63
L.BKY	Berkeley Energia Ltd	Spain	\$22.5	\$29.05	\$6.50	\$27.80
T.FCU	Fission Uranium Corp	Canada	\$0.24	\$0.50	\$0.095	\$116.88
T.FSY	Forsys Metals Corp	Namibia	\$0.15	\$0.23	\$0.06	\$25.04
V.GLO	Global Atomic Corporation	Niger	\$0.64	\$0.90	\$0.23	\$96.75
V.GXU	Goviex Uranium Inc	Niger	\$0.15	\$0.195	\$0.075	\$65.80
T.LAM	Laramide Resources Ltd	United States	\$0.20	\$0.37	\$0.10	\$33.08
T.NXE	NexGen Energy Ltd	Canada	\$1.77	\$2.31	\$0.76	\$661.06
V.PLU	Plateau Energy Metals Inc	Peru	\$0.26	\$0.74	\$0.16	\$25.71
A.TOE	Toro Energy Limited	Australia	\$0.009	\$0.024	\$0.003	\$24.71
T.UEX	UEX Corporation	Canada	\$0.13	\$0.185	\$0.065	\$52.87
A.VMY	Vimy Resources Ltd	Australia	\$0.033	\$0.077	\$0.019	\$25.29
C.WUC	Western Uranium and Vanadium	United States	\$0.38	\$1.44	\$0.245	\$11.43
EXPLORATION COMPANIES						
T.AZZ	Azarga Uranium Corp	United States	\$0.17	\$0.28	\$0.07	\$33.57
A.BMN	Bannerman Resources Limited	Namibia	\$0.037	\$0.056	\$0.015	\$39.17
A.DYL	Deep Yellow Limited	Namibia	\$0.20	\$0.38	\$0.10	\$50.20
V.FUU	Fission 3.0 Corp	Canada	\$0.045	\$0.115	\$0.025	\$6.38
V.ISO	IsoEnergy Ltd	Canada	\$0.60	\$0.84	\$0.23	\$50.58
V.PTU	Purepoint Uranium Group Inc	Canada	\$0.035	\$0.08	\$0.025	\$7.82
V.SYH	Skyharbour Resources Ltd	Canada	\$0.155	\$0.345	\$0.08	\$13.26
OTHERS						
T.U	Uranium Participation Corp	Canada	\$4.58	\$5.35	\$3.12	\$632.32
L.GCL	Geiger Counter Ltd	UK	\$15.80	\$21.00	\$8.80	\$14.32
U.URA	Global X Uranium ETF	US	\$10.85	\$12.18	\$6.94	\$140.31
L.YCA	Yellow Cake Plc	UK	\$211.50	\$234.75	\$136.00	\$185.28
T.HURA	Horizon Global Uranium ETF	Canada	\$8.80	\$10.46	\$5.80	\$3.52
U.URNM	North Shore Global Uranium Mining ETF	United States	\$26.69	\$29.02	\$15.55	\$5.34
V.URC	Uranium Royalty Corp	Canada	\$1.00	\$1.28	\$0.80	\$71.84

Note: Currencies for the price and market cap are respective to the country of trade.

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The SLU<sub>3</sub>O<sub>8</sub> Equity Index tracks the relative share price of a select basket of uranium-based equities, checking the market's reaction to industry activities. The Index is based on share price movement since January 1, 2012 (1,000.00) of the following companies\*:

- Cameco Corporation
- Denison Mines Limited
- Energy Fuels Inc.
- UEX Corporation
- UR-Energy Inc.
- Uranium Energy Corp.
- Uranium Participation Corp

\* As the significant stock price movement of Fission Uranium Corp and NexGen Energy Ltd. is a function of major uranium discoveries, we have not included their stock performance in the Index to better reflect the uranium equities market in general.

**ABOUT SIGHTLINE SLU<sub>3</sub>O<sub>8</sub>**

**Sightline U<sub>3</sub>O<sub>8</sub>** is a nuclear industry research organization reporting through a monthly newsletter and supporting website created and maintained to provide uranium investors and industry stakeholders with a single source of insight into the ongoing factors that directly affect uranium prices.

We welcome your comments, questions and ideas. Please contact us at

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