

Industry Note

Equity Research

November 11, 2020

Metals & Minerals

Uranium Weekly: \$150M Draft Proposal for U.S. Uranium Reserve

- **Ux Consulting's (UxC) weekly price indicator increased slightly this week to US\$29.70/lb (from US\$29.55/lb).** UxC also reported 3-year and 5-year U3O8 forward prices were flat on a week-over-week basis at US\$32.50/lb and \$35.00/lb, respectively.
- **The United States Senate Committee on Appropriations has released drafts of fiscal year 2021 funding measures and subcommittee allocations that include \$150M for the U.S. Uranium Reserve.** The U.S. Uranium Reserve funding is outlined in the Energy and Water Development Subcommittee Bill highlights as: "Uranium Reserve Program – \$150M to initiate the program, the same as the budget request".
- **The proposed funding level is split between Energy & Water's Nuclear Infrastructure provisions (\$120M) and Defense Non-proliferation provisions (\$30M).** The bill, if passed into law, would provide full funding for the Department of Energy (DOE) to implement a program for the domestic Uranium Reserve.
- **The current U.S. Administration's fiscal 2021 budget formally proposed the creation of a U.S. uranium reserve.** The 2021 budget (released on February 10, 2020) requested an annual allocation of US\$150M (2021-2030) to the Department of Energy (DOE) for the purchase of U.S.-origin uranium. We understand that under the plan, outlays from the DOE reserve fund would be relatively muted in 2021 and 2022 at US\$45M and US\$90M, respectively. The goal of the uranium reserve is to "provide additional assurances of availability of uranium in the event of a market disruption". There was no mention of a price range under which the DOE would acquire the U.S.-origin uranium in the market.
- **The impact on global uranium supply/demand balances could be minimal.** Depending of the final implementation plan, we could see a scenario in which the DOE uranium reserve program incentivizes only enough domestic production to meet its annual US\$150M allocation. We believe that while the U.S. DOE uranium reserve program could be effective in supporting U.S. domestic uranium production, it is likely to have a lesser impact on the broader supply and demand dynamics in the global market.
- **We believe that the catalyst that could support the next up-leg in spot and term prices would be a meaningful return of utilities to the term contracting market.** Both UxC and Cameco have noted a recent pick-up in term contracting interest from both U.S. and non-U.S. utilities and we understand that off-market activity has been trending higher.

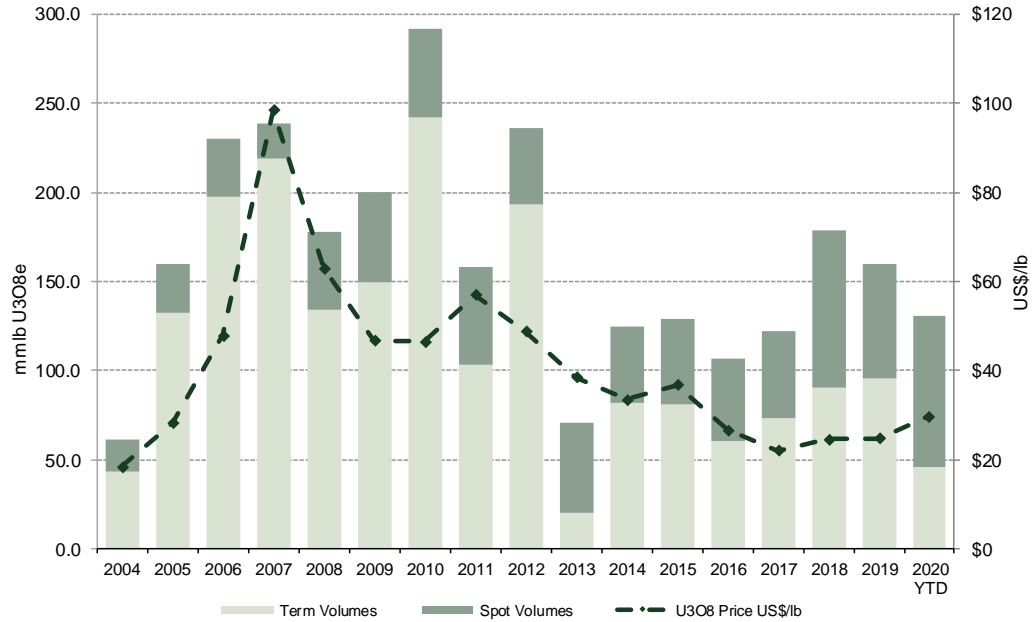
Greg Barnes

Craig Hutchison, P. Eng

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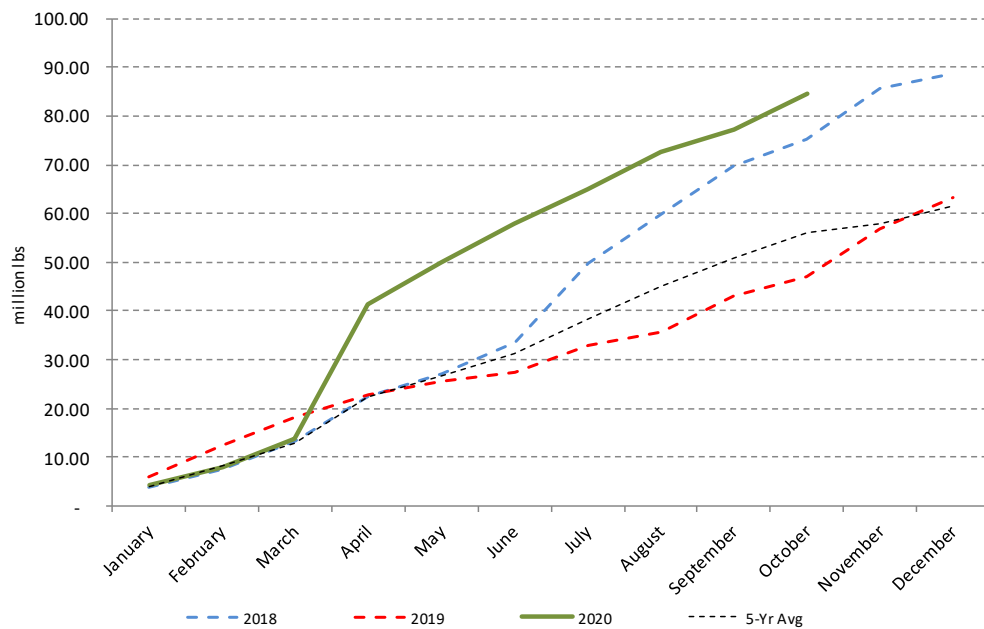
Joel Brown, P.Eng. (Associate)

Exhibit 1. Term Contracting Volumes Lagging in 2020



Source: UxC

Exhibit 2. Historical vs. 2020 Cumulative Monthly Spot Volumes



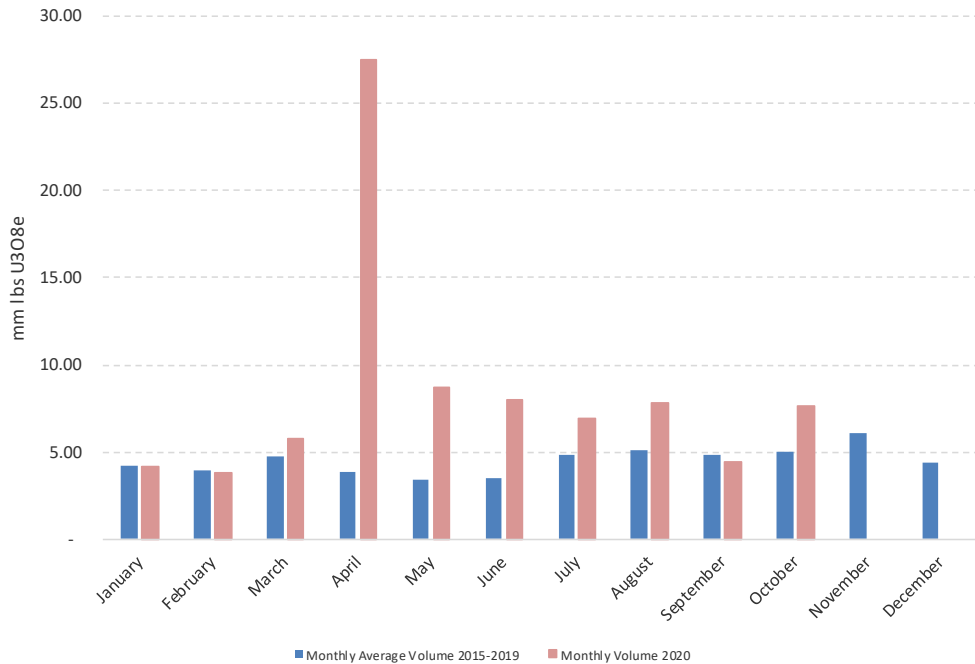
Source: UxC

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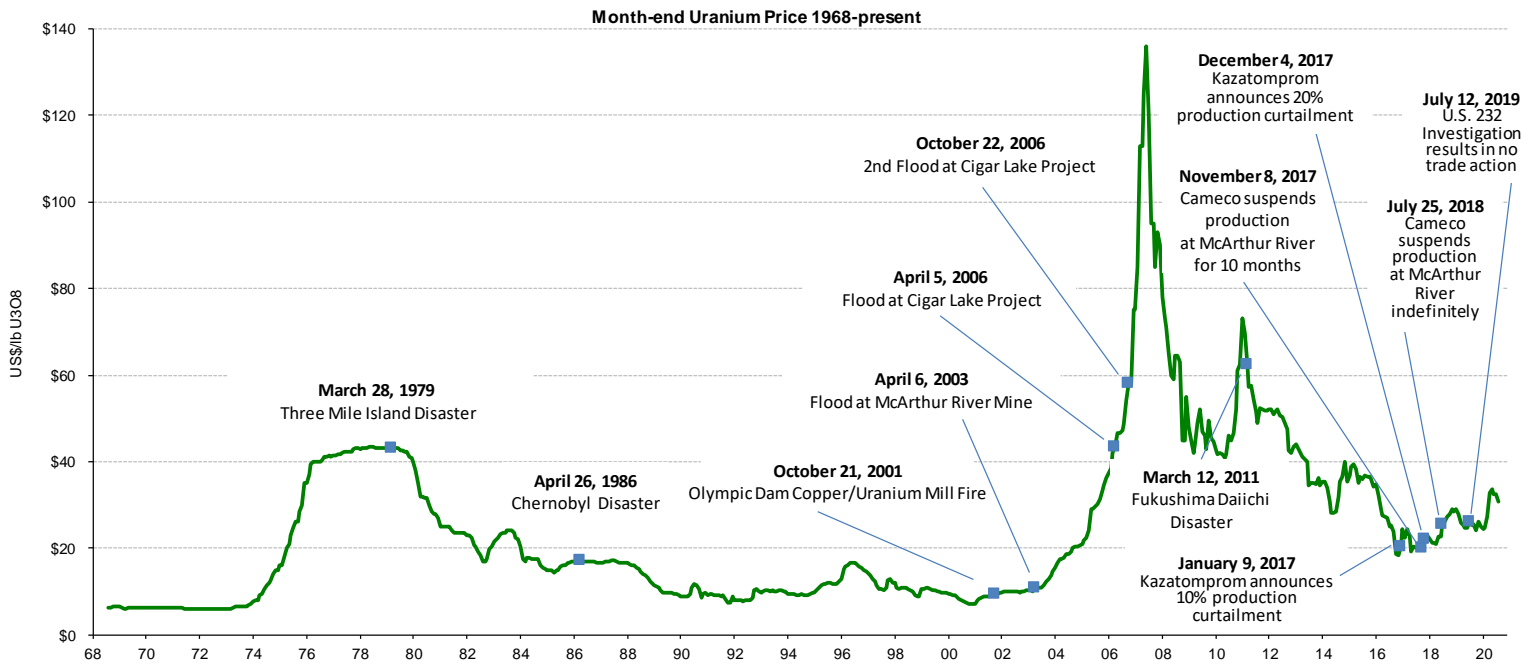
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Exhibit 3. Monthly Average Spot Volumes



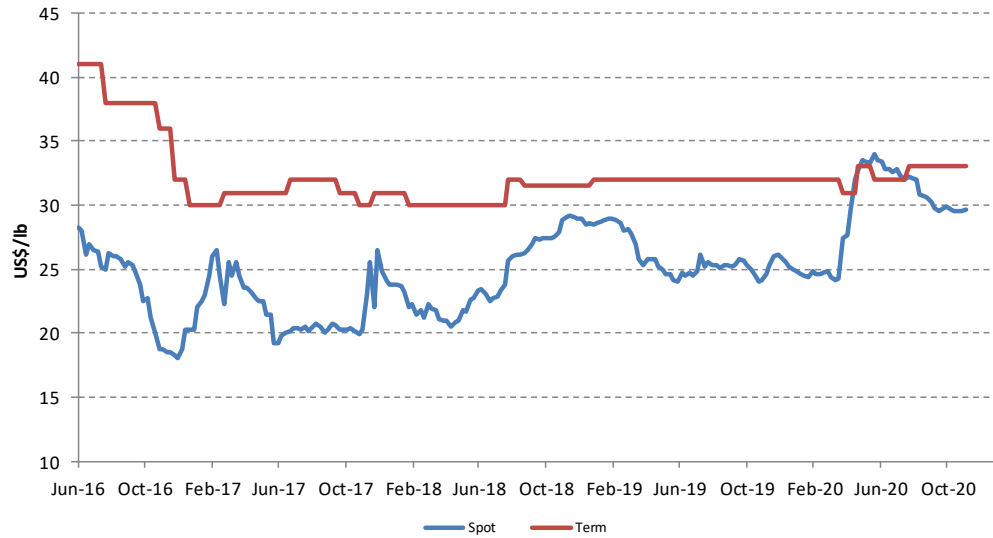
Source: UxC

Exhibit 4. Historical Spot Price and Market Impacting Events (US\$/lb)



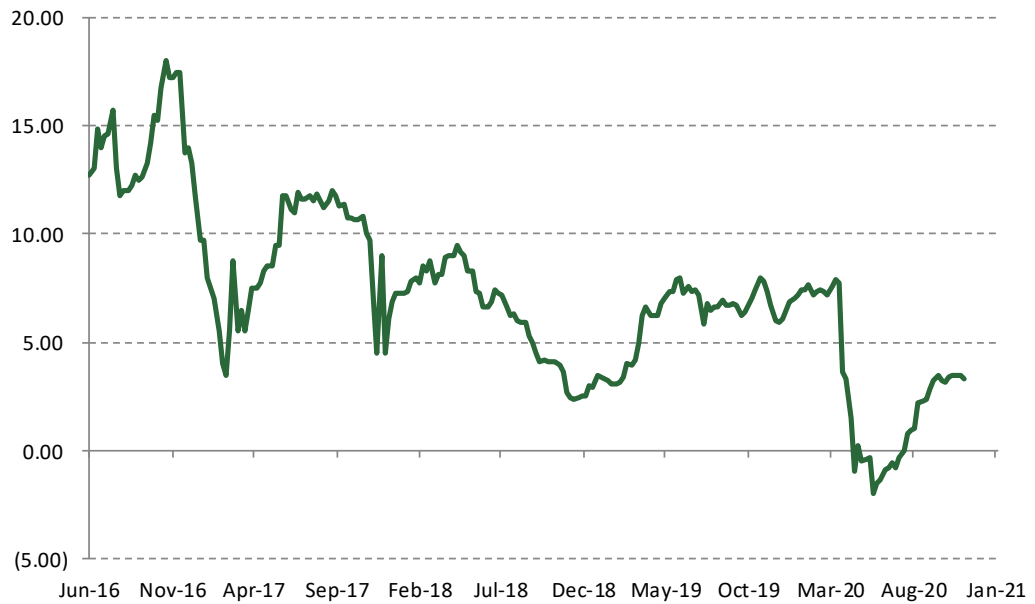
Source: UxC, Companies, TD Securities Inc.

Exhibit 5. Spot and Term Uranium Prices (US\$/lb)



Source: UxC

Exhibit 6. Uranium Term Price Premium to Spot (US\$/lb)



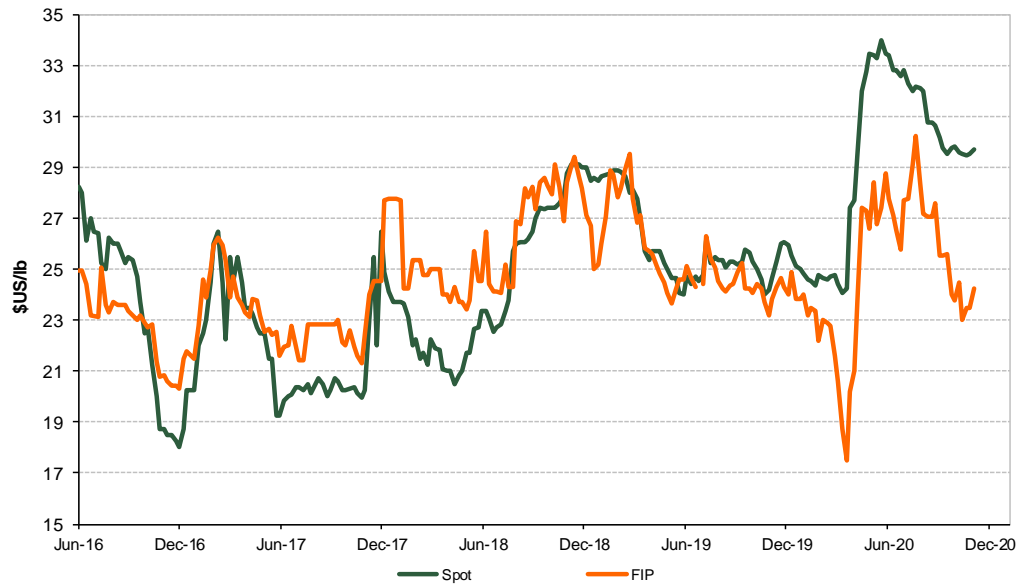
Source: UxC

Exhibit 7. Uranium Prices – Spot, 3yr Fwd and 5yr Fwd



Source: UxC

Exhibit 8. Fund Implied Price (FIP) and Spot Price



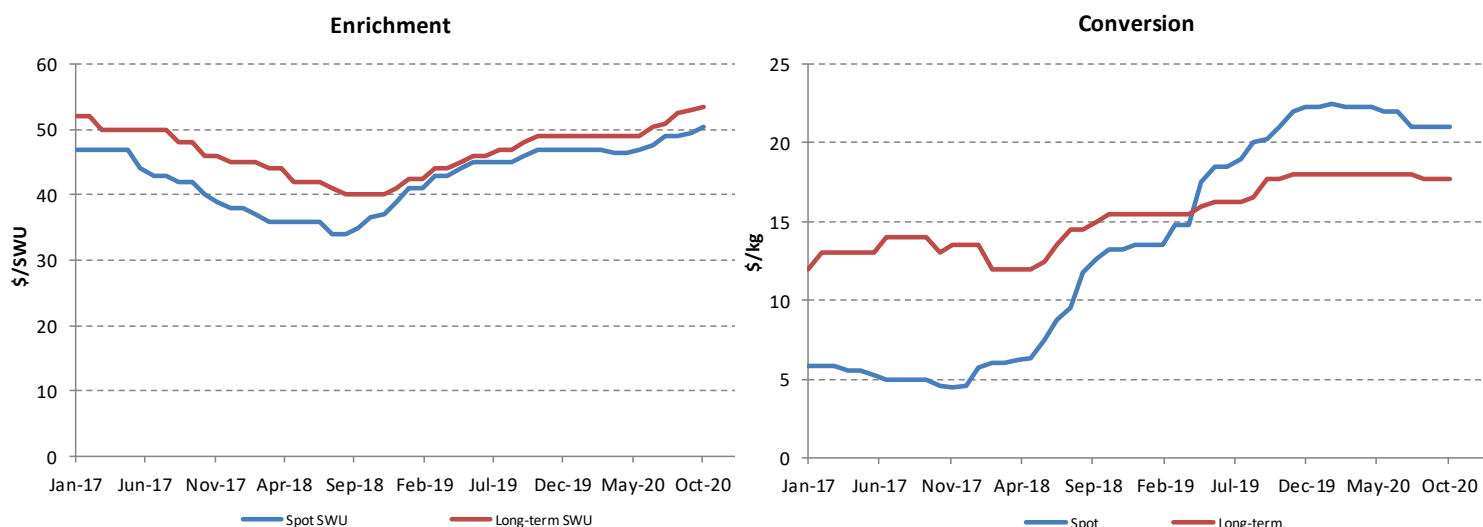
Source: UxC

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Exhibit 9. Monthly SWU and Conversion Pricing



Source: UxC

Exhibit 10. TD Securities Uranium Supply/Demand Model

	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E
Mine Supply - Western World (mm lbs U3O8)										
Total Mine Supply - Western World	106	104	100	83	85	75	81	80	85	88
Net Eastern Mine Supply (lbs U3O8)	57	62	54	54	55	44	49	53	60	66
Total World Mine Supply (mmlb U3O8)	163	166	154	138	140	120	130	132	145	154
YoY % change	12.2%	2.1%	-7.6%	-10.2%	1.7%	-14.7%	8.3%	2.2%	9.1%	6.8%
Secondary Supply										
Global underfeeding and tails re-enrichment*	20	18	19	18	18	16	16	15	15	14
Mixed Oxide Fuel (MOX)*	4	5	5	5	6	6	6	6	6	7
US government sales (DOE Proposed)*	7	4	3	2	2	1	0	0	0	0
Additional Russian secondary supply*	2	2	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0
Total Secondary Supply (mmlb)	34	29	27	24	26	24	22	21	21	21
Secondary supply as % of global reactor demand	21%	17%	16%	14%	15%	13%	12%	12%	12%	11%
Mobilization of Commercial Inventory	8	7	7	7	7	7	7	7	7	7
Total Supply	205	202	187	169	173	150	159	161	173	183
Total World Demand										
Total World Nuclear Generating Capacity (MWe) *	345,377	351,271	358,819	368,571	372,978	374,420	384,508	385,211	389,242	394,906
Uranium requirements per MWe	464	474	472	472	472	472	472	472	472	472
Uranium demand (mmlb)	160	167	169	174	176	177	181	182	184	186
First Core Requirement (2 year lead)	-	-	-	-	-	-	-	-	-	-
Total World Demand (mmlbs U3O8)	160	167	169	174	176	177	181	182	184	186
YoY % change	3.4%	3.9%	1.7%	2.7%	1.2%	0.4%	2.7%	0.2%	1.0%	1.5%
Supply / Demand Balance (mmlb)	44	35	18	-5	-3	-26	-23	-21	-11	-4
Spot Uranium Price (US\$/lb U3O8)	\$36.89	\$26.57	\$22.12	\$24.82	\$25.94	\$30.86	\$36.00	\$37.50	\$40.00	\$40.00

* Source: World Nuclear Association - Nuclear Fuel Report 2019-2040 Reference Case

Note - TD LT price assumption starts in 2025; a flat US\$45/lb price is assumed for 2025 and beyond.

Source: UxC, Bloomberg, World Nuclear Association, TD Securities Inc.



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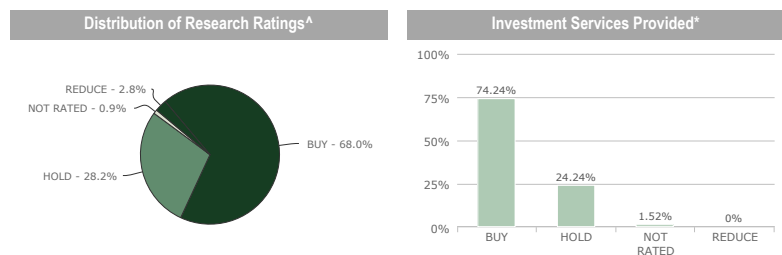
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