

Industry Note

Equity Research

May 28, 2021

Metals & Minerals

Uranium Weekly: U.S. Utilities Hold Comfortable Inventories

The Ux Consulting (UxC) weekly spot price indicator, published earlier this week, rose to US\$31.00/lb (up \$0.45/lb), or +1.5% versus the previous week. Year-to-date, the spot price is up 3.2%. The month-end term price remained at US \$32.50/lb, which is unchanged since late-February.

The US Energy Information Administration (EIA) published its 2020 Uranium Marketing Annual Report late last week, which summarizes annual activity in the domestic uranium market. The report highlights that uranium inventories held by utilities, although down ~5% y/y, remain at comfortable levels at ~107 million pounds, equivalent to ~28 months of requirements (based on UxC forecasts). Although this may be overstated somewhat, given recent expectations that several reactors that were expected to close may find their lives extended. Total commercial inventories (suppliers + utilities) stood at 123.1 million pounds, or slightly below the previous 10-year average of 129.4 million pounds.

Maximum contracted purchases of uranium for the next 10-year period through 2030 are 193.7 million lbs U3O8e, up 7% from 181 million lbs contracted for the 10-year period through 2029 that was reported last year. Cumulative unfilled requirements over the next 10 years total 187.5 million pounds (206.5 million pounds last year). Cumulative unfilled requirements stand well below the peak levels seen in 2005-2007. In 2005, cumulative unfilled requirements stood at ~325 million pounds.

Unfilled requirements for 2021 stood at just 1.0 million lbs at the start of the year. Unfilled requirements for 2022 were reported at 5.75 million pounds and for 2023, unfilled requirements totalled 11.2 million pounds. Unfilled requirements for 2021 are very modest and suggest that there should be limited demand from utilities this year, but that should improve in 2022 and 2023.

Although uranium inventories held by utilities have been declining for several years — U.S. utility uranium inventories in 2020 were down approximately 16% from their peak of 128.0 million pounds U3O8e at the end of 2016 — inventories appear to be at relatively comfortable levels and may explain the lack of urgency by U.S. utilities (as a group) to re-enter the term contracting market. We suspect that we may not see a lot of U.S. utility demand for deliveries in the near term, possibly except for new contracting for far-out requirements and for some spot purchasing in 2022 and 2023 in the mid-term market.

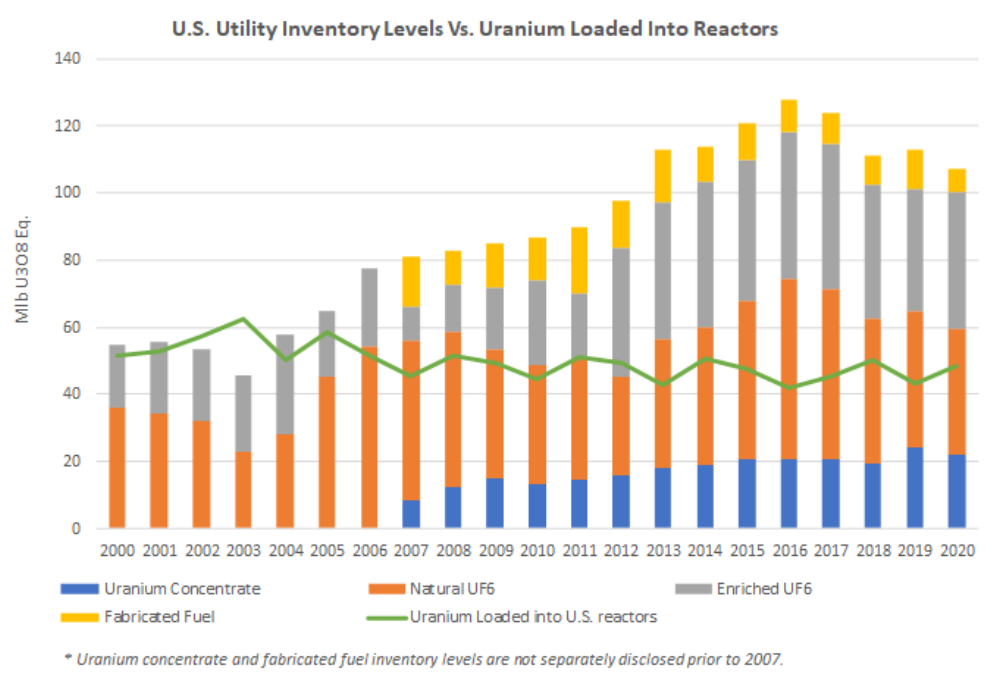
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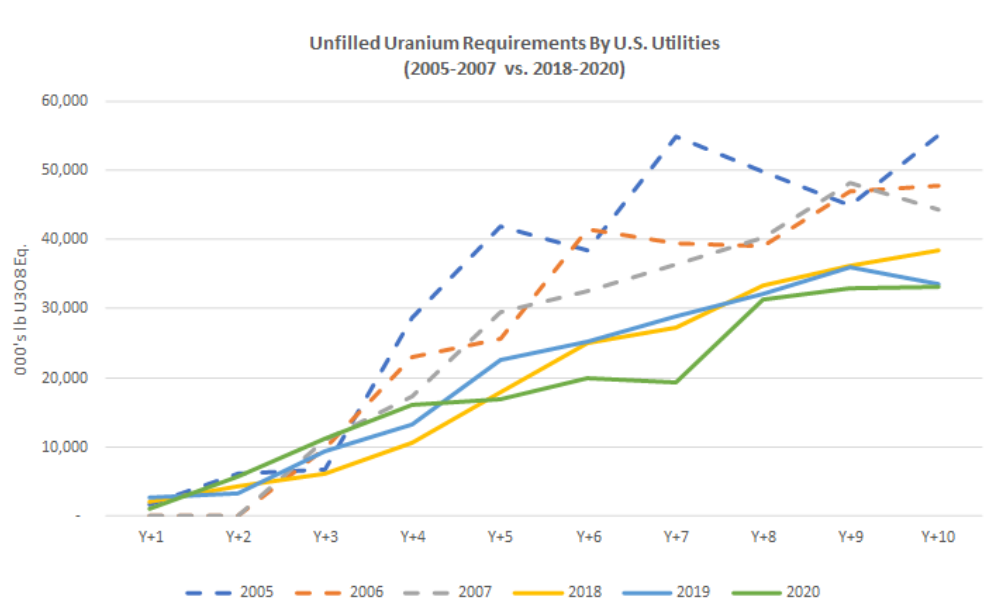
Joel Brown, P.Eng. (Associate)

Exhibit 1. U.S. Utility Inventory Levels vs. Uranium Loaded into Reactors



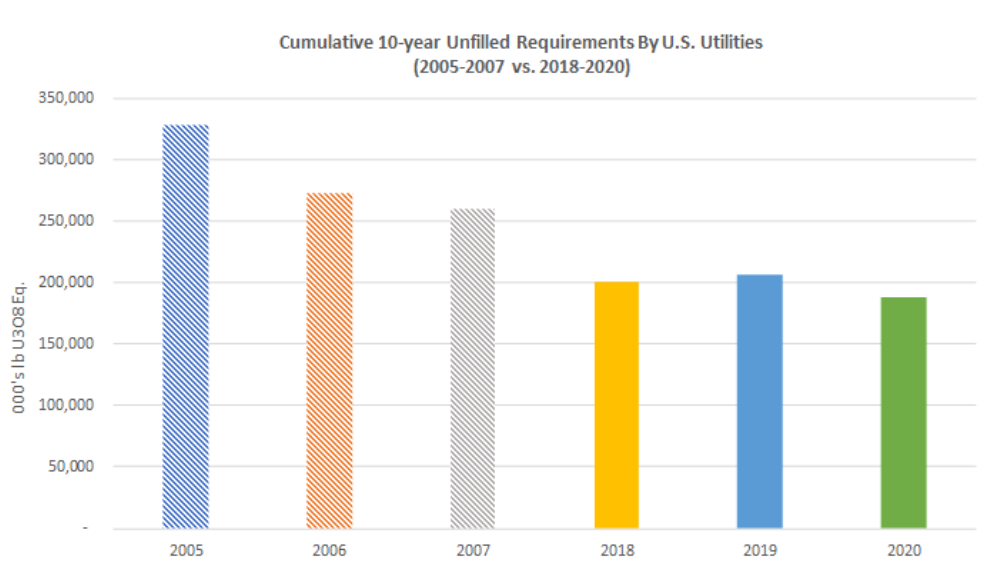
Source: U.S. EIA; TD Securities Inc. estimates

Exhibit 2. Unfilled Uranium Requirements by U.S. Utilities (2005–2007 vs. 2018–2020)



Source: U.S. EIA; TD Securities Inc. estimates

Exhibit 3. Cumulative 10-year Unfilled Uranium Requirements by U.S. Utilities (2005–2007 vs. 2018–2020)



Source: U.S. EIA; TD Securities Inc. estimates

Exhibit 4. Uranium Company Equity Offerings and Uranium Purchases

Company	Date Equity Offering and/or Uranium Purchase		Uranium Purchased or Planned to Purchase (million pounds)	Estimated Average Price of Uranium Purchases (Planned or Actual) (US\$/lb)
	Announced	Equity Offering (US\$ millions)		
Yellow Cake	25-Feb-21	140.0	3.9	28.78
Denison Mines	15-Mar-21	86.3	2.50	29.61
Uranium Energy	17-Mar-21	30.5	1.4	29.00
Boss Energy	29-Mar-21	46.0	1.25	30.15
Uranium Energy	6-Apr-21	12.0	0.705	31.70
Uranium Participation Corp.	3-May-21	58.0	not available	not available
Yellow Cake	11-May-21	n/a	0.343	29.15
Total/Average		372.8	10.098	29.40

Source: Company reports; TD Securities Inc. estimates

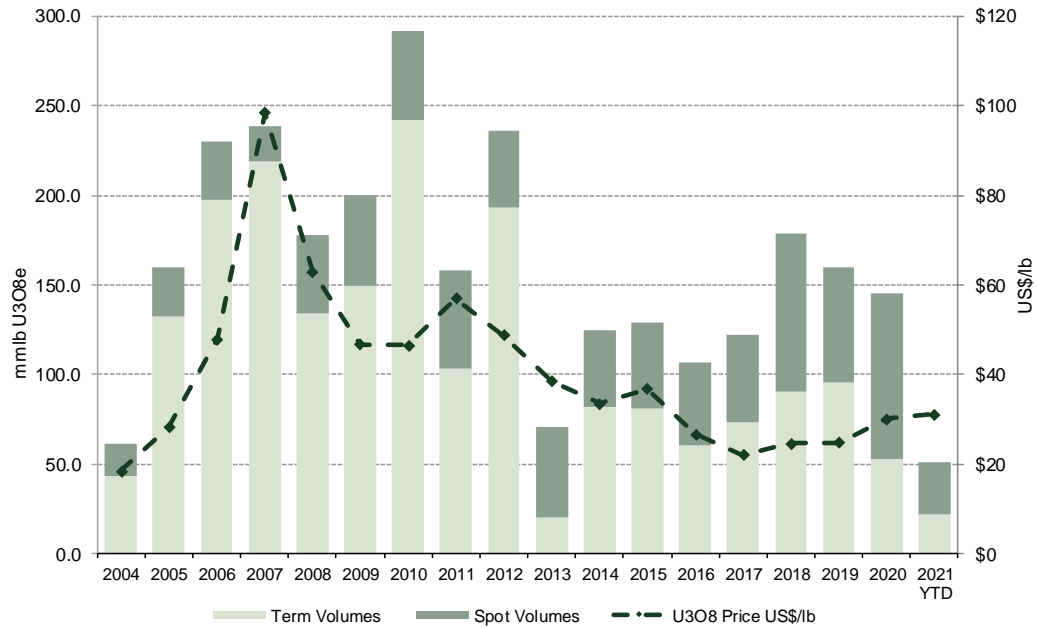


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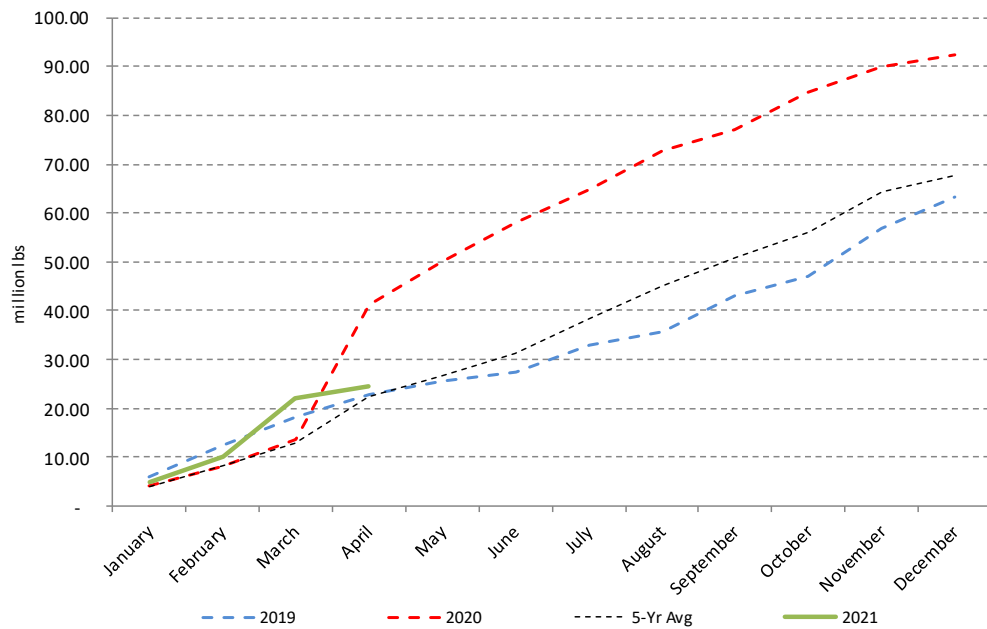
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Exhibit 5. Spot and Term Volumes



Source: UxC, TD Securities Inc. estimates

Exhibit 6. Historical vs. 2021 Cumulative Monthly Spot Volumes



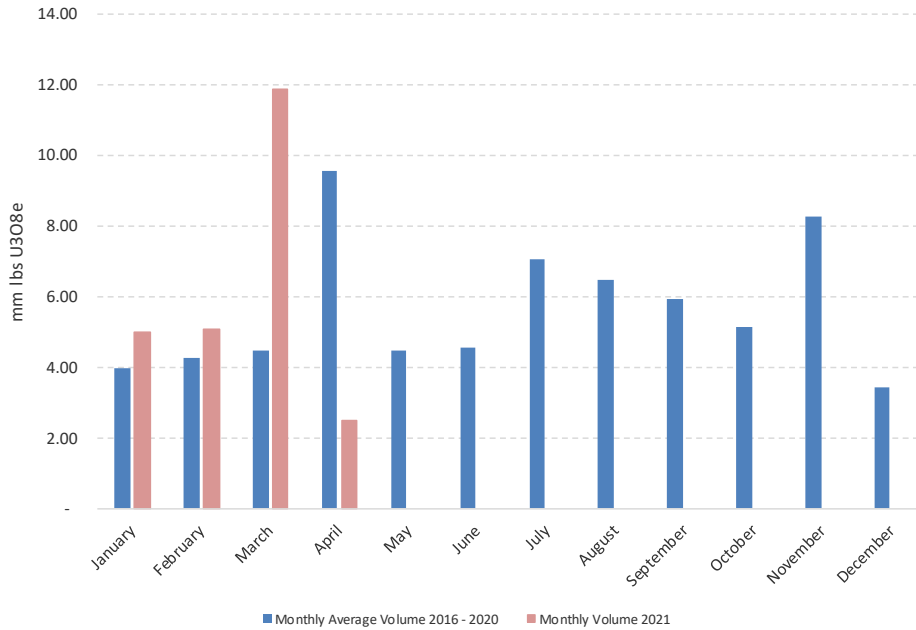
Source: UxC, TD Securities Inc. estimates

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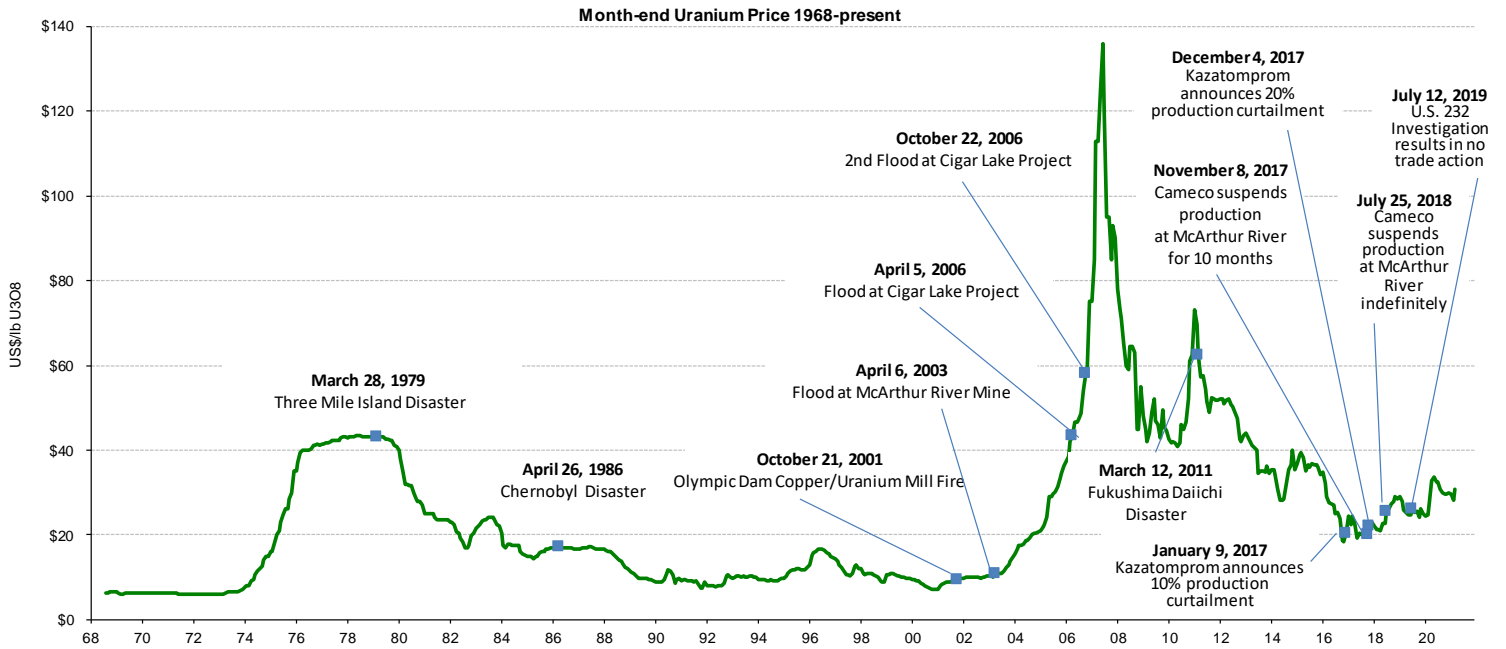
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Exhibit 7. Monthly Average Spot Volumes



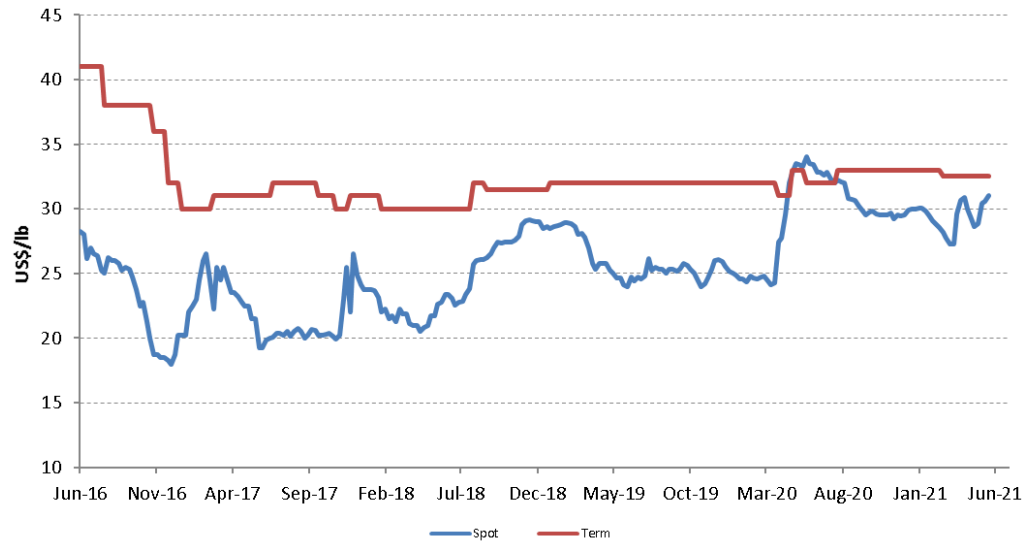
Source: UxC, TD Securities Inc. estimates

Exhibit 8. Historical Spot Price and Market-affecting Events (US\$/lb)



Source: UxC, companies, TD Securities Inc.

Exhibit 9. Spot and Term Uranium Prices (US\$/lb)



Source: UxC, TD Securities Inc. estimates

Exhibit 10. Uranium Term Price Premium to Spot (US\$/lb)



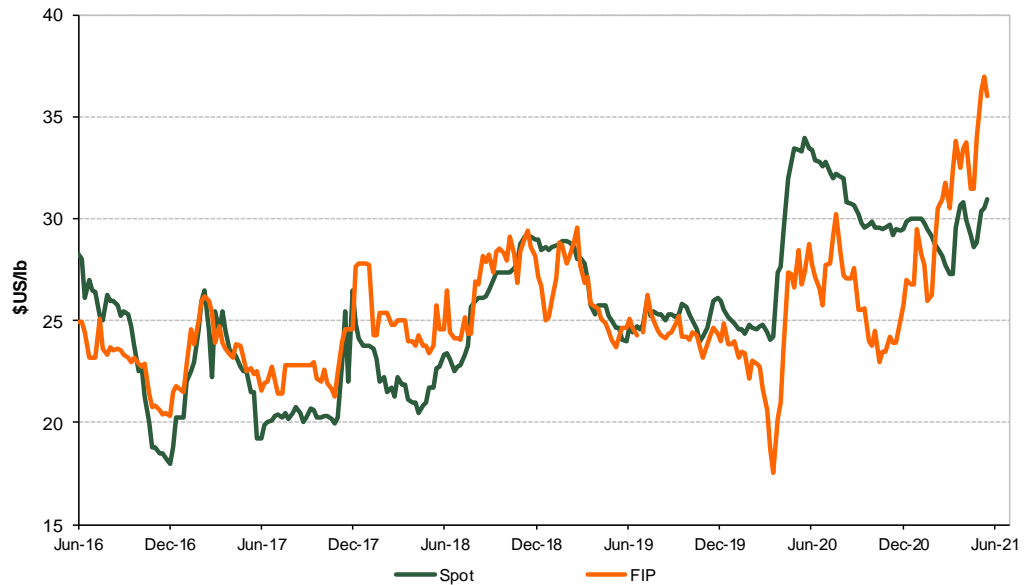
Source: UxC, TD Securities Inc. estimates

Exhibit 11. Uranium Prices — Spot, 3-year Forward and 5-year Forward



Source: UxC

Exhibit 12. Fund Implied Price (FIP) and Spot Price



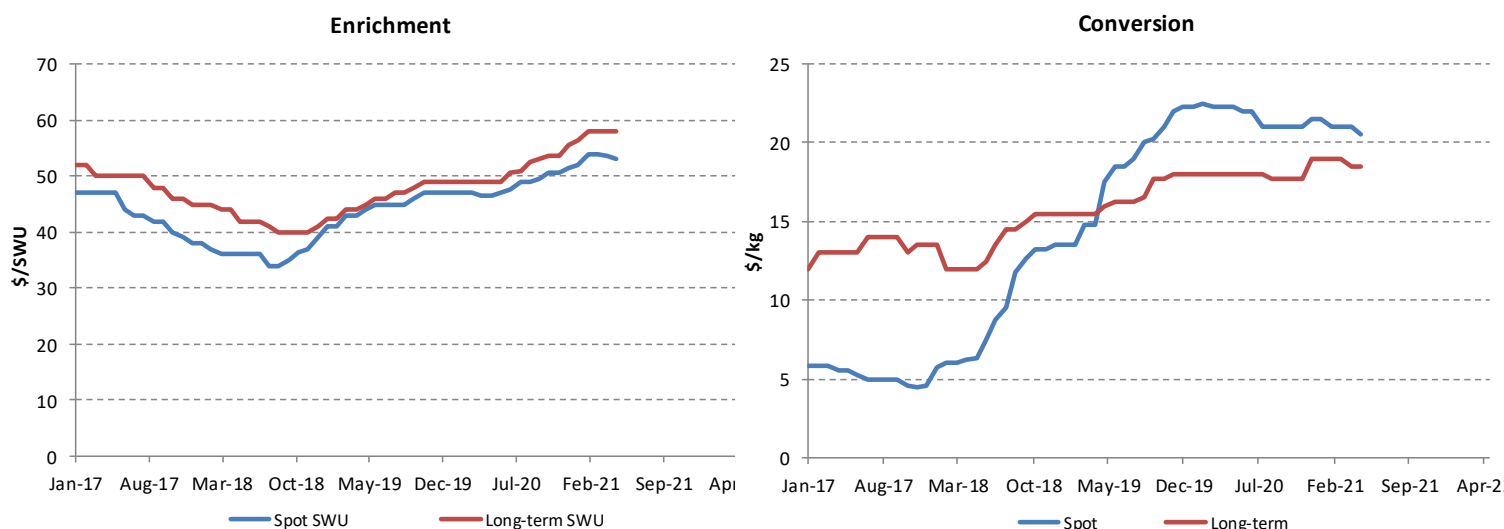
Source: UxC, TD Securities Inc. estimates

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Exhibit 13. Monthly SWU and Conversion Pricing



Source: UxC, TD Securities Inc. estimates

Exhibit 14. TD Securities Uranium Supply/Demand Model

	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E
Mine Supply - Western World (Mib U3O8)									
Total Mine Supply - Western World	100	83	85	81	73	80	85	88	86
Net Eastern Mine Supply (lbs U3O8)	54	54	55	44	52	53	60	66	72
Total World Mine Supply (Mib U3O8)	154	138	140	125	126	132	145	154	158
YoY % change	-7.6%	-10.2%	1.7%	-10.9%	0.7%	5.3%	9.1%	6.8%	2.6%
Secondary Supply									
Global underfeeding and tails re-enrichment*	19	18	18	16	16	15	15	14	14
Mixed Oxide Fuel (MOX)*	5	5	6	6	6	6	6	7	8
US government sales (DOE Proposed)*	3	2	2	1	0	0	0	0	0
Additional Russian secondary supply*	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
Total Secondary Supply (Mib)	27	24	26	24	22	21	21	21	21
Secondary supply as % of global reactor demand	16%	14%	15%	13%	12%	12%	12%	11%	11%
Mobilization of Commercial Inventory	7	7	7	7	7	7	7	7	7
Total Supply	187	169	173	156	155	161	173	183	187
Total World Demand									
Total World Nuclear Generating Capacity (MWe) *	358,819	368,571	372,978	374,420	384,508	385,211	389,242	394,906	398,885
Uranium requirements per MWe	472	472	472	472	472	472	472	472	472
Uranium demand (mmlb)	169	174	176	177	181	182	184	186	188
First Core Requirement (2 year lead)	-	-	-	-	-	-	-	-	-
Total World Demand (Mib U3O8)	169	174	176	177	181	182	184	186	188
YoY % change	1.7%	2.7%	1.2%	0.4%	2.7%	0.2%	1.0%	1.5%	1.0%
Supply / Demand Balance (Mib)	18	-5	-3	-21	-27	-21	-11	-4	-2
Spot Uranium Price (US\$/lb U3O8)	\$22.12	\$24.82	\$25.94	\$29.52	\$32.99	\$36.00	\$38.00	\$40.00	\$45.00

* 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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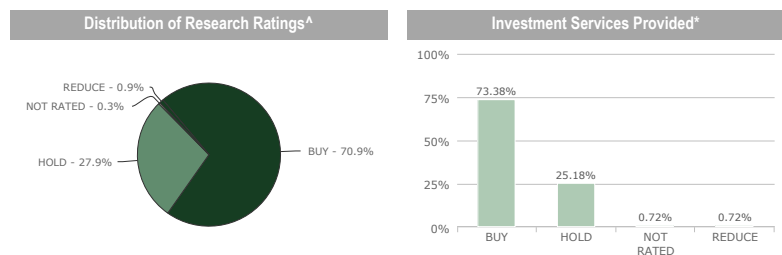
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