

Industry Note

Equity Research

November 2, 2021

Metals & Minerals

Uranium Weekly: Spot Volume Turbo-Charged by Fund Buying *Cameco Sees Term Contracting Cycle in Early Innings*

The Ux Consulting (UxC) weekly spot price indicator, published earlier this week, declined to US\$42.75/lb (down \$4.65/lb), -9.8% versus the previous week. During October, 11.7mm pounds of U3O8 was transacted in the spot market under 76 transactions for the highest monthly volume for October we have on record dating back to 2011. Year-to-date, total spot market volume of 86.5 million pounds now exceeds the level reached over the same period in 2020. Total spot market volume in 2020 was 92.3 million pounds, the highest volume we have on record dating back to 2004.

Through late-October this year, more than an estimated US\$2 billion has been announced for uranium purchases via junior uranium companies and financial funds including the Sprott Physical Uranium Trust. We estimate that ~35mmlbs U3O8 have been purchased with the proceeds, predominantly in the spot market.

During its Q3/21 quarterly conference call, Cameco management noted that its discussions with utilities continue on an off-market basis for additional term contracts. The contract discussion pipeline remains highly active, with contract terms under discussion for delivery of material starting within the next several years and stretching out as far as 20 years into the future. Management also noted that it is seeing a slight preference from utilities seeking market-related pricing. Management characterized the uranium contracting being only in the "early innings" of the cycle. Term contracting remains well below replacement rate levels (e.g. equivalent to annual consumption of ~180mmlbs).

So far in 2021, ~59mmlbs of term contracting activity has been completed. Over the past decade, ~1.6bln pounds of uranium have been consumed by utilities, whereas only ~800mmlbs has been placed under long-term contracts. Cameco management continues to expect that the coming contracting cycle will follow previous cycles and evolve into a full-blown security-of-supply contracting cycle that will see utilities competing for material (e.g. a demand-driven cycle). The most recent peak in annual term contracting volumes was ~242mm lbs in 2010. In 2020, only 53mm lbs was placed under term contracts, the lowest annual volume we have in record dating back to 2004.

While still relatively early, we believe that a uranium contracting cycle appears to be underway with fund buying pushing utilities into the term market. Increasing price volatility, tightening supply in the spot market, and an increasing realization that longer term supply is under threat following a decade-long bear market, are all contributing to nuclear utilities becoming more concerned about security of supply. We expect continued upward pressure on spot and term uranium prices in the coming months.

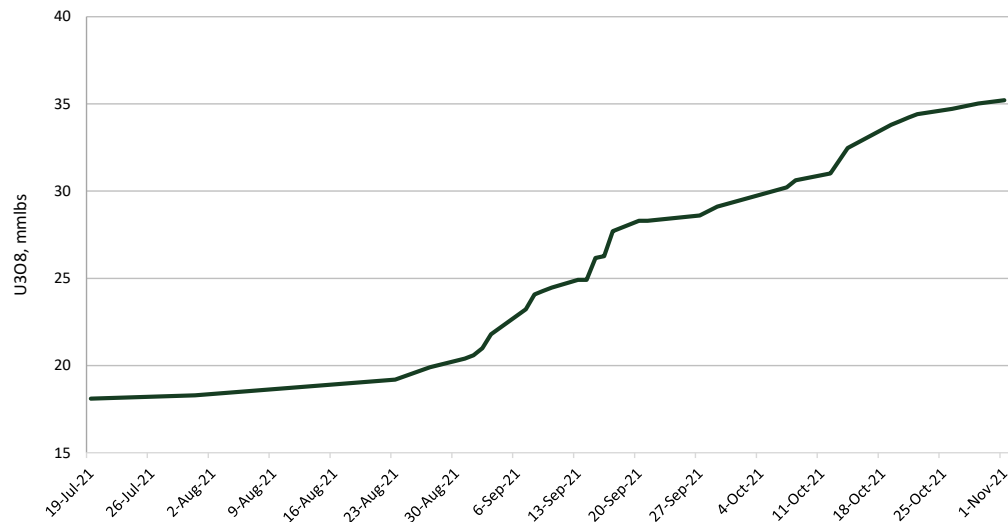
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Exhibit 1. Sprott Physical Uranium Trust – Uranium Holdings Since Inception (July 19, 2021)



Source: Sprott Physical Uranium Trust; TD Securities estimates

Exhibit 2. Sprott Physical Uranium Trust – Share Price Premium to NAV



Inception date: July 19, 2021.

Source: Sprott Physical Uranium Trust

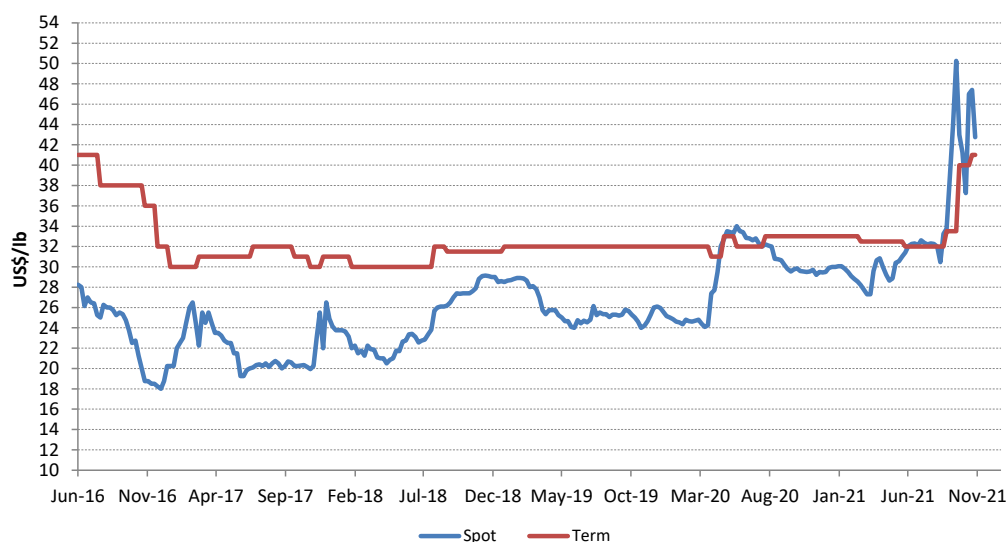
Exhibit 3. Uranium company equity offerings and uranium purchases (excluding Sprott Physical Uranium Trust)

Company	Date Equity Offering and/or Uranium Purchase Announced	Equity Offering (US\$ millions)	Uranium Purchased or Planned to Purchase (million pounds)	Estimated Average Price of Uranium Purchases (Planned or Actual) (US\$/lb)
Yellow Cake	25-Feb-21	140.0	3.90	28.78
Denison Mines	15-Mar-21	86.3	2.50	29.61
Uranium Energy	17-Mar-21	30.5	1.40	29.00
Boss Energy	29-Mar-21	46.0	1.25	30.15
Uranium Energy	6-Apr-21	12.0	0.71	31.70
Uranium Participation Corp. ¹	3-May-21	66.4	1.78	30.50
Uranium Energy	20-May-21	n/a	0.20	30.00
Yellow Cake	11-May-21	n/a	0.34	29.15
Western Uranium & Vanadium	2-Jun-21	n/a	0.13	31.50
Yellow Cake	16-Jun-21	88.0	2.00	32.23
Uranium Royalty Corp.	15-Sep-21	n/a	0.30	38.17
Uranium Royalty Corp.	19-Oct-21	n/a	0.40	45.00
Yellow Cake	26-Oct-21	150.0	3.00	46.74
Total/Average		619.2	17.90	33.25

1. TD estimate for pounds purchased and average price

Source: Company reports; TD Securities estimates

Exhibit 4. Spot and Term Uranium Prices (US\$/lb)



Source: UxC; TD Securities estimates

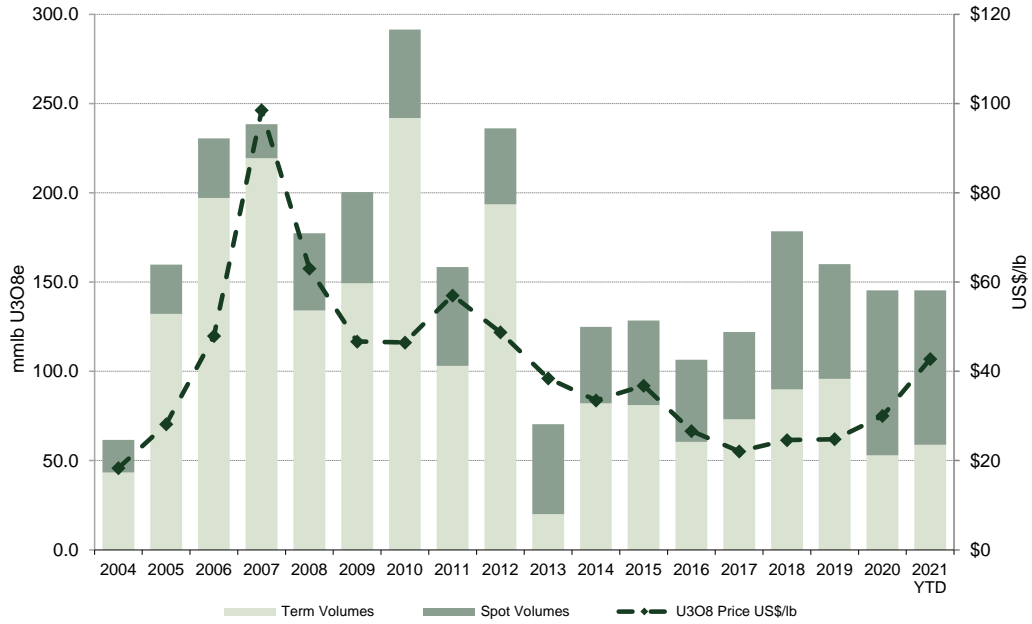


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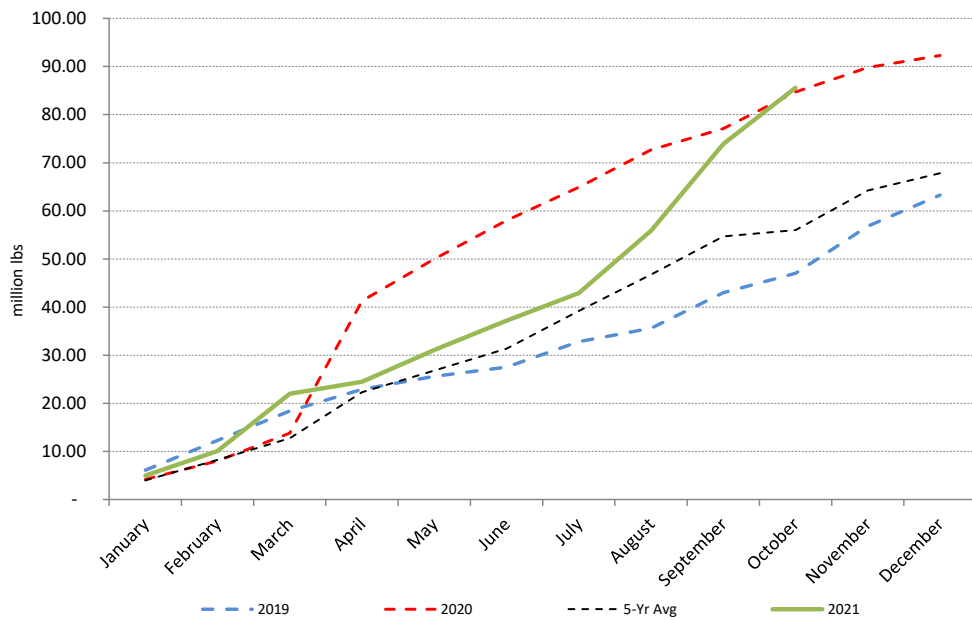
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Exhibit 5. Spot and Term Volumes



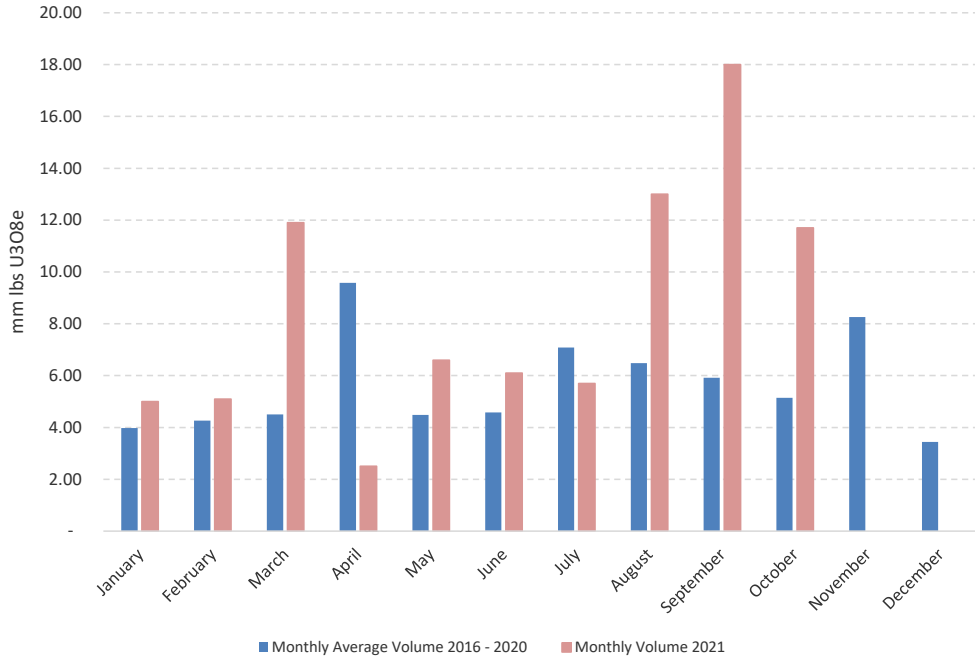
Source: UxC; TD Securities estimates

Exhibit 6. Historical vs. 2021 Cumulative Monthly Spot Volumes



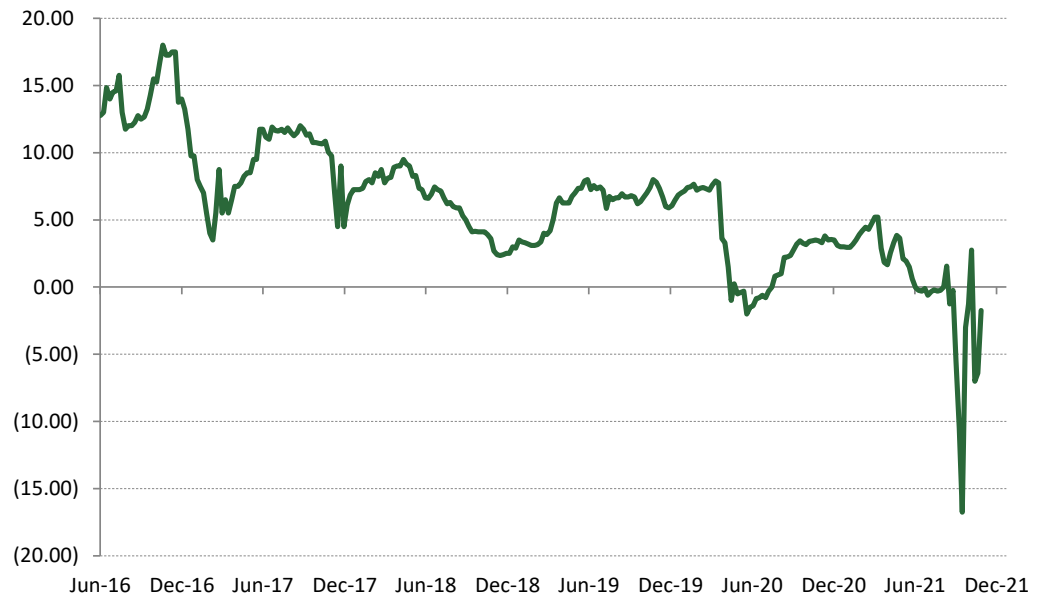
Source: UxC; TD Securities estimates

Exhibit 7. Monthly Average Spot Volumes



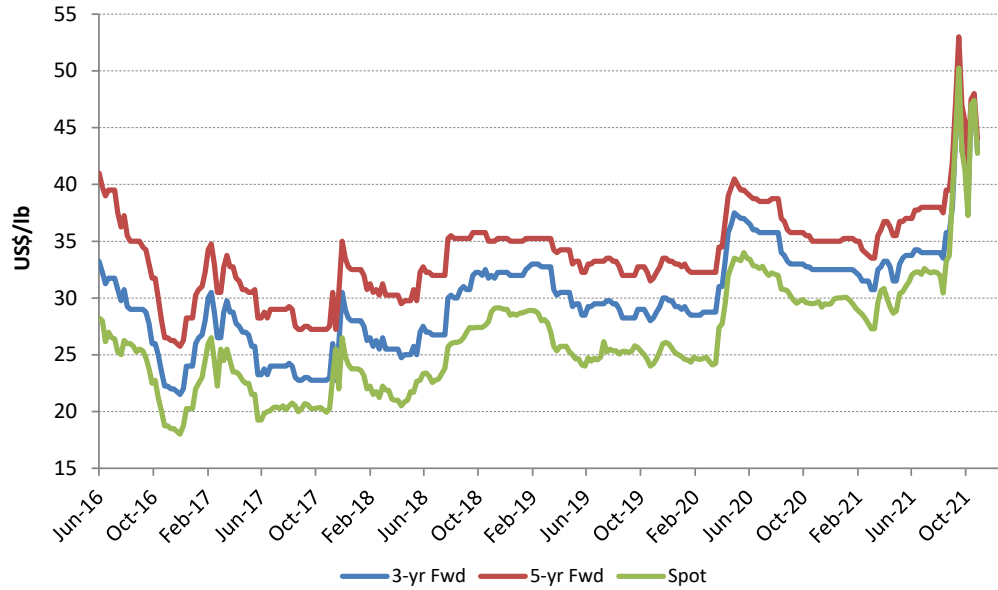
Source: UxC; TD Securities estimates

Exhibit 8. Uranium Term Price Premium to Spot (US\$/lb)



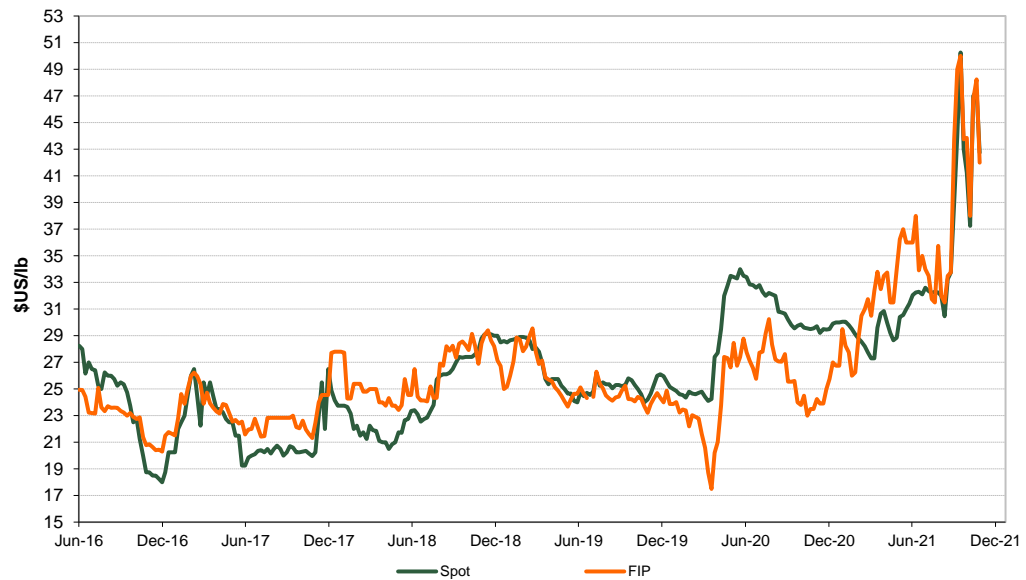
Source: UxC; TD Securities estimates

Exhibit 9. Uranium Prices – Spot, 3yr Fwd, and 5yr Fwd



Source: UxC

Exhibit 10. Fund Implied Price (FIP) and Spot Price



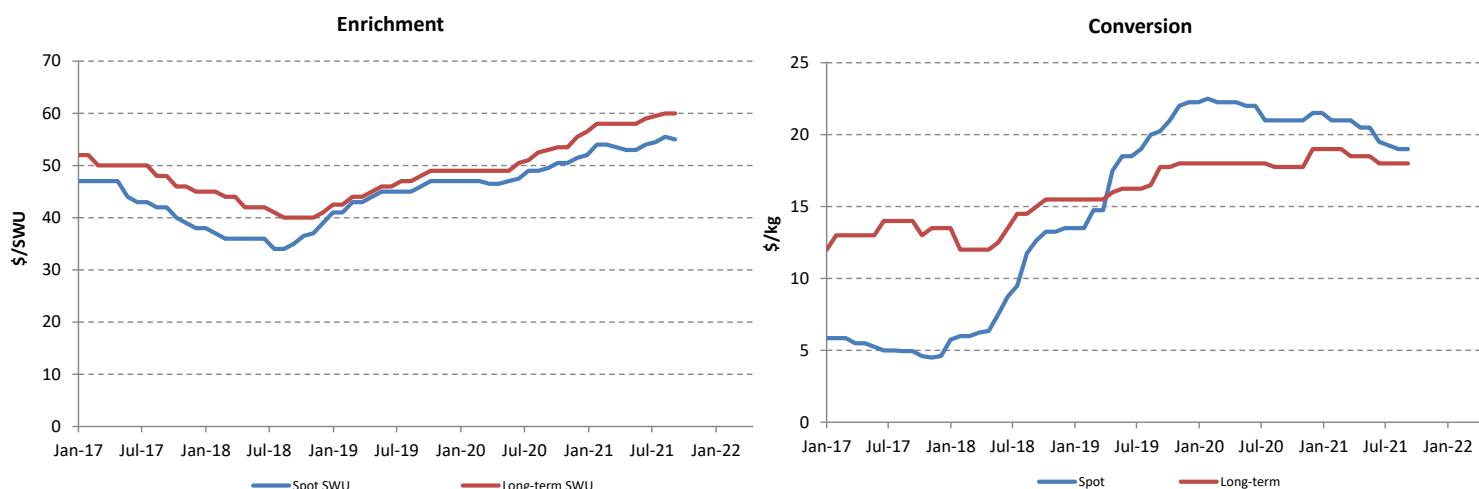
Source: UxC; TD Securities estimates

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Exhibit 11. Monthly SWU and Conversion Pricing



Source: UxC; TD Securities estimates

Exhibit 12. 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	75	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	127	132	145	154	158
YoY % change	-7.6%	-10.2%	1.7%	-10.9%	1.9%	4.0%	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	156	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	-25	-21	-11	-4	-2
Spot Uranium Price (US\$/lb U3O8)	\$22.12	\$24.82	\$25.94	\$29.52	\$35.24	\$50.00	\$55.00	\$55.00	\$55.00

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



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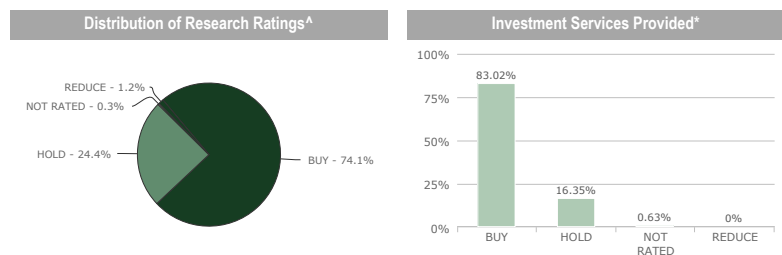
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