

# Industry Note

Equity Research

September 23, 2020

Metals &amp; Minerals

## Uranium Weekly: Russian Suspension Agreement Extension

*Over the long-term, Russian deliveries into the US will decline*

*Short term urgency lower by grandfathering of existing contracts*

The uranium spot price indicator, as published by UxC on Monday evening, was reported at US\$29.55/lb (down from US\$29.80/lb the week prior).

On September 11, the U.S. Department of Commerce (DOC) and the Russian atomic energy corporation (Rosatom) initialed a draft amendment to the Russian Suspension Agreement (RSA) that, once finalized, will govern imports of Russian nuclear fuel into the U.S. for the next 20 years. The current RSA will expire at the end of 2020. Under the proposed new terms, over time, the quota limiting fuel imports to 20% of annual U.S. requirements will decline from 20% (through 2027) to 15% over the balance of the term to 2040. However, there are higher quotas for 2021 and 2023 (24% vs. the current 20%) that are believed to reflect contracts that have already been signed.

**Under the RSA amendment, there will also be new rules that govern the return of natural UF<sub>6</sub> feed to Russia from U.S. utilities.** If this material is enriched or sold in third-party countries, it will be deemed to be of Russian-origin and therefore subject to the RSA quotas if exported back to the U.S. Additionally, the amended agreement would allow only a portion of the export quota to be used for the sale of the natural uranium components (concentrates and conversion) from Russia. On average, this portion will be equivalent to approximately 7% of U.S. enrichment demand, and no higher than 5% starting in 2026. While this provision should reduce the amount of Russian-sourced feed that finds its way into the U.S. market (via secondary feed supply), it could result in increased volumes of Russian material being available in other markets.

**In our view, the amendments to the RSA should result in U.S. utilities needing to purchase increased volumes of nuclear fuel from non-Russian suppliers over time.** The restrictions on the supply of Russian-origin secondary feed into the U.S. market, via the import quota limits, should also positively impact U.S. utility purchase decisions for non-Russian suppliers. However, over the near-term, the increased quota limits for 2021 and 2023 suggest that some of the urgency that utilities may have felt to replace Russian-source material between now and 2024 has been deferred. Over medium term, we expect that lifting the uncertainty surrounding the terms and extension of the RSA, should allow U.S. utilities (and non-U.S. utilities) to re-enter the term market with an improved understanding on longer-term market dynamics.

**With several trade issues (the Section 232 investigation, President Trump's Nuclear Fuel Working Group report, and the RSA amendment) resolved or close to being resolved, uranium market transparency is improving for both buyers and sellers and that should result in improving volumes, particularly, in our view, in the term market.**

Greg Barnes

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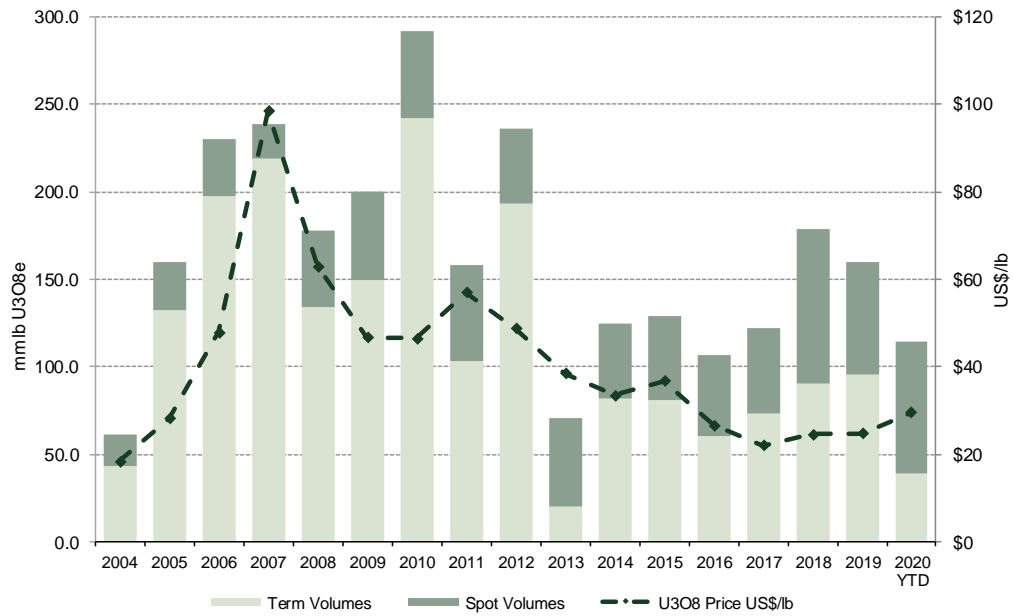


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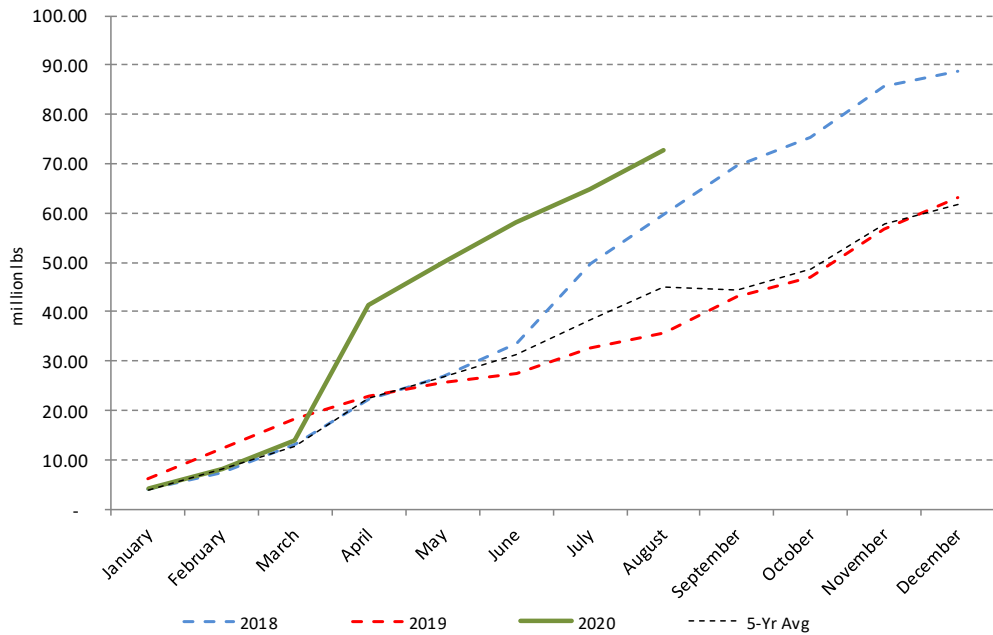
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**Exhibit 1. Annual Spot and Term Volumes**



Source: UxC

**Exhibit 2. Historical vs. 2020 Cumulative Monthly Spot Volumes**



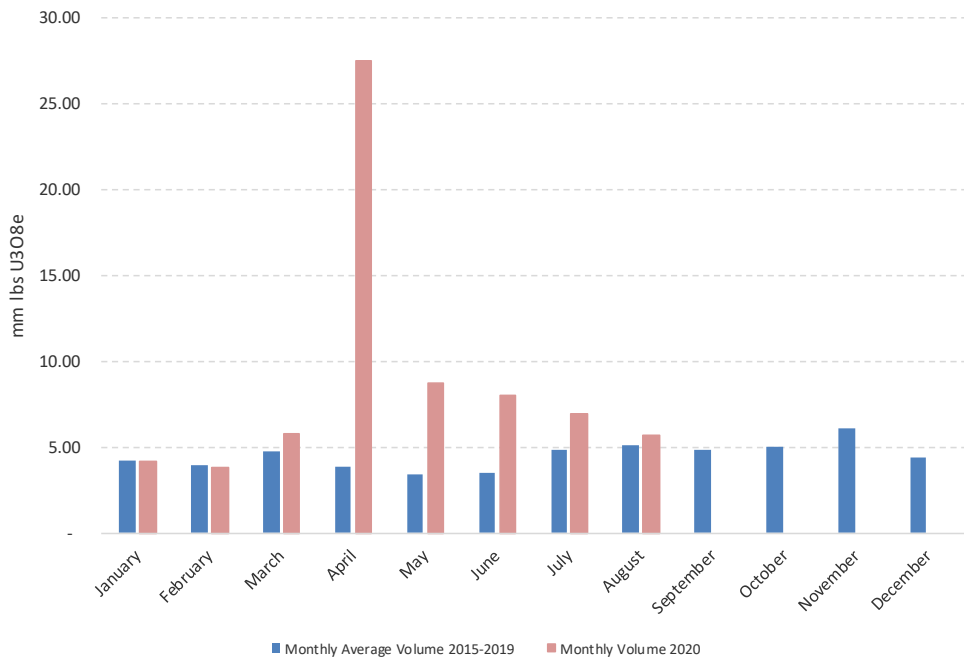
Source: UxC

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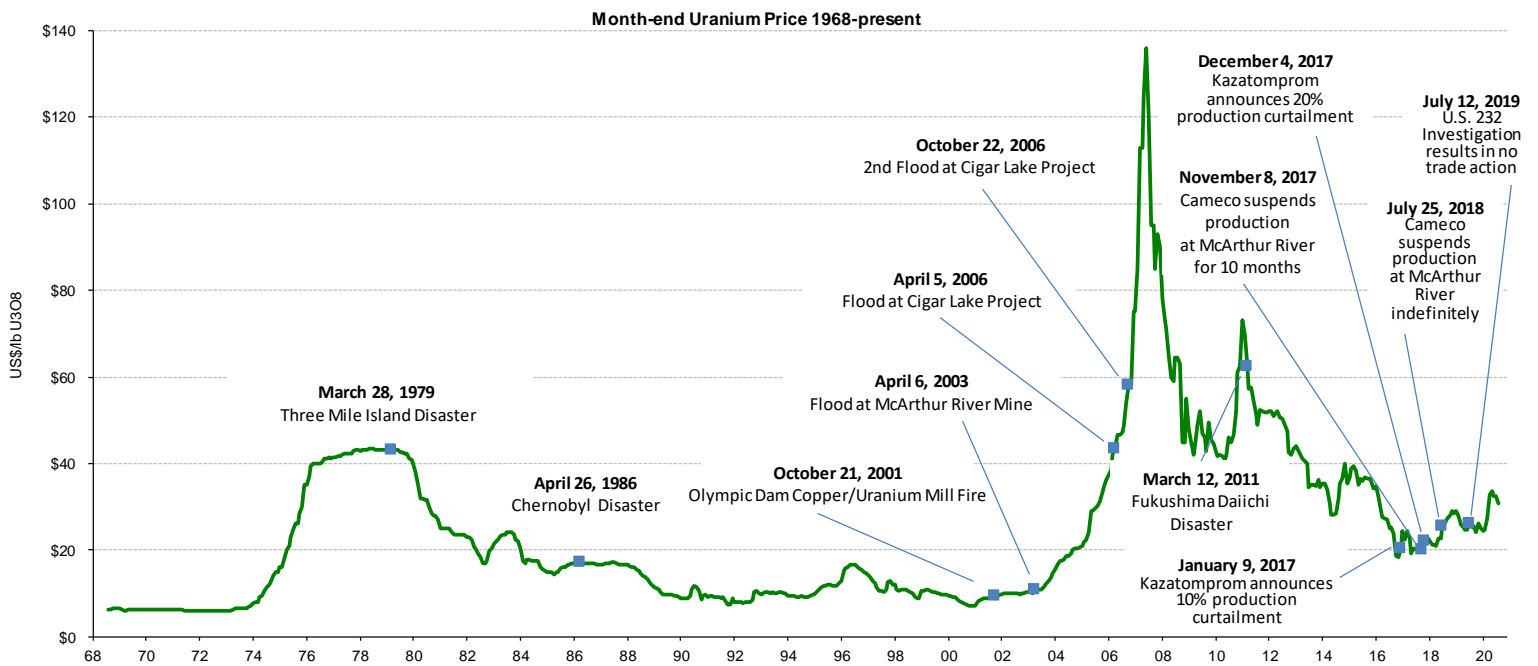
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**Exhibit 3. Monthly Average Spot Volumes**



Source: UxC

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



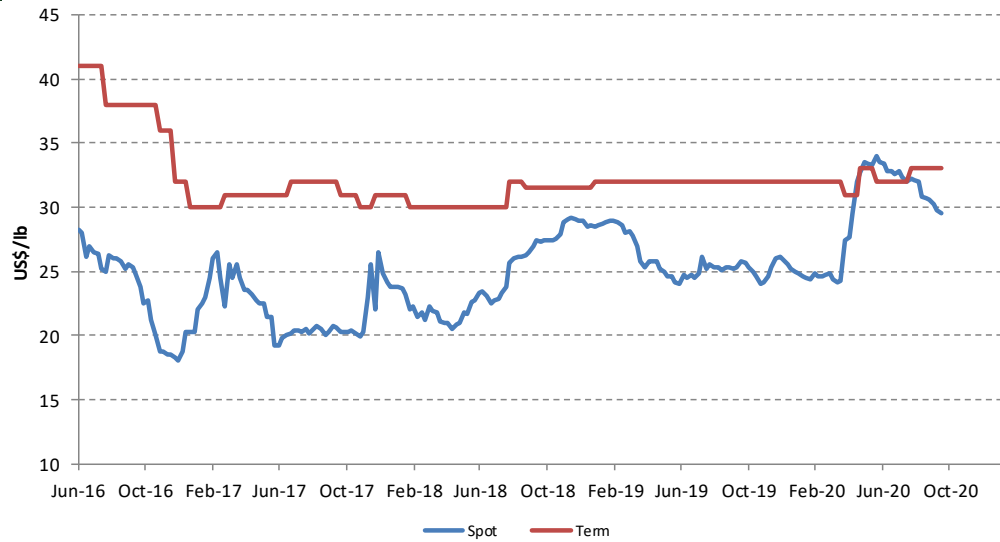
Source: UxC, Companies, TD Securities Inc.

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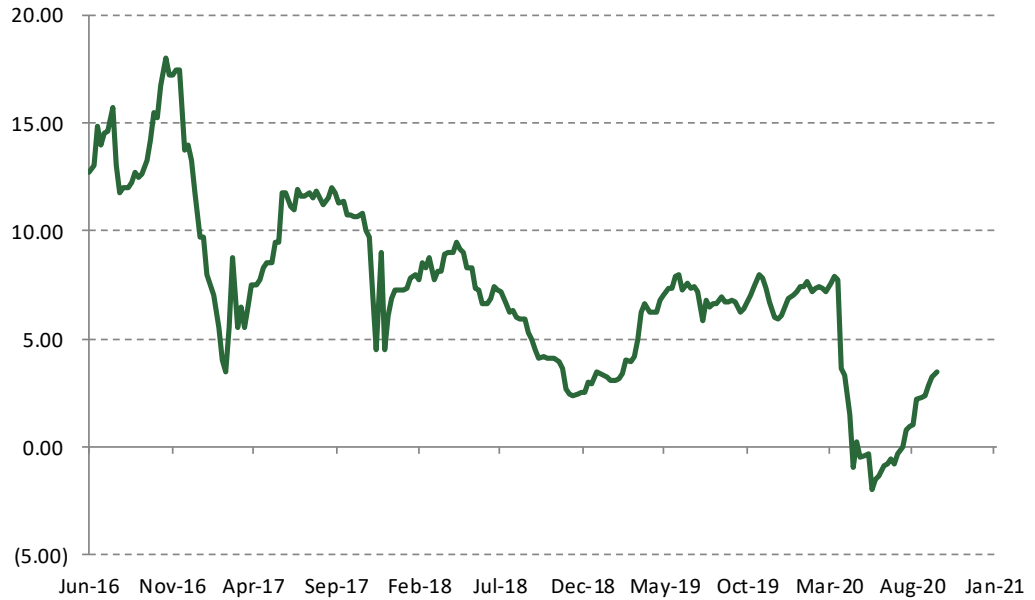
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**Exhibit 5. Spot and Term Uranium Prices (US\$/lb)**



Source: UxC

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



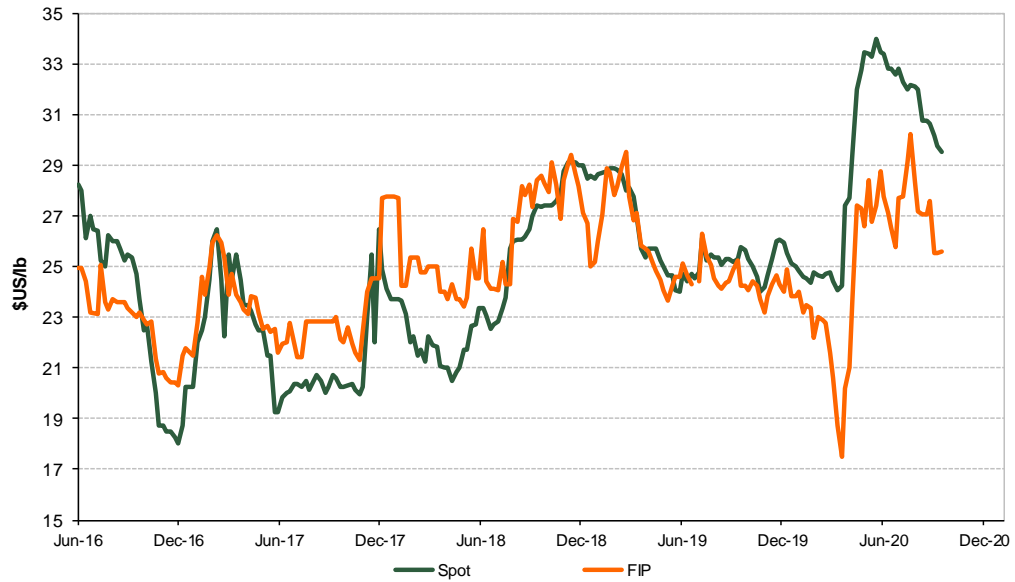
Source: UxC

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



Source: UxC

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



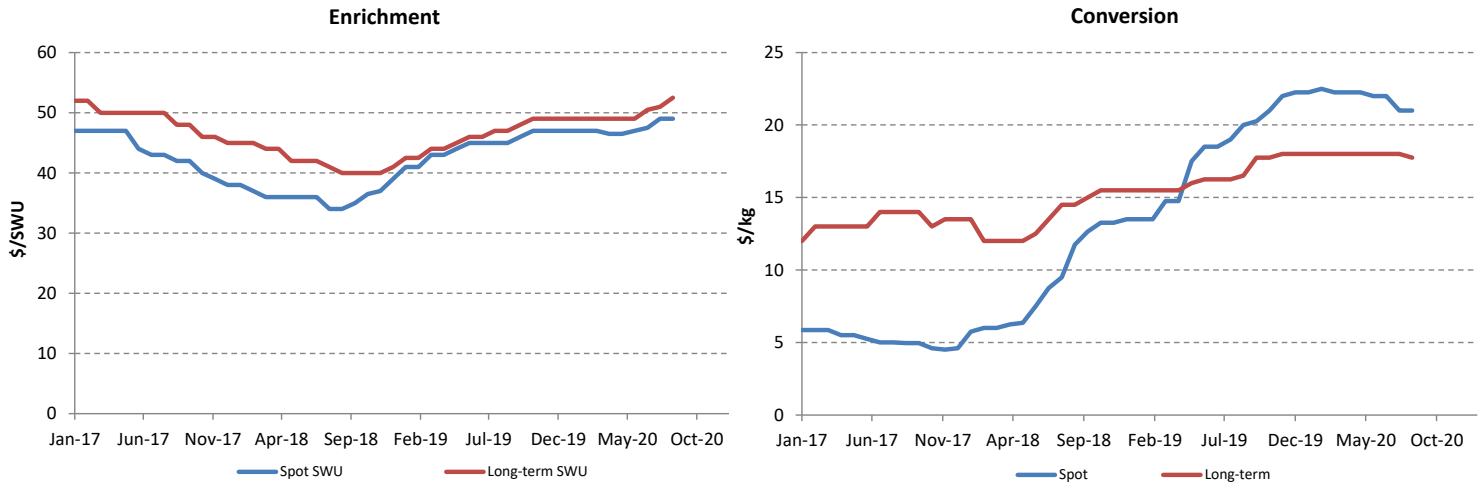
Source: UxC

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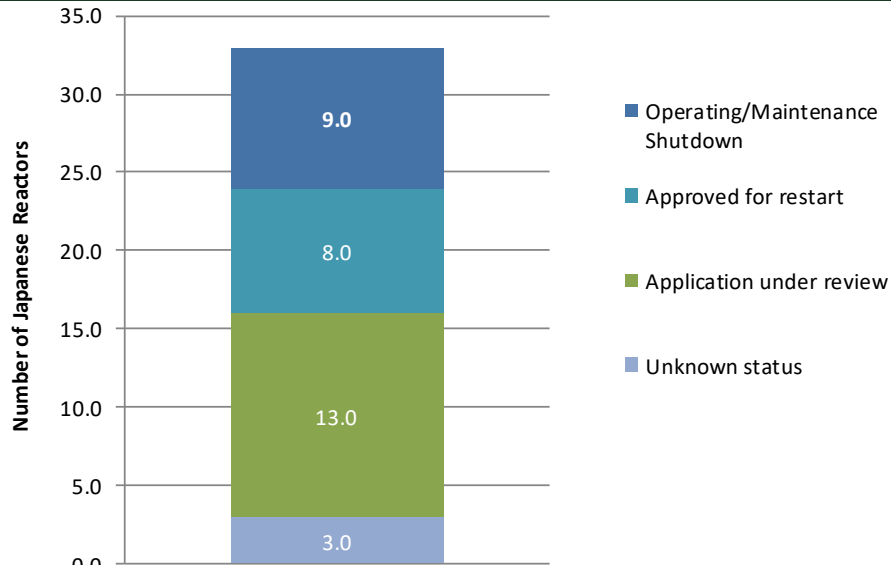
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**Exhibit 9. Monthly SWU and Conversion Pricing**



Source: UxC

**Exhibit 10. Japanese Reactor Status**



Source: UxC, Bloomberg, World Nuclear Association

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## Exhibit 11. TD Securities Uranium Supply/Demand Model

	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E
<b>Mine Supply - Western World (mm lbs U3O8)</b>										
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	60	60	66
<b>Total World Mine Supply (mmlb U3O8)</b>	<b>163</b>	<b>166</b>	<b>154</b>	<b>138</b>	<b>140</b>	<b>120</b>	<b>130</b>	<b>140</b>	<b>145</b>	<b>154</b>
YoY % change	12.2%	2.1%	-7.6%	-10.2%	1.7%	-14.7%	8.3%	7.8%	3.5%	6.8%
<b>Secondary Supply</b>										
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
<b>Total Secondary Supply (mmlb)</b>	<b>34</b>	<b>29</b>	<b>27</b>	<b>24</b>	<b>26</b>	<b>24</b>	<b>22</b>	<b>21</b>	<b>21</b>	<b>21</b>
Secondary supply as % of global reactor demand	21%	17%	16%	14%	15%	13%	12%	12%	12%	11%
<b>Mobilization of Commercial Inventory</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>Total Supply</b>	<b>205</b>	<b>202</b>	<b>187</b>	<b>169</b>	<b>173</b>	<b>150</b>	<b>159</b>	<b>168</b>	<b>173</b>	<b>183</b>
<b>Total World Demand</b>										
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)	-	-	-	-	-	-	-	-	-	-
<b>Total World Demand (mmlbs U3O8)</b>	<b>160</b>	<b>167</b>	<b>169</b>	<b>174</b>	<b>176</b>	<b>177</b>	<b>181</b>	<b>182</b>	<b>184</b>	<b>186</b>
YoY % change	3.4%	3.9%	1.7%	2.7%	1.2%	0.4%	2.7%	0.2%	1.0%	1.5%
<b>Supply / Demand Balance (mmlb)</b>	<b>44</b>	<b>35</b>	<b>18</b>	<b>-5</b>	<b>-3</b>	<b>-26</b>	<b>-23</b>	<b>-14</b>	<b>-11</b>	<b>-4</b>
<b>Spot Uranium Price (US\$/lb U3O8)</b>	<b>\$36.89</b>	<b>\$26.57</b>	<b>\$22.12</b>	<b>\$24.82</b>	<b>\$25.94</b>	<b>\$31.30</b>	<b>\$36.00</b>	<b>\$37.50</b>	<b>\$40.00</b>	<b>\$40.00</b>

\* 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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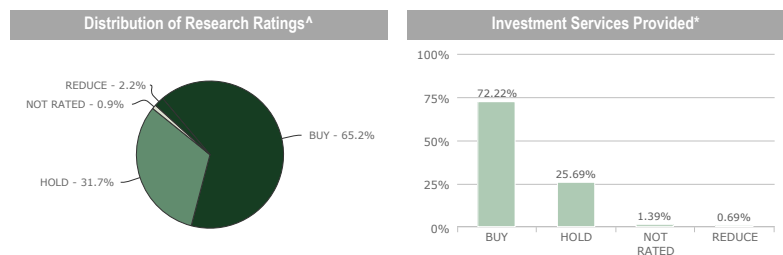
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