

# Industry Note

Equity Research

June 18, 2020

Metals &amp; Minerals

## Uranium Weekly: Producers/Traders Drive Record H1 Volumes

**Ux Consulting's (UxC) weekly price indicator declined slightly this week to US \$32.85/lb (from US\$33.40/lb), as reported on the evening of Monday, June 15.** UxC is currently estimating that the three-year forward price is US\$36.00/lb and the five-year forward price is US\$38.75/lb.

**Record H1/20 spot market volumes driven by producer and trader buying activity.** Despite supply shutdowns and the ensuing high volume of spot activity, UxC reports that 2020 utility buying activity is only 'marginally higher' than 2019. UxC highlights COVID-19 and a further draw-down of substantial utility inventory positions as potential reasons why utility buyers remain mostly on the sidelines. If COVID-19 travel restrictions ease, yet supply shutdowns persist (which is highly possible, given the supply discipline demonstrated by both Cameco and KazAtomProm), we believe that positive market momentum will continue to build, drawing sidelined utility buyers into the term market.

**After a tumultuous April and May, June spot activity has slowed significantly (~2.5mmlb transacted month-to-date),** which is not atypical for this time of the year, in our view. We note that spot activity during the summer months (June-August) is generally slower, before a pick-up in activity in the fall following the WNA Symposium (scheduled for September 9 through 11). Year-to-date, 52.5mmlbs U3O8e has been transacted in the spot market under 305 transactions; for context, we calculate average annual spot volumes (2015-2019) to be ~61.7mmlbs U3O8e.

**Term market remains quiet.** UxC is reporting that 21 transactions have been completed in the term market so far in 2020, which is higher than the 18 transactions reported for this time last year. However, term volume is weaker at a reported level of >24mmlbs U3O8e (~40mmlbs in 2019). Term market activity has been negatively affected by COVID-19 travel restrictions.

**We continue to believe that the timing of primary production restarting at Cigar Lake and well field development resuming in Kazakhstan will be influenced not only by the relaxation of COVID-19 restrictions, but also by commercial considerations (e.g. higher long-term contractual pricing).** A faster-than-expected return to production would likely reverse the current rally quickly; however, we believe that producer supply discipline, combined with utilities becoming more concerned about security of supply, should continue to support a rising price trend. The catalyst that could support the next up-leg in the spot (and term) price would be the return of utilities to the term contract market, in our view

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## Industry News

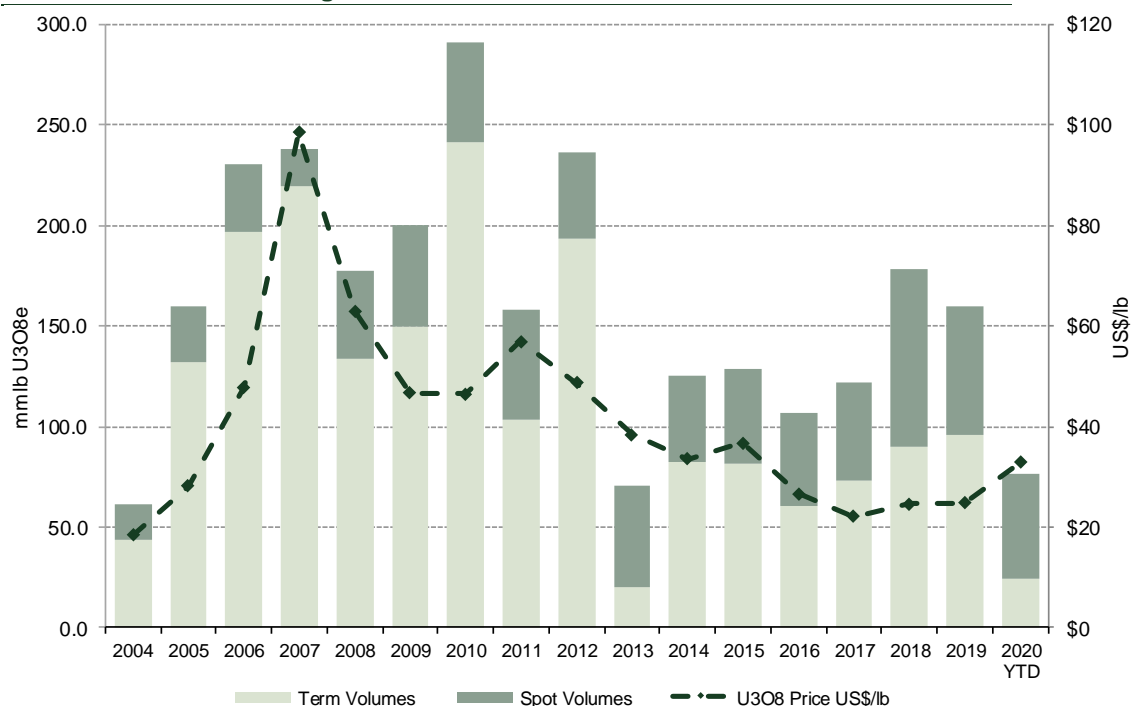
### NY Congressman ‘sees role’ for nuclear energy in net-zero 2050 legislation (Source: UxC)

- Politico reported June 9 that Congressman Paul Tonko (DNY) is adjusting legislation in the U.S. House of Representatives that seeks to push the country toward net-zero greenhouse gas emissions by 2050.
- The action is noteworthy because Tonko, Chair of the House Energy and Commerce Environment and Climate Change Subcommittee, is a Democrat, which has often had a tenuous nature when supporting nuclear energy in clean energy legislation. “Clean energy of any kind, including our nuclear energy, is an important factor as we go forward,” said Tonko.

### UC Berkeley study finds 90% clean grid by 2035 in U.S. feasible with renewables and nuclear (Source: UxC)

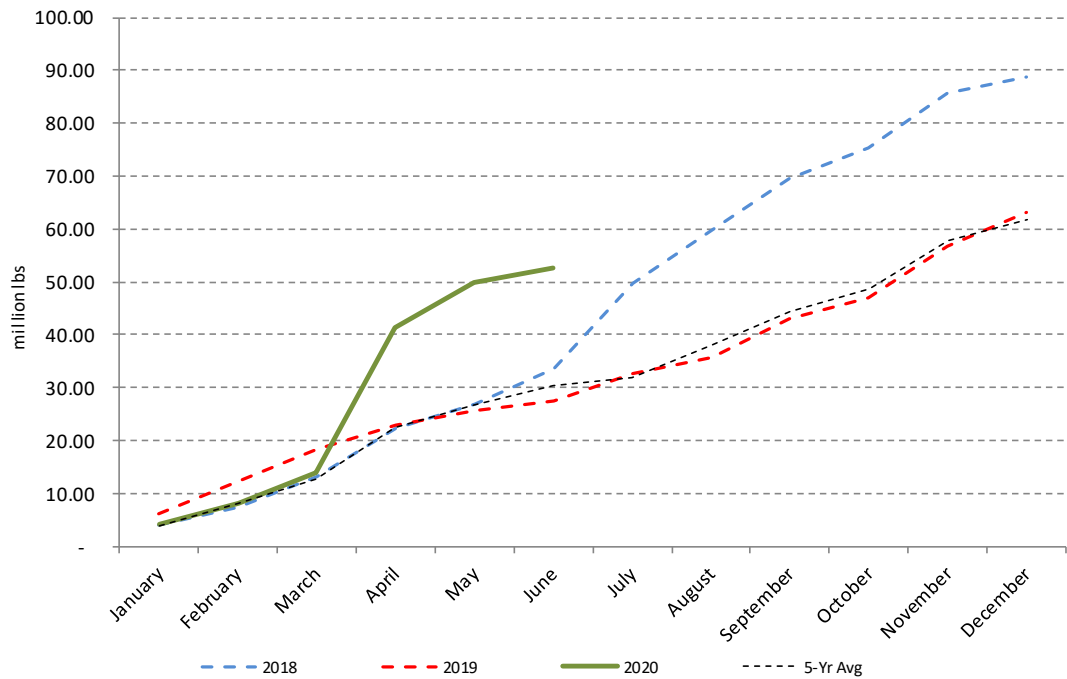
- A new study released by the Goldman School of Public Policy at the University of California, Berkeley, concludes that the United States could achieve an electric power supply system nationally, comprising 90% non-greenhouse gas emitting generation sources.
- The “2035 Report” is aimed at spurring rapid further development of renewable energy sources, along with new battery storage, which it argues have seen dramatic declines in costs. However, importantly, the study also shows that achieving a nearly full non-emitting power system can be achieved in a short period of 15 years only as long as existing nuclear power and hydropower plants are also maintained.
- “Retaining existing hydropower and nuclear capacity — after accounting for planned retirements — and much of the existing natural gas capacity, combined with new battery storage, is sufficient to meet U.S. electricity demand dependably with a 90% clean grid in 2035. With a 90% clean grid, all existing coal plants are retired by 2035 and no new fossil fuel plants are built,” the study states.

**Exhibit 1. Term Contracting Volumes Off to a Slow Start in 2020**



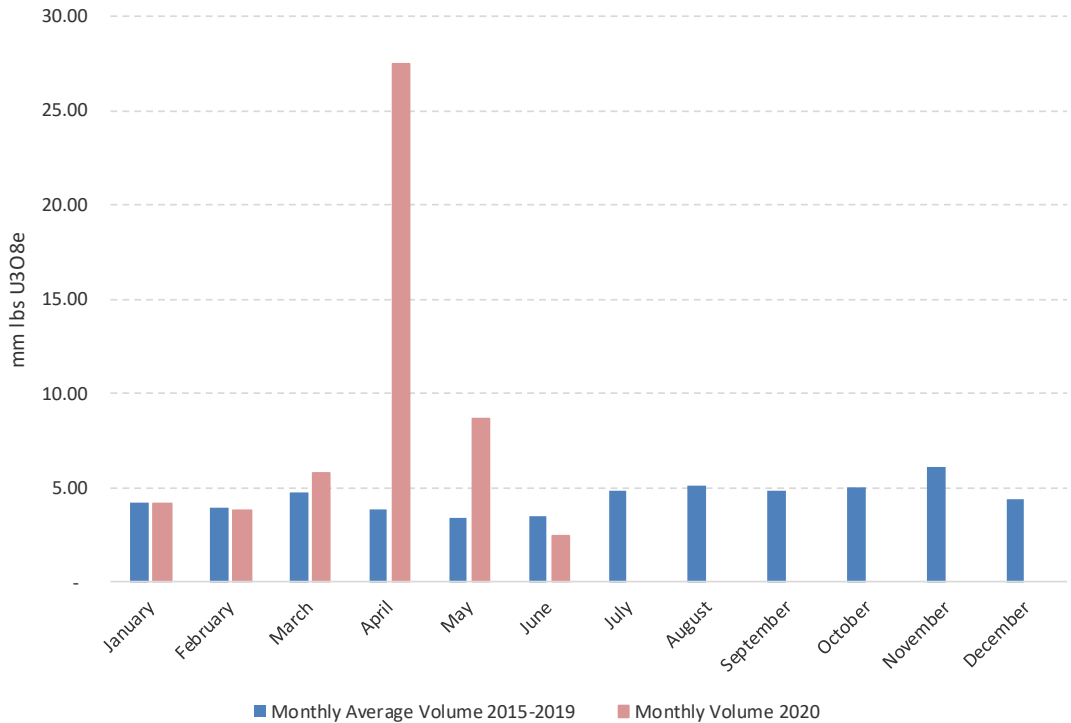
Source: UxC

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



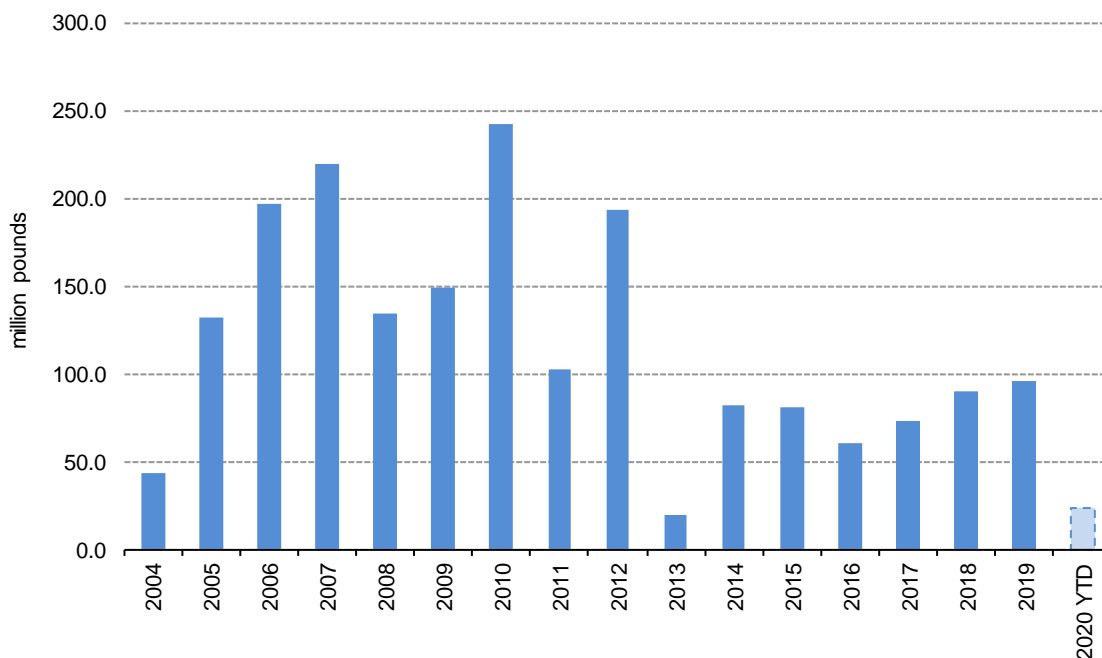
Source: UxC

**Exhibit 3. Historical vs. 2020 Monthly Spot Volumes**



Source: UxC

**Exhibit 4. Historical vs. 2020 Term Volumes**



Source: UxC

**Exhibit 5. Uranium Mine Suspension Tracker**

| Operation      | Company      | Location   | Annual Production (mm lbs) | Percent of Global Annual Mine Production | Suspension Duration | Potential Lost Production (mm lbs) |
|----------------|--------------|------------|----------------------------|--|---------------------|------------------------------------|
| Cigar Lake     | Cameco/Orano | Canada     | 18                         | 12.5%                                    | Undetermined        | 1.5/month                          |
| Rossing        | CNNC/CGN     | Namibia    | 4                          | 2.8%                                     | 21 days             | 0.25                               |
| Husab          | CNNC/CGN     | Namibia    | 10                         | 6.9%                                     | 21 days             | 0.6                                |
| Ranger (1)     | ERA          | Australia  | 3.1                        | 2.2%                                     | n/a                 | n/a                                |
| Kazakh ISR (2) | Kazatomprom  | Kazakhstan | 59                         | 41.0%                                    | 3 months            | 10.4                               |

**Notes:**

(1) ERA has maintained 2020 production guidance at 2.65-3.53 mm lbs U3O8, but travel restriction could impact production

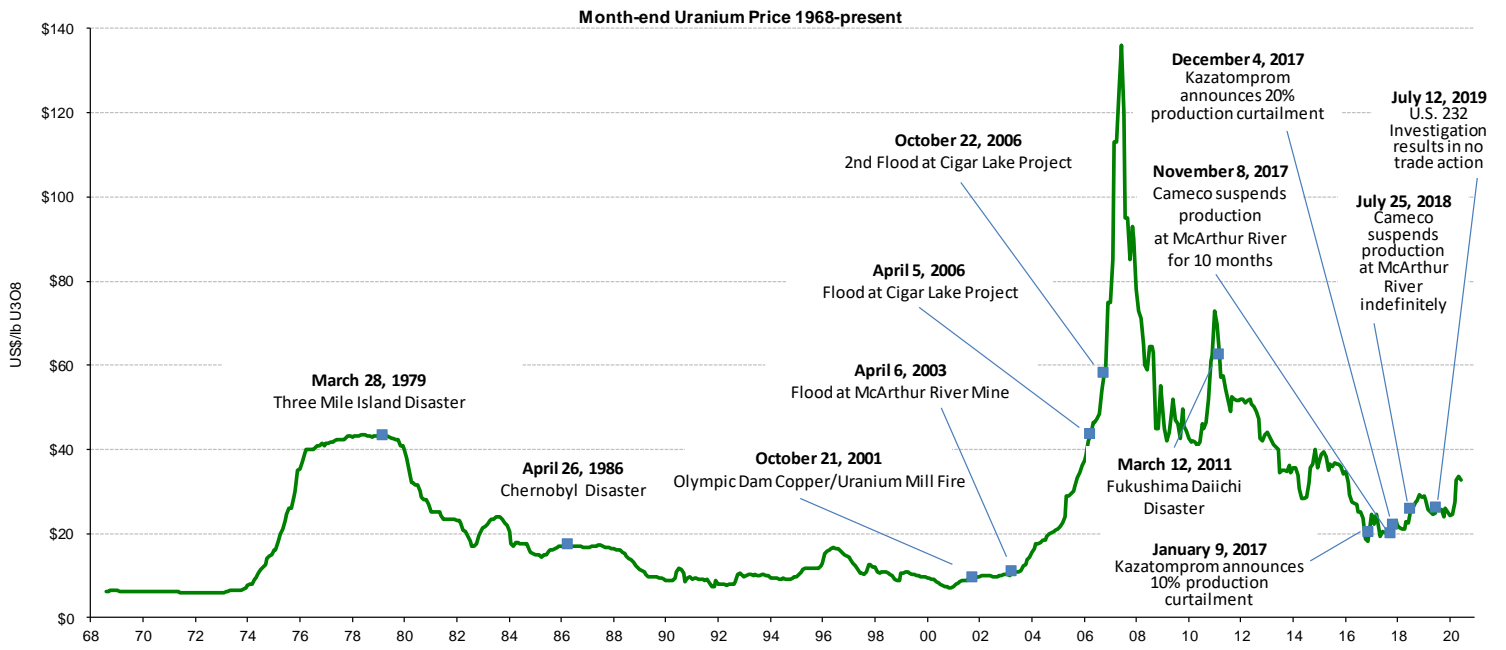
Source: Company reports, UxC, TD Securities Inc. estimates

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**Exhibit 6. Historical Spot Price and Market-affecting Events (US\$/lb)**



Source: UxC, companies, TD Securities Inc.

**Exhibit 7. Spot and Term Uranium Prices (US\$/lb)**



Source: UxC

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



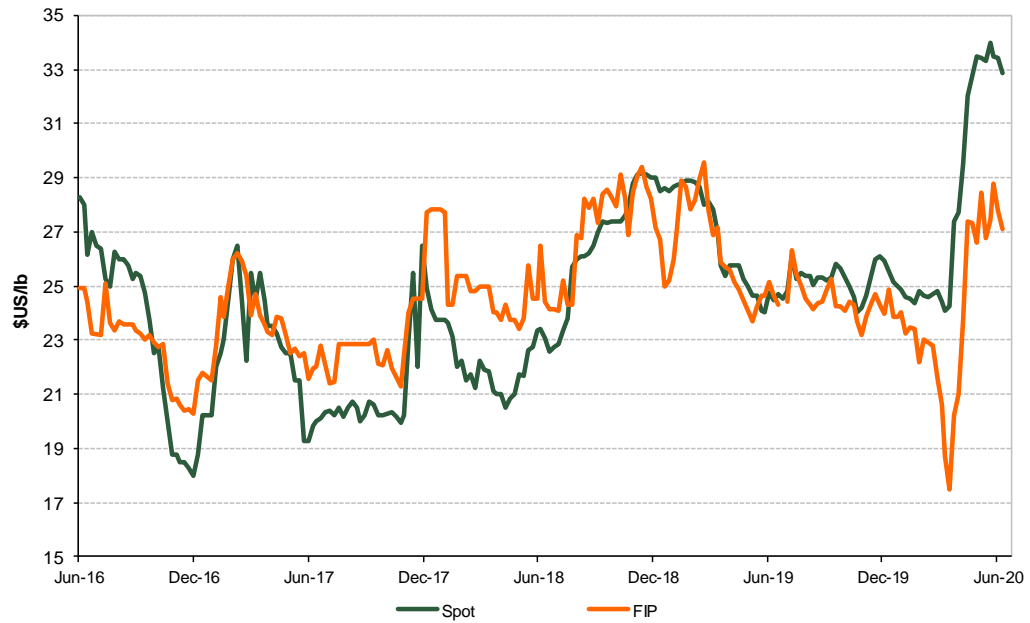
Source: UxC

**Exhibit 9. Uranium Prices — Spot, 3-year Forward and 5-year Forward**



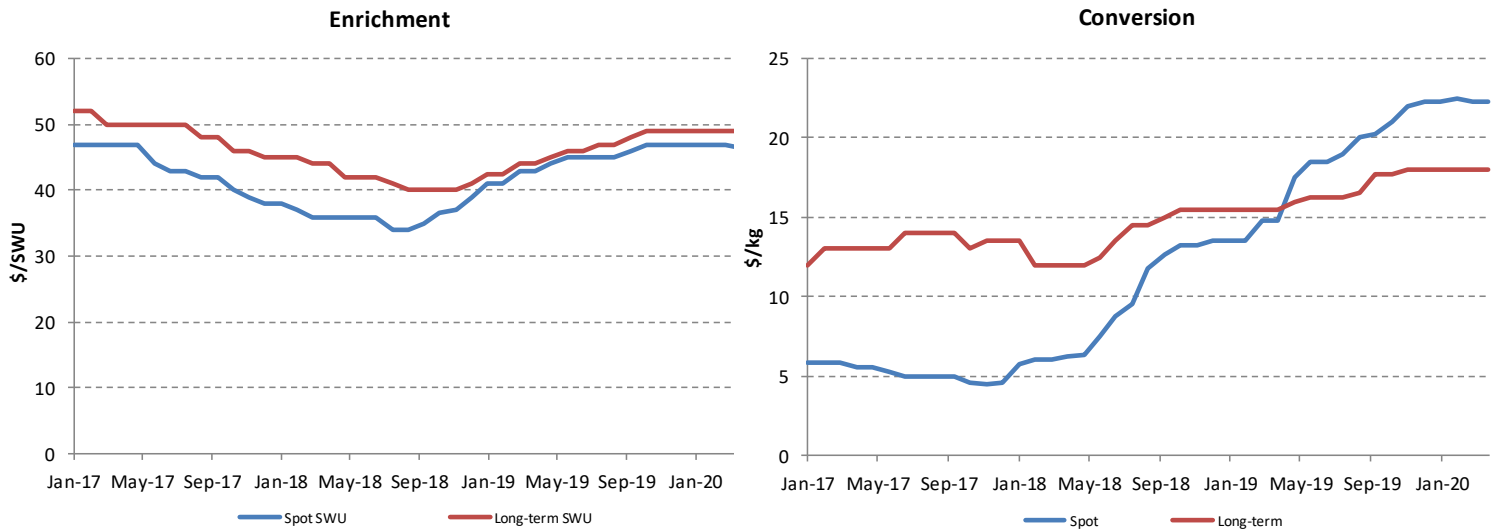
Source: UxC

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



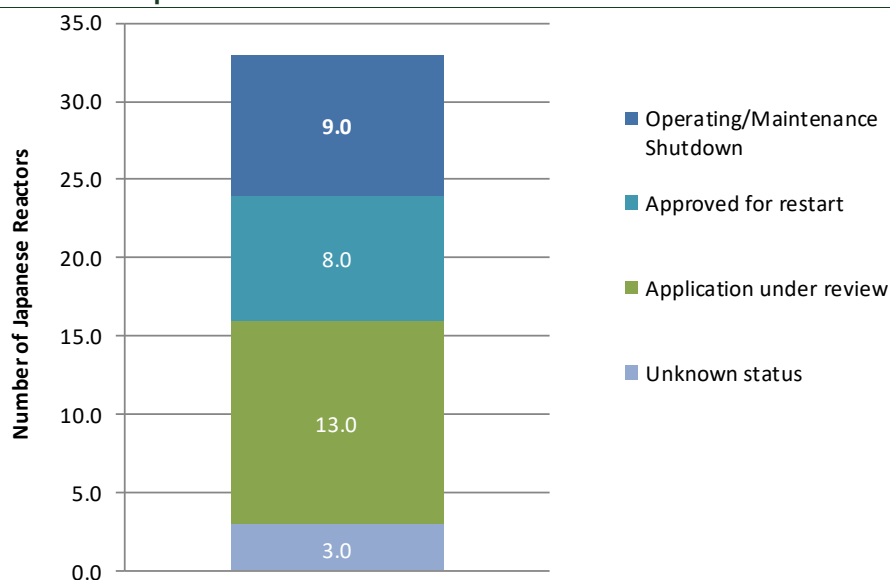
Source: UxC

**Exhibit 11. Monthly SWU and Conversion Pricing**



Source: UxC

**Exhibit 12. Japanese Reactor Status**



Source: UxC, Bloomberg, World Nuclear Association

**Exhibit 13. TD Securities Uranium Supply/Demand Model**

|  | 2012           | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | 2020E          | 2021E          | 2022E          | 2023E          | 2024E          |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Mine Supply - Western World (mm lbs U3O8)</b> |                |                |                |                |                |                |                |                |                |                |                |                |                |
| Total Mine Supply - Western World                | 90             | 93             | 85             | 106            | 104            | 100            | 83             | 85             | 74             | 82             | 82             | 86             | 88             |
| Net Eastern Mine Supply (lbs U3O8)               | 59             | 60             | 60             | 57             | 62             | 54             | 54             | 55             | 44             | 49             | 60             | 60             | 66             |
| <b>Total World Mine Supply (mmlb U3O8)</b>       | <b>150</b>     | <b>153</b>     | <b>145</b>     | <b>163</b>     | <b>166</b>     | <b>154</b>     | <b>138</b>     | <b>140</b>     | <b>118</b>     | <b>131</b>     | <b>142</b>     | <b>146</b>     | <b>154</b>     |
| YoY % change                                     | 5.9%           | 2.4%           | -5.3%          | 12.2%          | 2.1%           | -7.6%          | -10.2%         | 1.7%           | -15.9%         | 10.9%          | 8.6%           | 2.6%           | 5.9%           |
| <b>Secondary Supply</b>                          |                |                |                |                |                |                |                |                |                |                |                |                |                |
| Global underfeeding and tails re-enrichment*     | 5              | 15             | 20             | 20             | 18             | 19             | 18             | 18             | 16             | 16             | 15             | 15             | 14             |
| Mixed Oxide Fuel (MOX)*                          | 10             | 8              | 8              | 4              | 5              | 5              | 5              | 6              | 6              | 6              | 6              | 6              | 7              |
| US government sales (DOE Proposed)*              | 5              | 8              | 8              | 7              | 4              | 3              | 2              | 2              | 1              | 0              | 0              | 0              | 0              |
| Additional Russian secondary supply*             | 24             | 24             | 5              | 2              | 2              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| Other  |                | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>Total Secondary Supply (mmlb)</b>             | <b>43</b>      | <b>55</b>      | <b>41</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   | 28%            | 32%            | 26%            | 21%            | 17%            | 16%            | 14%            | 15%            | 13%            | 12%            | 12%            | 12%            | 11%            |
| <b>Mobilization of Commercial Inventory</b>      |                |                | 4              | 8              | 7              | 7              | 7              | 7              | 7              | 7              | 7              | 7              | 7              |
| <b>Total Supply</b>                              | <b>193</b>     | <b>208</b>     | <b>190</b>     | <b>205</b>     | <b>202</b>     | <b>187</b>     | <b>169</b>     | <b>173</b>     | <b>149</b>     | <b>160</b>     | <b>170</b>     | <b>174</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>155</b>     | <b>170</b>     | <b>155</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                                     | 0.0%           | 9.7%           | -8.8%          | 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>38</b>      | <b>38</b>      | <b>35</b>      | <b>44</b>      | <b>35</b>      | <b>18</b>      | <b>-5</b>      | <b>-3</b>      | <b>-28</b>     | <b>-22</b>     | <b>-11</b>     | <b>-10</b>     | <b>-4</b>      |
| <b>Spot Uranium Price (US\$/lb U3O8)</b>         | <b>\$48.73</b> | <b>\$38.57</b> | <b>\$33.60</b> | <b>\$36.89</b> | <b>\$26.57</b> | <b>\$22.12</b> | <b>\$24.82</b> | <b>\$25.94</b> | <b>\$31.19</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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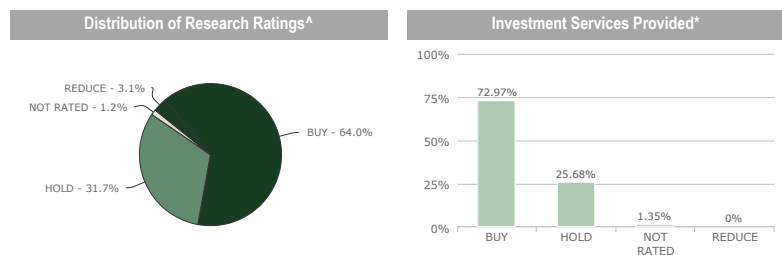
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Current as of: June 18, 2020

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