Pinning Down Production Costs

Given the move toward cleaner energy, reduced carbon emissions, and more secure long-term energy sources, uranium supply is becoming more important to utilities worldwide. Currently, in UxC’s Base demand case, uranium demand is projected to increase by 8% through 2035.

However, secondary supplies continue to be a huge factor impacting uranium prices and the viability of existing and new uranium projects. Given the impact of secondary supplies on the ultimate need for primary production, there is enough projected production below $50 per pound to meet demand through 2023, and potentially longer if excess capacity from operating projects is utilized. Thus, nearly all planned or potential projects will likely be deferred until at least 2024 when higher demand necessitates this production as resources are exhausted.

While uranium exploration experienced a revival in the last price run-up, exploration expenditures since the Fukushima accident have fallen with many producers finding it more difficult to obtain project financing in a down-market. As a result, the current menu of worldwide projects is not all that extensive since most of the recent exploration has been on brownfield sites that were discovered 20, 30, or even 40 years ago. Even for recent project discoveries, significant capital input is required given that most do not have dedicated processing facilities.

As the nuclear industry transforms itself to become safer and more robust, one of the challenges for the supply side of the industry is to expand and bring new production to a market still in recovery mode.

This detailed cost study complements UxC’s Uranium Market Outlook (UMO) and Uranium Supplier’s Annual (USA) in identifying where expanded and new uranium supply will come from over 110 worldwide projects to meet future nuclear fuel demand through 2035.

- **Factors Affecting Production Costs** - Extensive review of factors impacting production costs, such as ore grade, reserve tonnage, deposit depth, spatial density, ore thickness, deposit composition and chemical agents, various technical factors, water flows and drainage, energy costs, labor costs, transportation/hauling costs, etc.
- **Uranium Mining/Milling Costs** - Overview of mining/milling costs for conventional and ISR deposits, focusing on operating and capital costs for each mining method. The breakdown of typical operating costs for both acid leach and alkaline leach processing circuits is also presented.
- **World Production Costs** - Cost curves for operational, planned, and potential projects are developed to identify those projects most likely to produce in the future, as well as expected cost curves for 2018, 2020, 2025, and 2030 production. The UPCS also includes a competitive cost comparison of 2016 production by average full cost for each producing region.
- **Matching Production Costs to Prices** - Analysis of why prices are considerably lower than in our marginal-cost pricing picture, with a broad discussion of floor prices, term prices, and spot prices.

**Ordering Information**

- UxC’s 2019 Uranium Production Cost Study is available immediately at a rate of US$6,000.00.
- Subscribers of either UxC’s UMO or USA reports receive a discounted rate of US$4,500.00.
- Subscribers of both UxC’s UMO and USA reports receive a further discounted rate of US$3,000.00.
- For more information on the Uranium Production Cost Study, please contact Nick Carter.

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An online order form is now available.