



Uranium Production Cost Study – 2023

September 2023
New Edition

Pinning Down Production Costs

Given the global shift toward cleaner energy production, reduced carbon emissions, and reliable long-term energy sources, uranium supply is becoming more important to utilities worldwide. Between 2023 and 2040, UxC's Base Case demand rises by 35%, which is a period wherein new primary production will be needed.

Although secondary supplies account for 25% of total supply in 2023, this share is expected to decline significantly to 9% of total supply in 2030 and remain near this low level through 2040. Much of this secondary supply stems from utility and government inventories, which have been drawn at an accelerated pace.

Uranium supply deficits against base case demand are projected to be minimal through 2027 and likely filled through a combination of unutilized production capacity, the restart of mines on standby, and additional inventory drawdown. However, UxC foresees a dire need for new uranium projects to enter service between 2028 and 2040, which will require incentive pricing as the reserves from operating mines are depleted and base case demand strengthens.

Uranium exploration expenditures have declined over the last nine years as many producers and junior miners instead focused their efforts on reducing operating and capital costs in response to depressed market conditions. As the nuclear industry is an important component of the growing clean energy paradigm, one of the challenges for the supply side will be to produce

uranium in a socially responsible manner that mitigates detrimental impacts to the surrounding environment.

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 among 104 global projects to meet nuclear fuel demand through 2040.

UxC's *Uranium Production Cost Study* addresses a wide range of production cost issues including the following:

Factors Affecting Production Costs

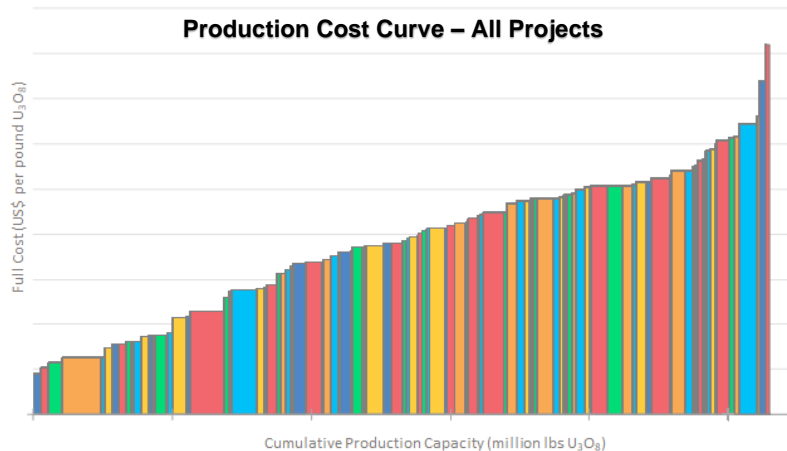
Extensive review of factors impacting production costs, such as ore grade, reserve tonnage, deposit depth, spatial density, ore thickness, deposit composition and chemical agents, various technical factors, water flows and drainage, energy costs, labor costs, transportation/hauling costs, etc.

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 are also presented.

World Production Costs

Cost curves for operational,



planned/advanced, and potential projects are developed to identify those projects likely to produce in the future, as well as projected production cost curves for 2023, 2025, 2030, 2035, and 2040. In addition, the UPCS includes cost curves for the above-mentioned years that account for full production costs plus a projected rate of return (ROR). The UPCS also includes a competitive cost comparison of 2022 production by average full cost for major producing regions.

Order Today!

UxC's *Uranium Production Cost Study* is available for US\$6,000. Subscribers of either UxC's UMO or USA reports receive a discounted rate of US\$4,500. Subscribers of both UxC's UMO and USA reports receive a further discounted rate of US\$3,500.00. For more information, please contact Nick Carter at nick.carter@uxc.com or +1 (407) 689-0605.

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