



Global Nuclear Fuel Inventories



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Introduction & Overview

The Ux Consulting Company, LLC (UxC) is pleased to present our second edition of this special report on the topic of *Global Nuclear Fuel Inventories*. The inaugural edition of this report, published in December 2015, represented a first-of-a-kind effort by UxC to assemble and categorize all the available information related to nuclear fuel inventories around the world and provide insights and analysis on this important topic. This 2018 edition expands on this seminal work by providing updated data on inventories along with the latest analysis of trends related to these inventories.

There is perhaps no bigger issue to emerge over the last few years in the nuclear fuel markets than the enormous growth in nuclear fuel inventories, especially following the drop in global nuclear fuel demand after the March 2011 Fukushima accident. This updated report presents UxC's detailed research and analysis on the topic of inventories to enhance market understanding of this important issue and to provide expert forecasts regarding the future role that inventories will play in all the nuclear fuel market sectors.

Purpose of Report

There are many key questions that have been raised by the current situation of large and growing nuclear fuel inventories. This report's primary objective is to provide comprehensive analyses and forecasts and respond to these and related questions. Some of the most critical questions that this report attempts to answer include the following:

- What are the total current inventory levels in each key region/country?
- Who holds these inventories and in what form?
- Where could we still see additional growth in inventories?
- What role does enrichment underfeeding/tails re-enrichment play?
- How much of these inventories can be considered “excess” or “unobligated?”
- How much of these inventories is readily available to the market?
- What is the likely future course of disposition for both commercial and government-held inventories?
- What is the potential future impact of these inventories on each of the three nuclear fuel component markets (uranium, conversion, and enrichment)?
- What critical market conditions will influence the state of inventories over the long-term?

What's New in the 2018 Edition?

As this is the second edition of this report, we have made several important enhancements to the previous edition, including:

- Updated data and analysis of all utility, supplier, trader/financial, and government inventory levels
- New insights into the level of utility forward coverage rates and how these may evolve in the coming years
- Revised forecasts for future inventory buying and disposition and how these look for each of the uranium, conversion, and enrichment sectors
- Increased analysis of the market impacts of inventories and key considerations for all market players

Structure of Report

In addition to this **Introduction & Overview**, there are four chapters in this report as follows:

Chapter 1 – Inventories in Context introduces the key factors that frame the topic of nuclear fuel inventories, including historical perspectives and important market considerations. The chapter also briefly covers the main types of inventories and their holders as well as some of the primary reasons for the current excess inventory supply situation.

Chapter 2 – Quantifying and Qualifying Current Inventory Levels includes the bulk of the research information compiled for this report. Detailed examinations of each of the inventory holding groups are presented, including current inventory levels, forward coverage and future needs for inventories, as well as potential future disposition trends. The inventory holders analyzed in this chapter include utilities in all major countries and regions with nuclear power plants, the major nuclear fuel suppliers, nuclear fuel market participants from the trading and financial community, as well as the large governments, such as Russia and the U.S.

Chapter 3 – Global Forecasts and Market Analysis introduces UxC's market impact analysis and forecasts for future inventory growth and disposition and how these will affect the three nuclear fuel commodity markets – uranium, conversion, and enrichment. Multiple scenarios for future inventory growth/disposition are introduced along with relevant market implications. Additional detailed analysis of factors influencing the current and future trends in inventories as well as the overall market impacts of inventories are also provided.

Chapter 4 – Summary and Conclusions summarizes the key points of the report and offers some final thoughts on the nature of inventories and how they fit into the nuclear fuel markets.