



Contribution ID: 304

Type: **Panelist (Panel Session)**

## The Changing Architecture of Nuclear Trade: Trends in Manufacturing Base Supply and Demand

*Tuesday, 6 November 2018 14:19 (7 minutes)*

Substantial counter-proliferation resources are spent trying to identify and prevent the diversion of dual-use goods to illicit nuclear programs. Since 2004, all countries have been required to have in place export controls on dual-use goods. Because not all trade flows can be followed, tracking the flow of nuclear dual-use items can be prioritized by focusing on so-called 'choke-point' goods: key items that proliferators seek, that are assumed to be particularly difficult to obtain. Demand and supply determines whether any item is a choke-point for a nominal illicit nuclear program. Proliferators, having chosen a pathway to nuclear weapons - say, uranium enrichment by gas centrifuge - need certain materials and goods to build that pathway. There is a worldwide supply base of commercial manufacturers which can make these materials and goods. When supply is significantly less than demand, a widget becomes a choke-point good. To date, no comprehensive study has so far established how widely these items are produced.

This paper is based on research that attempts to fill this gap. The authors have researched and characterized the manufacturing bases for 26 proliferation-sensitive technologies. The research deliberately examines a diverse range of nuclear-related goods: from simple commodities to elaborately manufactured precision items, with supply chains ranging from the short and simple to the long and complex.

From these technology reports, an aggregated picture of the global manufacturing base for proliferation-sensitive items has been built which is described in this article. Its objective is to be of use to non-proliferation, counter-proliferation and export control practitioners, and to add to research in the field.

### Which "Key Question" does your Abstract address?

CHA3.1

### Which alternative "Key Question" does your Abstract address? (if any)

CHA3.3

### Topics

CHA3

**Primary author:** Dr VISKI, Andrea (Project Alpha, King's College London)

**Co-author:** Mr STEWART, Ian (Project Alpha, King's College London)

**Presenter:** Dr VISKI, Andrea (Project Alpha, King's College London)

**Session Classification:** [CHA] Globalization and the Changing Supply Chain for Knowledge, Expertise and Goods

**Track Classification:** Addressing Growing Safeguards Challenges (CHA)