

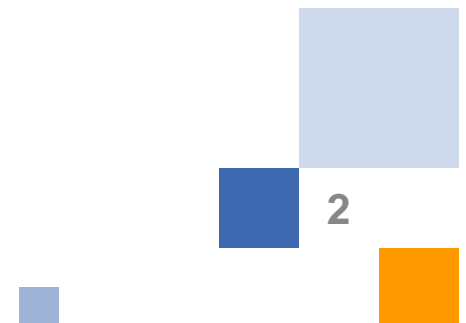
Status Report on the Cost and Availability of Enriched Uranium for Research Reactors

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Supply Sources of LEU

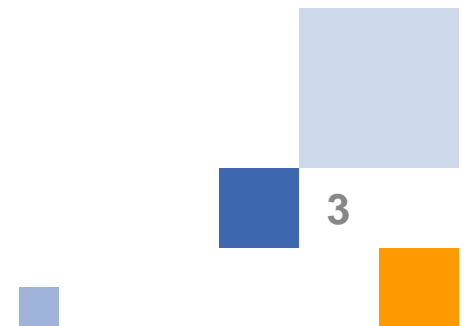
- Today LEU is mainly provided by the USA and Russia
- There was an interruption of supplies of LEU and HEU in the 90ies by US-DOE
- The EU was able to bridge the supply gap by the use of no longer needed fuel stocks (organized by RWE NUKEM)



Worldwide Annual Demand for LEU

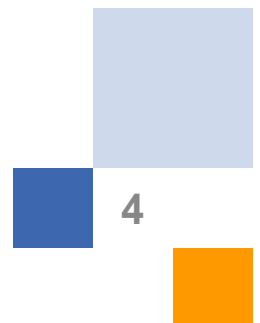
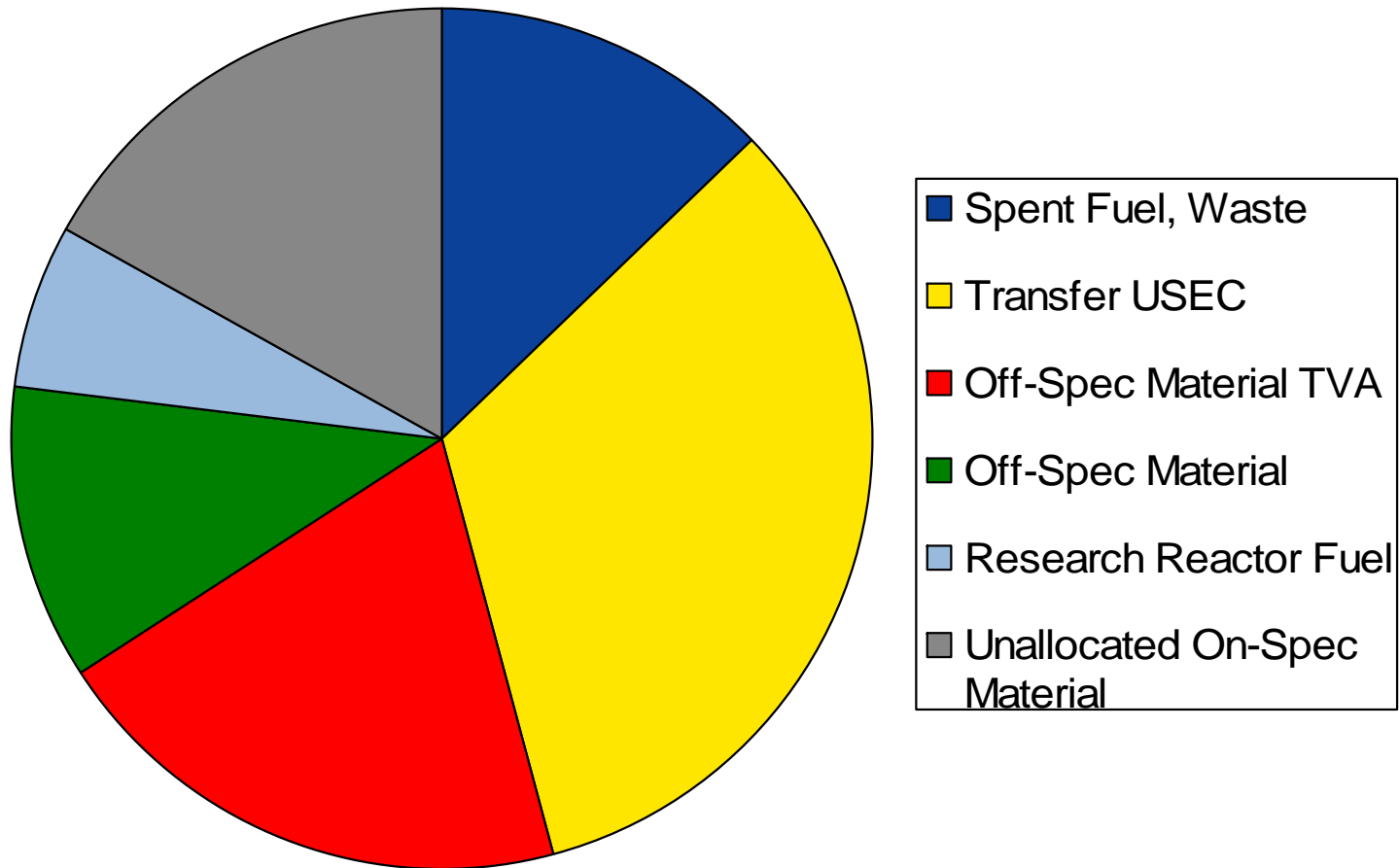


- At present about 1 Ton of LEU is needed to feed already converted research reactors
- This demand would increase to 2-3 tons of LEU if all high flux reactors would be converted



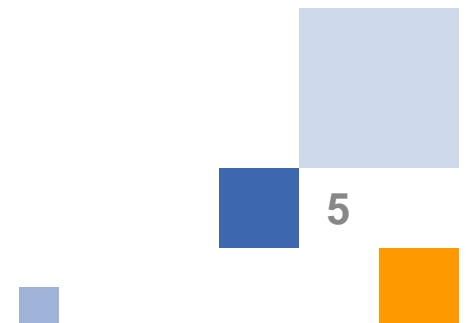
LEU Situation in the USA

174 Tons of HEU Declared as Surplus



LEU Situation in Russia

- Russia is selling power reactor fuel with a U-235 assay of less than 5 % derived from 500 tons of Russian Surplus HEU
- In Russia LEU and HEU for civil purposes (fast reactors and research reactors) may still be produced

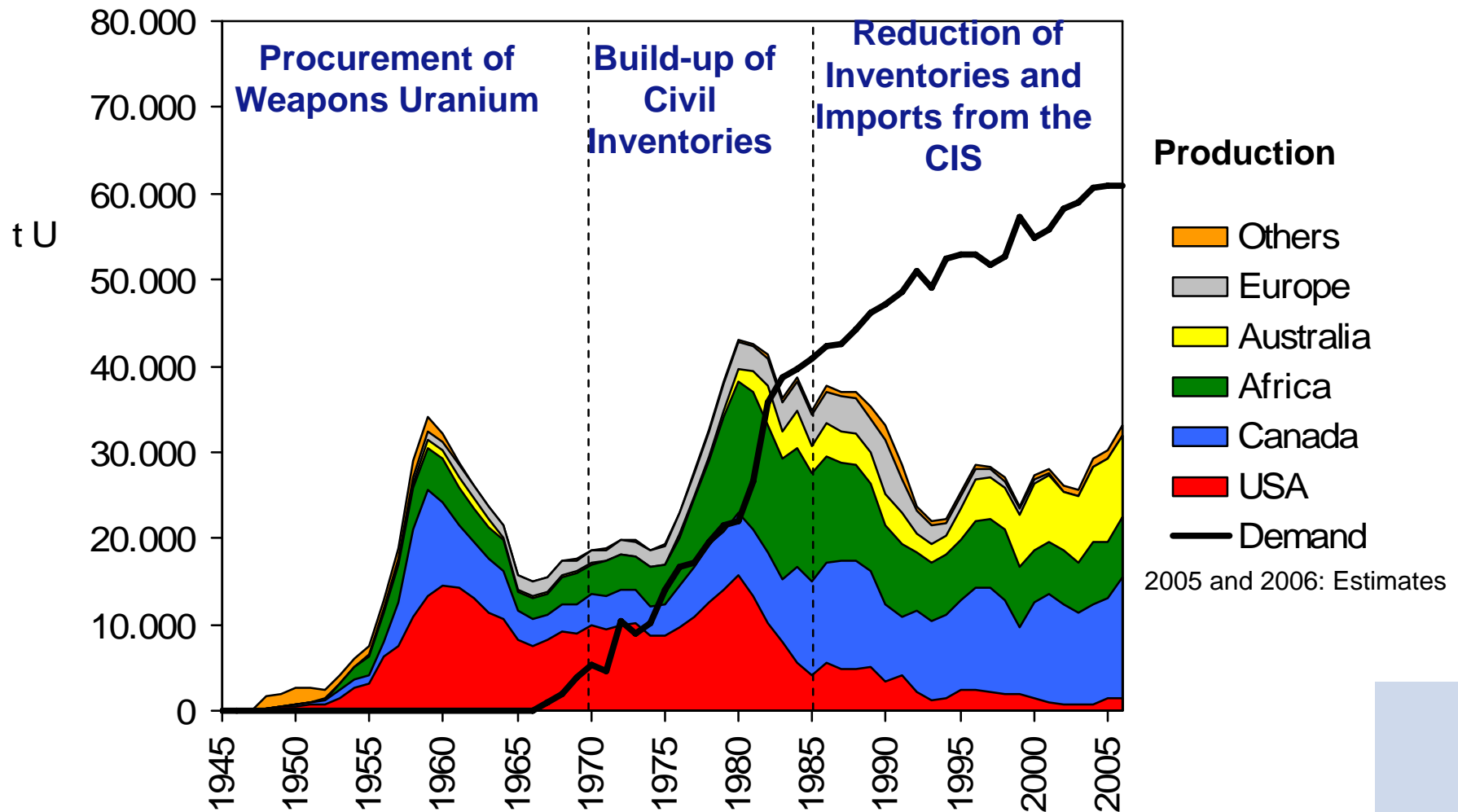


Price Factors for LEU

The main factors for enriched uranium for power reactors are

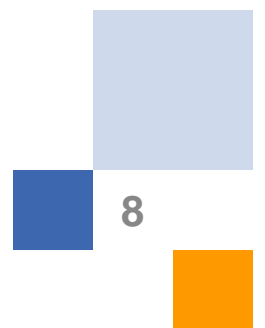
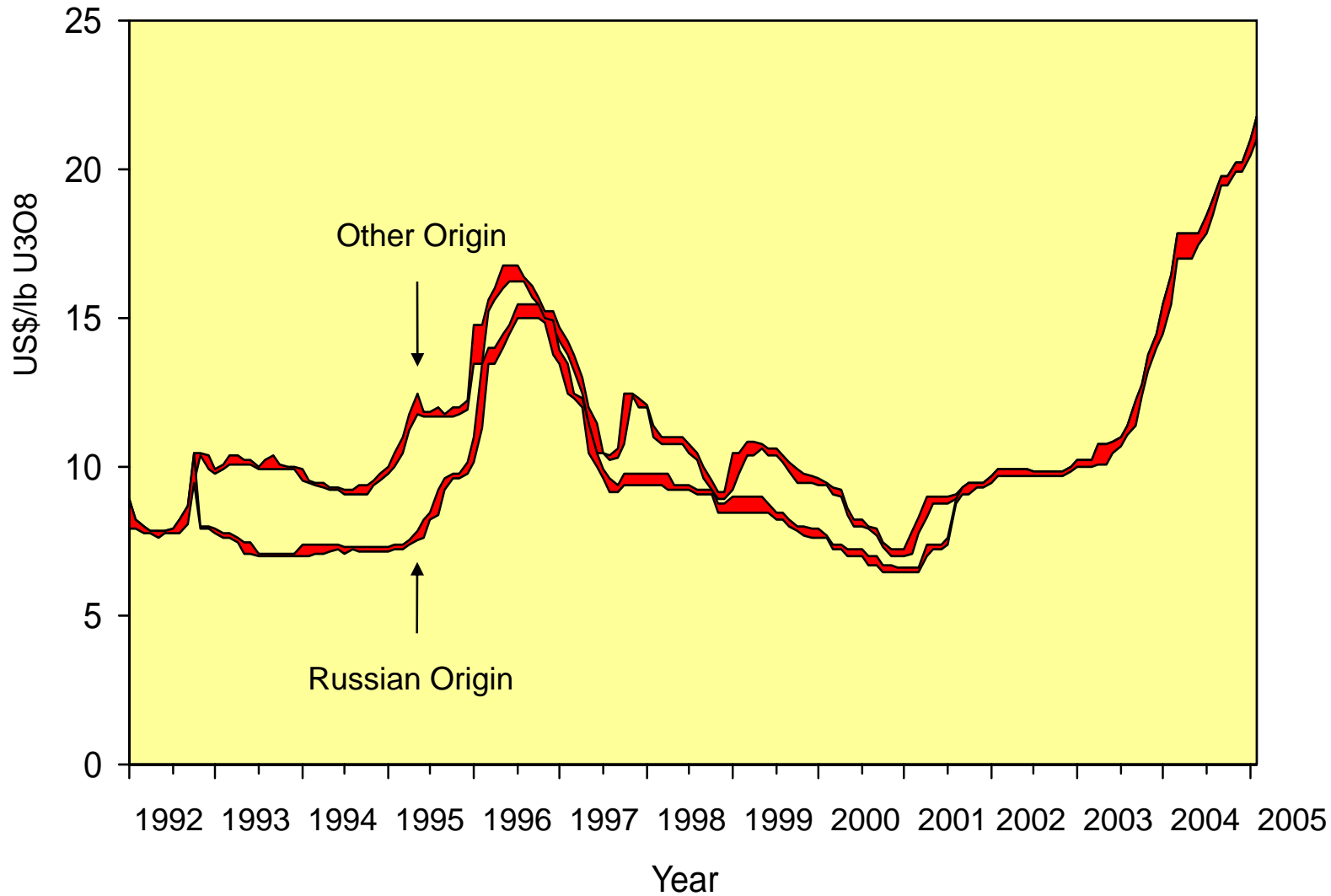
- Contained natural uranium equivalent
- The separative work of the enrichment (SWU)
- Conversion of the enriched UF₆ into metal or UO₂
- Services like transport, analytical work etc.

Natural Uranium Production in the Western World, 1945 – 2006¹



¹⁾ Excluding Eastern European countries
RWE NUKEM • 12.04.2005

NUKEM Uranium Spot Market Prices, 1992 - 2005



Influence of Increased Natural Uranium Prices for LEU

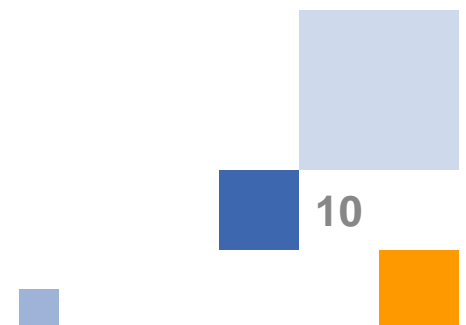
- Average price for natural uranium as UF₆ in the period 1997-2001 was approx. US\$ 22 kg
- Current price for natural uranium as UF₆ is approx. US\$ 65
- Average price for SWU in the period 1997-2001 was approx. US\$ 70
- Current price for SWU is approx. US\$ 100

Influence of Increased Natural Uranium Prices for LEU



1 kg of LEU (19.75 % U-235 enriched) contains

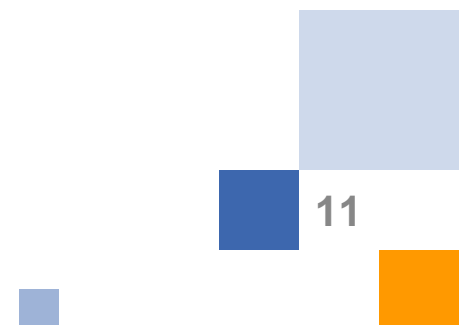
- 47.342 kg natural uranium and
- 37.783 SWU



Influence of Increased Natural Uranium Prices for LEU



- 47.342 kg natural uranium multiplied by 65US\$/kg U = US\$ 3076
- 37.783 SWU multiplied by 100US\$/SWU = US\$ 3778
- Price for 1 kg of LEU in the form of UF6 = US\$ 6854
- Price for metal conversion of 1 kg LEU = US\$ 2000
- Total price of 1 kg of LEU as metal = US\$ 8854



Influence of Increased Natural Uranium Prices for LEU

