

Three overlapping, light blue curved shapes are positioned on the left side of the slide, extending from the top towards the bottom. They are semi-transparent and overlap each other, creating a sense of depth and movement.

Seminar on Global Nuclear Fuel Supply  
26 January 2009, IAEA, Vienna

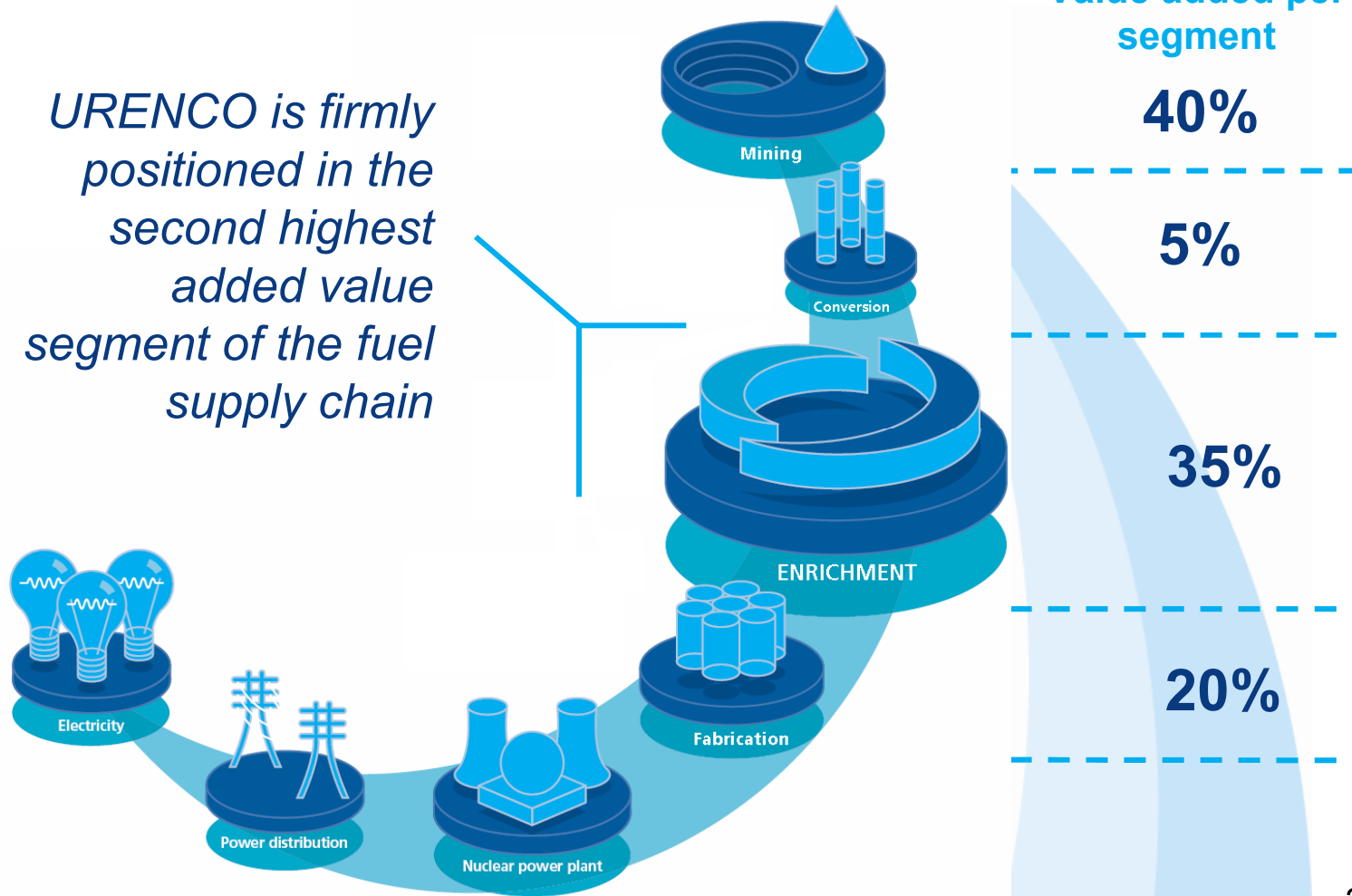
# **Enrichment: Present and Projected Future Supply and Demand**

Mark Elliott  
Director, Marketing & Sales  
URENCO

# Nuclear Fuel Process



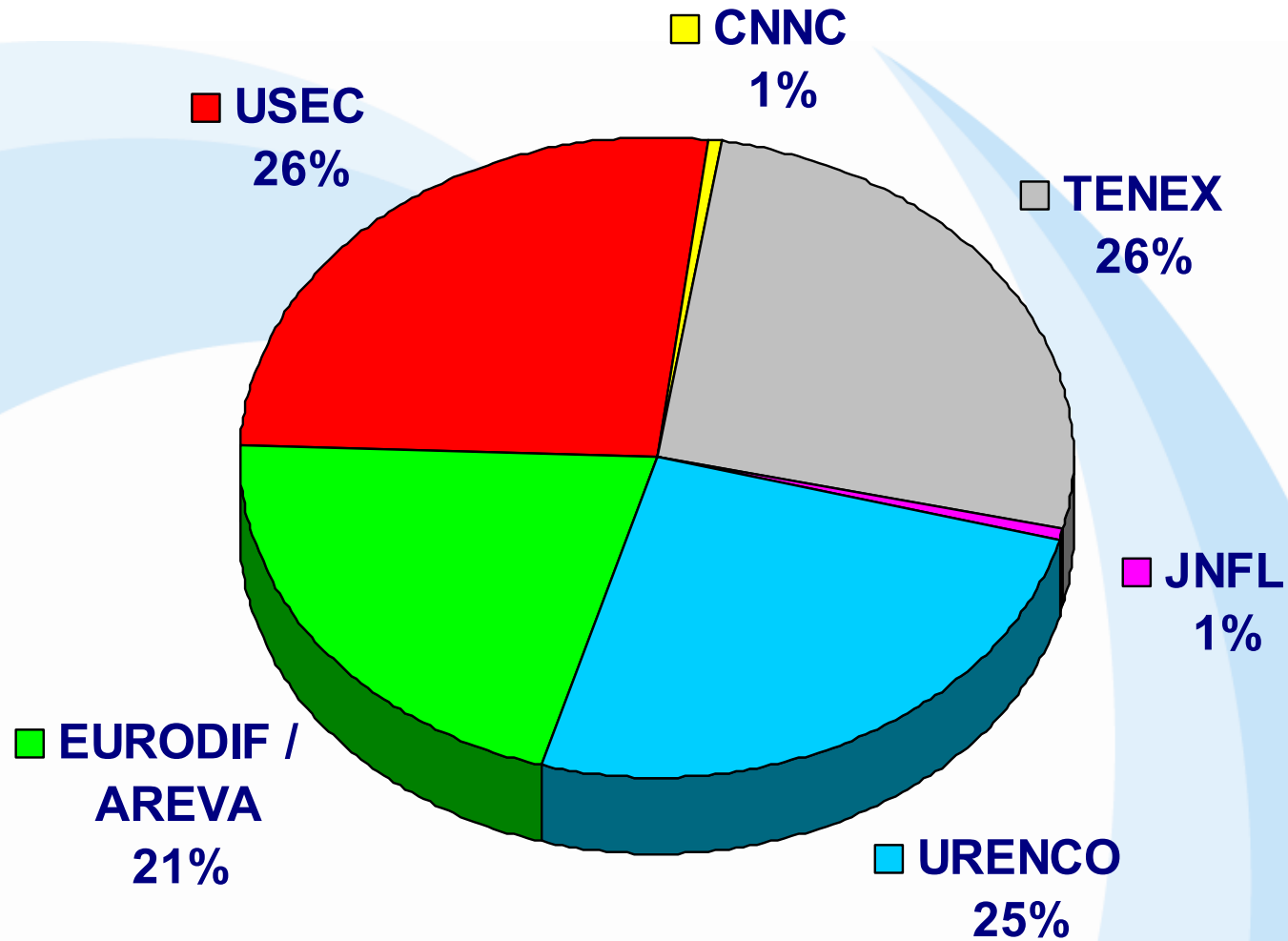
*URENCO is firmly positioned in the second highest added value segment of the fuel supply chain*



## Demand for SWU is driven by:

- **Load factors and reload patterns of operating plants**
- **Upgrading MWe of operating plants**
- **Extended lifetimes**
- **Technical, economic or political shutdowns**
- **Ongoing and planned new build**
- **Timing of first cores for new reactors**
- **Fuel cycle lead times**
- **Uranium prices influencing tails assays**
- **MOX fuel utilization**

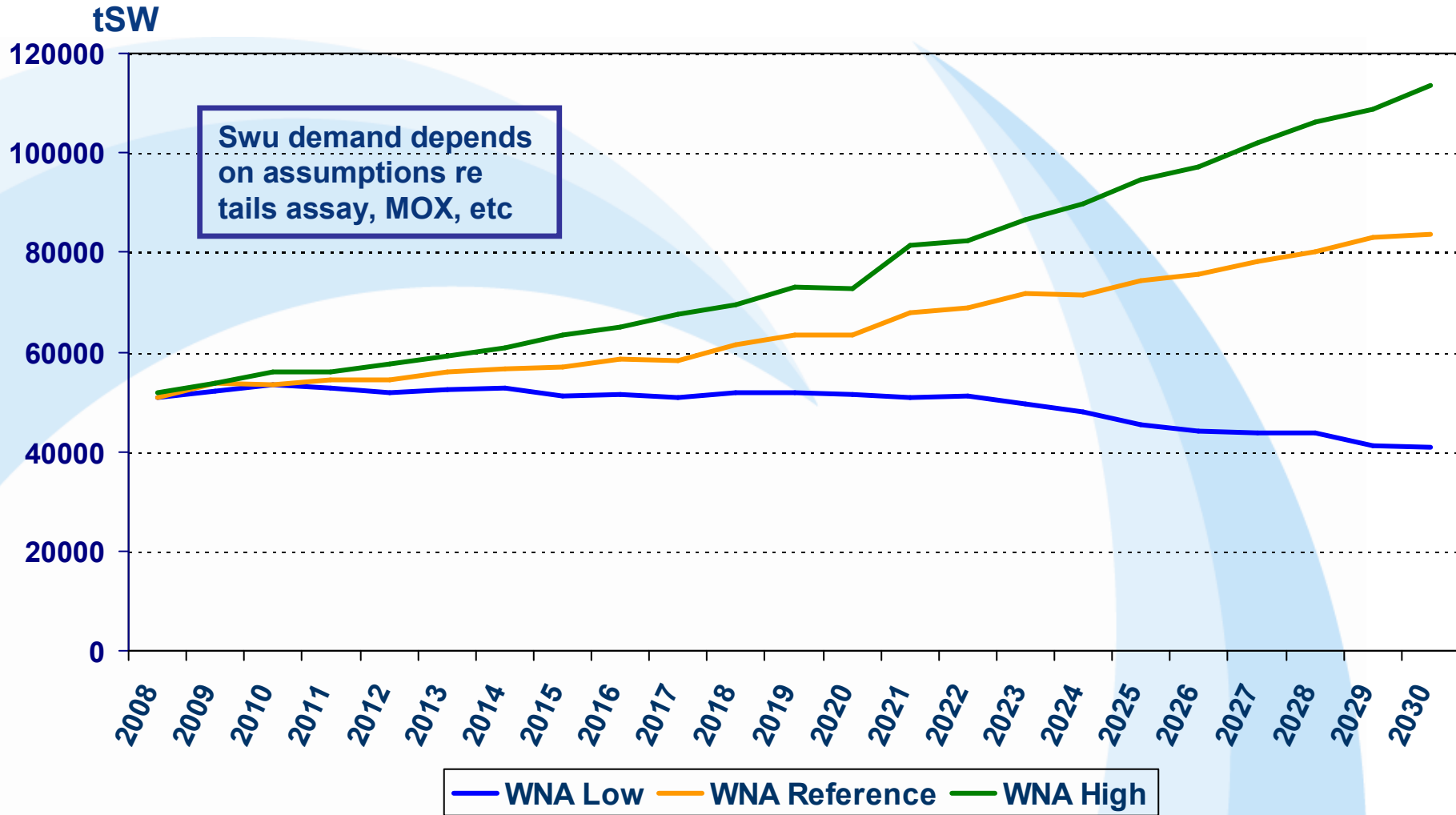
# Enrichment Market Shares: Worldwide – 2008 Estimate



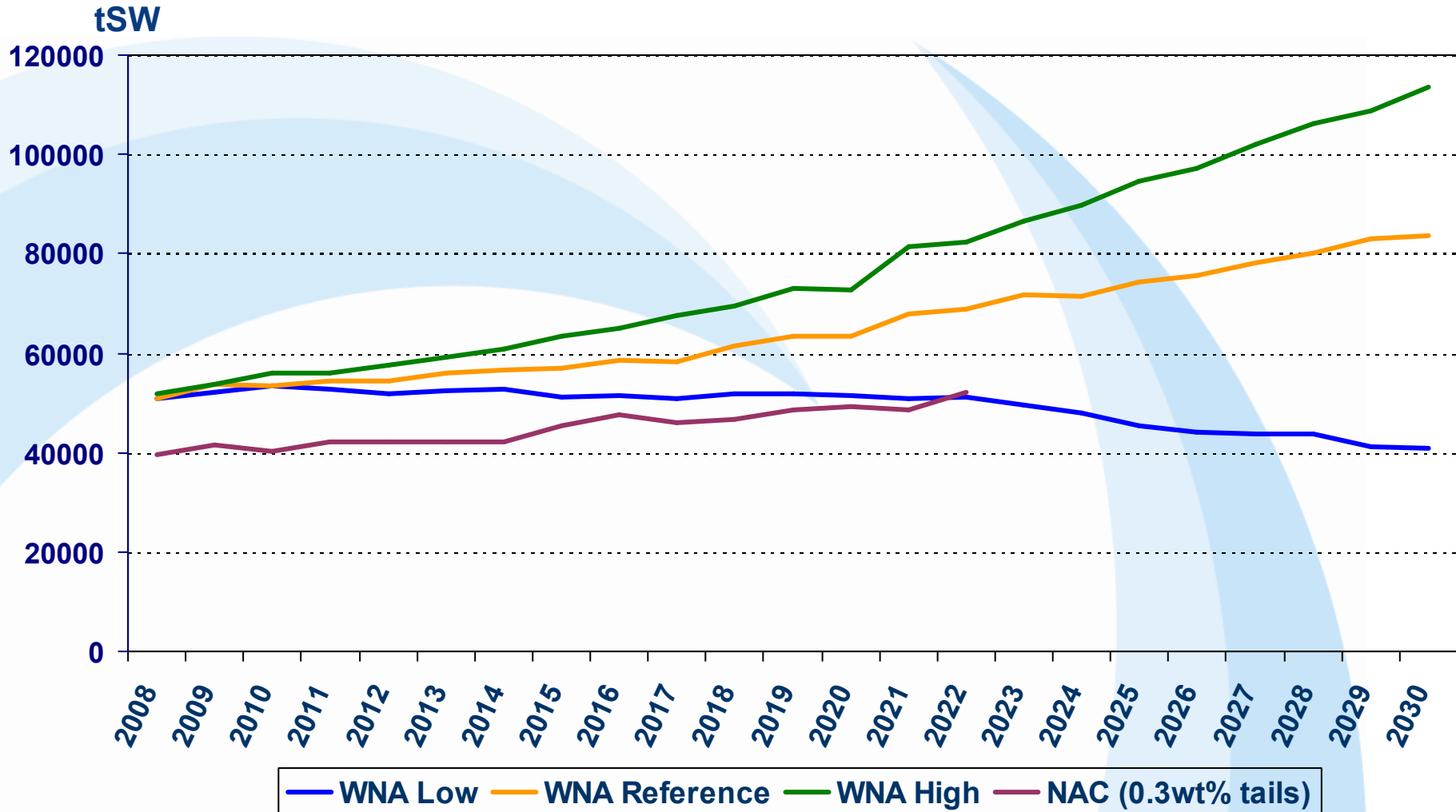
## Ongoing and future developments include:

- **Replacement of old enrichment capacity (GDP and centrifuge) with new centrifuge capacity**
- **Major capital investment in capacity**
- **Investment will only be made if desired rate of return can be achieved**
- **Modular installation adjusted from time to time to match forecast SWU demand**
- **Ensuring long-term reliable supply and a competitive market**

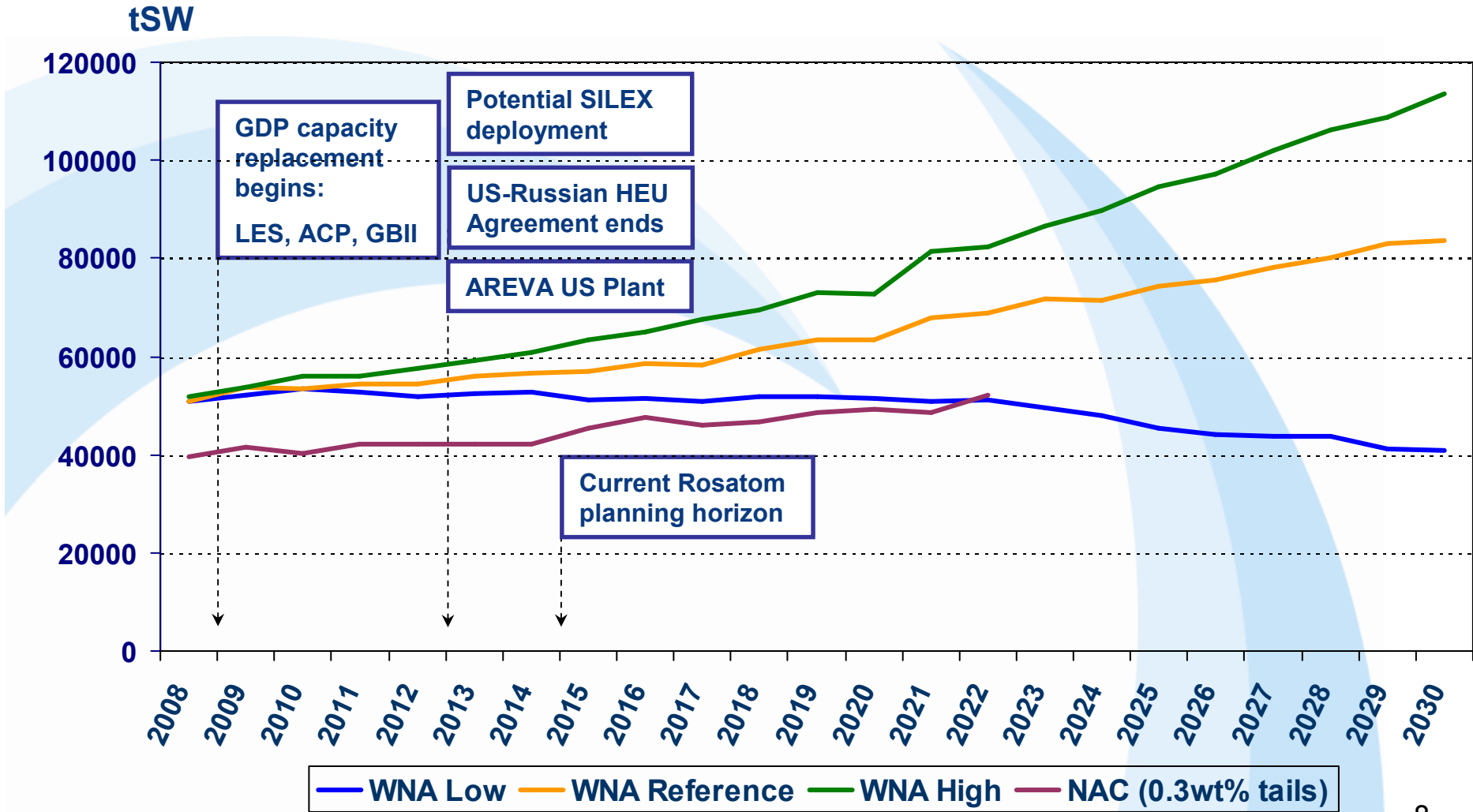
# Enrichment Demand: Worldwide Forecasts



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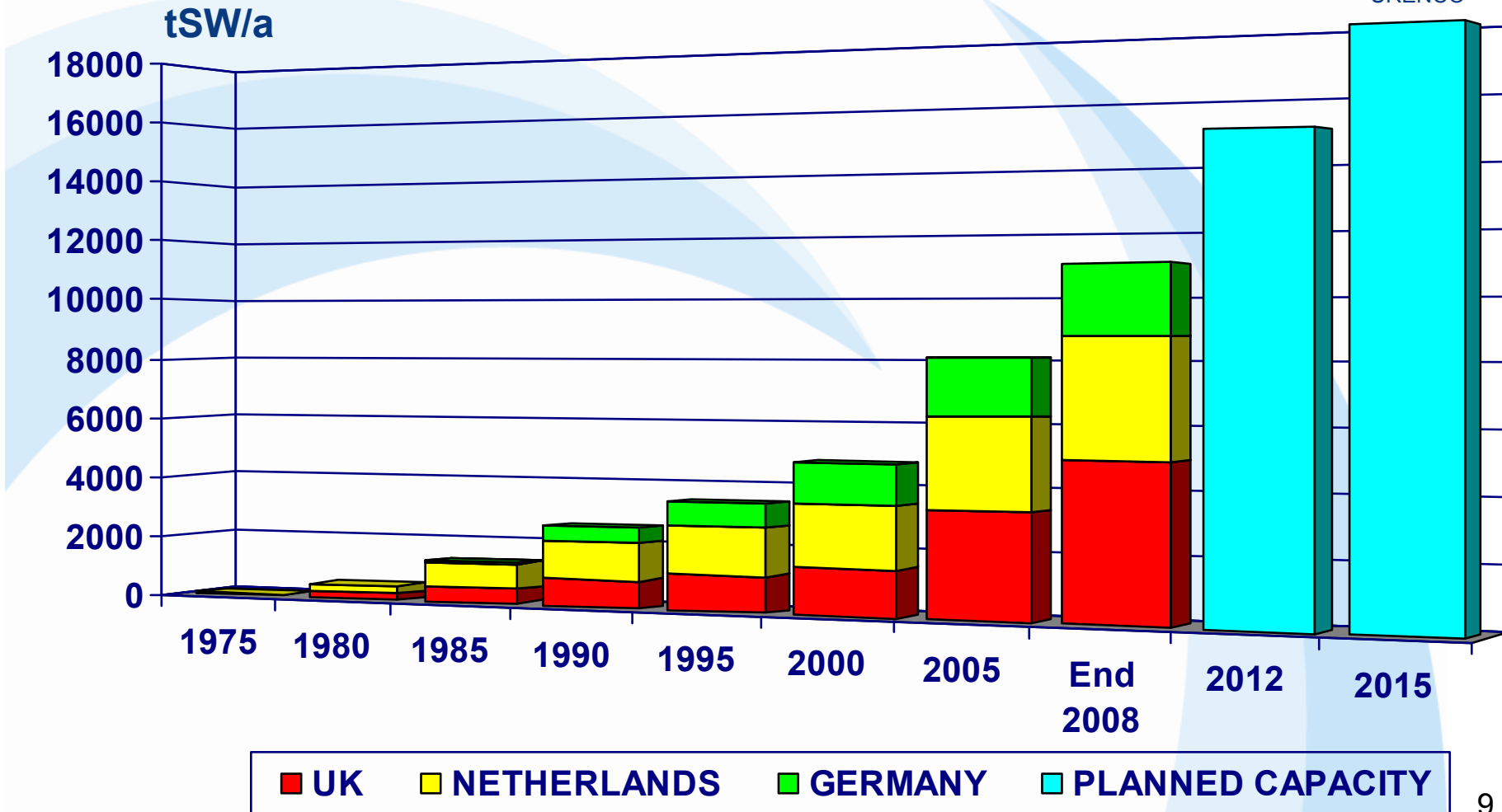




# URENCO Capacity Build-up: 1975 - 2015



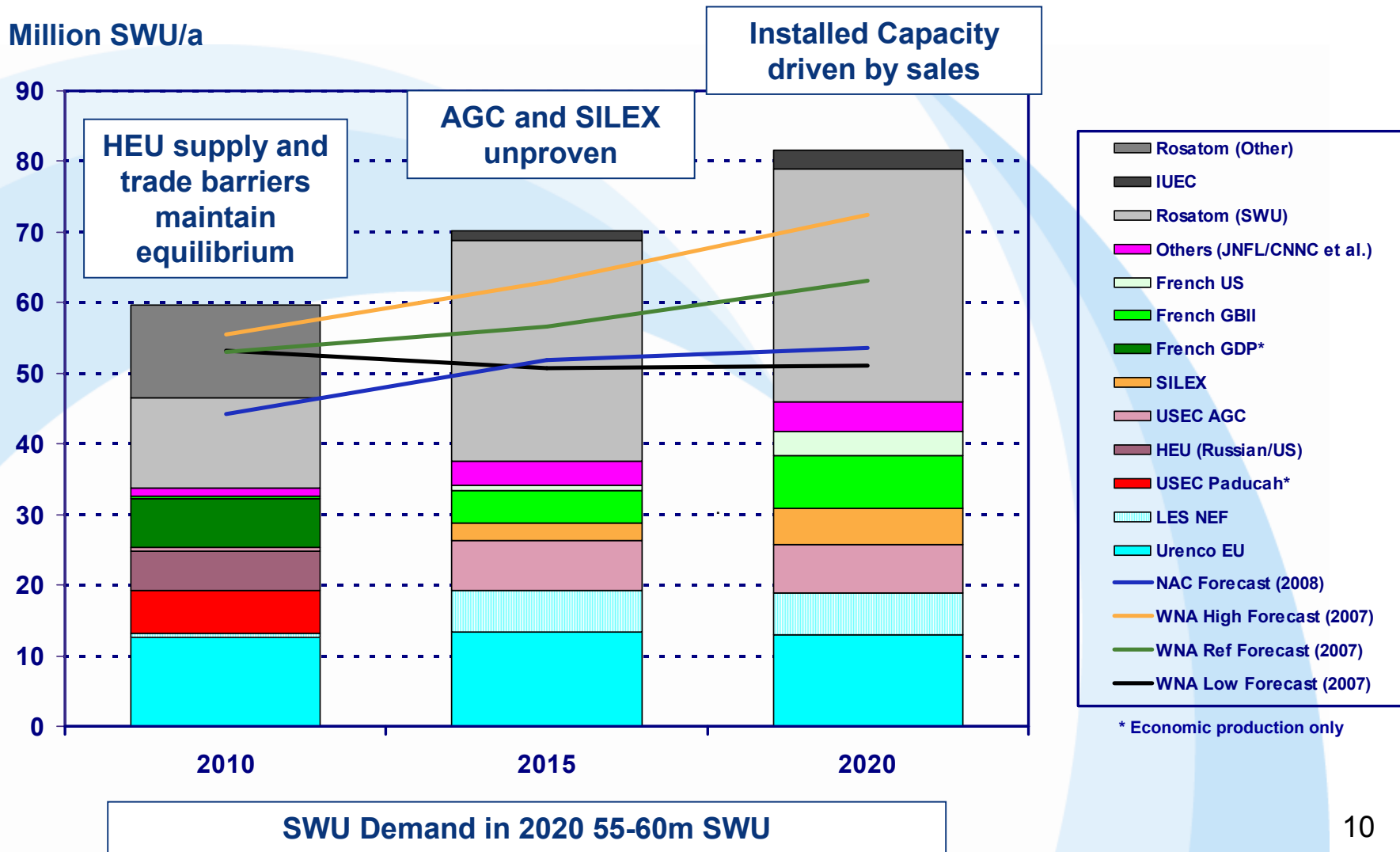
Source:  
URENCO



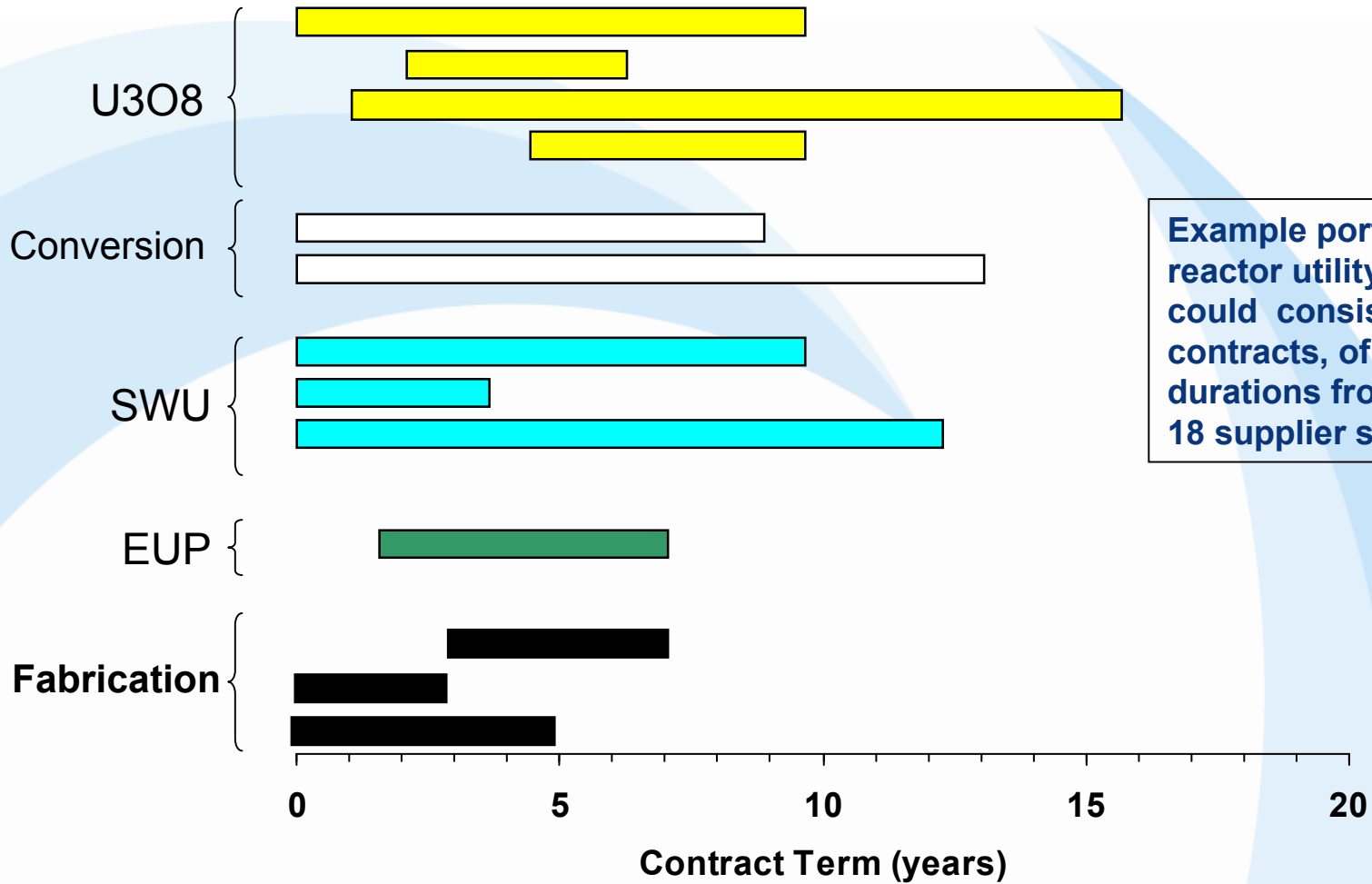
# Forecast Supply/Demand Balance: All Planned Supply Sources



Million SWU/a



# Typical Utility Supply Portfolio

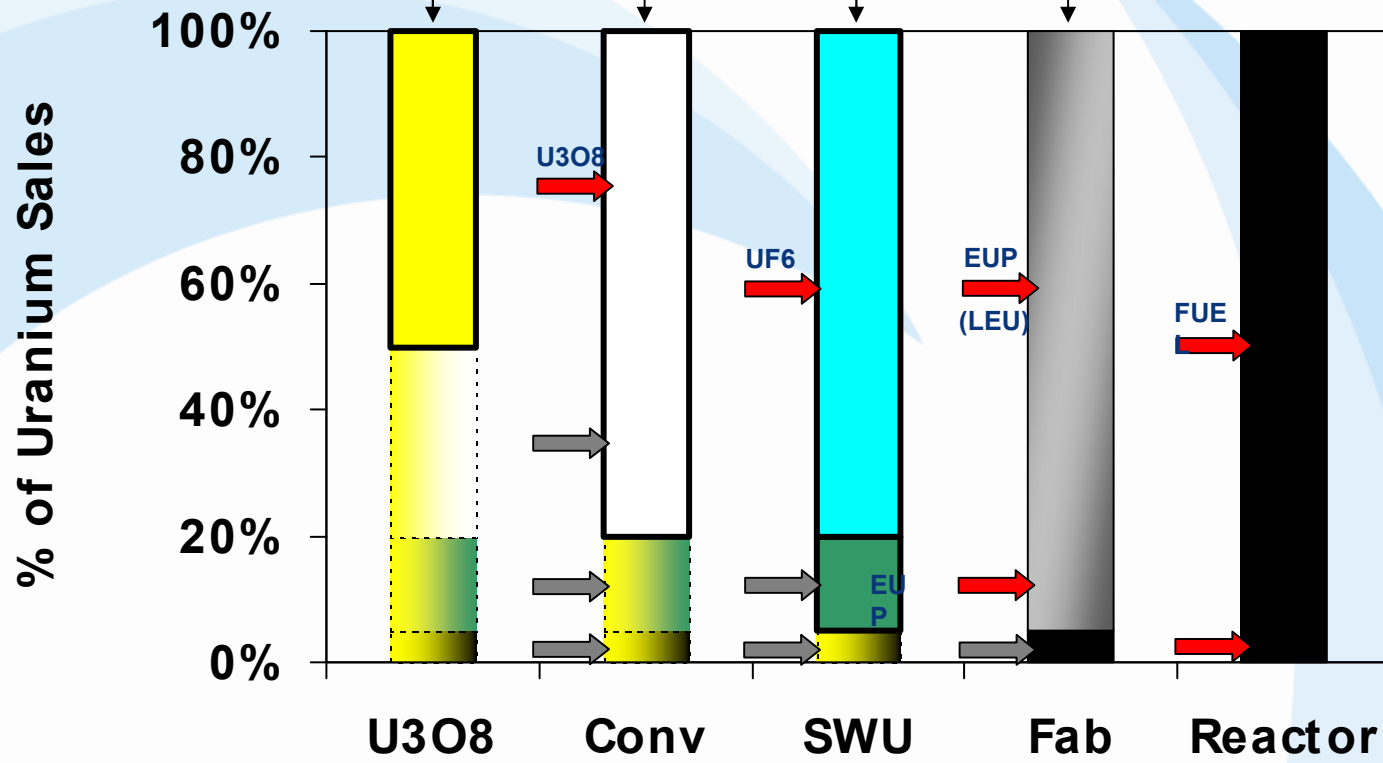


Example portfolio for a 3-4 reactor utility (in operation) could consist of 13 contracts, of various durations from as many as 18 supplier states.

# Contracting for Uranium versus Primary Exports



**2015 Market Volume :** 200 million lbs 70,000 tU 50 million SWU 8000 tU **TOTAL**  
**2015 Market Value :** \$14 billion \$1 billion \$8 billion \$2 billion **\$25 billion**



75tU per 1000 MW  
 PWR First Core  
**Value : \$230 million**

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25tU per 1000 MW  
 PWR Reload  
**Value : \$80 million**

= Supplier/customer contracts     ➔ = Customer specific export licenses  
➔ = Supplier specific export licenses

# Summary

- **Long-term fuel cycle contracts provide reliable supply at predictable cost**
- **By 2015 all operating enrichment capacity may be based on centrifuge**
- **Enrichment capacity expansion will be modular and adjusted to meet demand in a competitive market**
- **Two primary sources of technology (ETC or Russia) can provide all required capacity worldwide**
- **Sufficient enrichment capacity can be installed on time to meet forecast SWU demand for existing and new NPP worldwide**