

## Summary of Session 6

# Thorium Fuel Cycle & Transmutation

**Yacine Kadi**

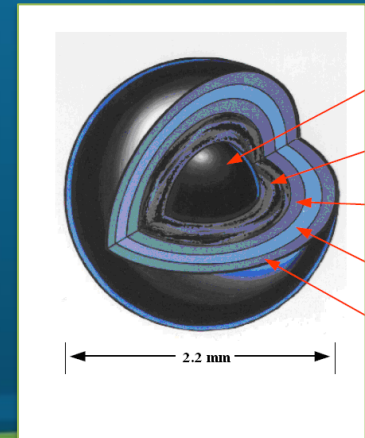
Thorium Energy Conference 2013

Globe of Innovation, CERN, Switzerland

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# Contribution#1

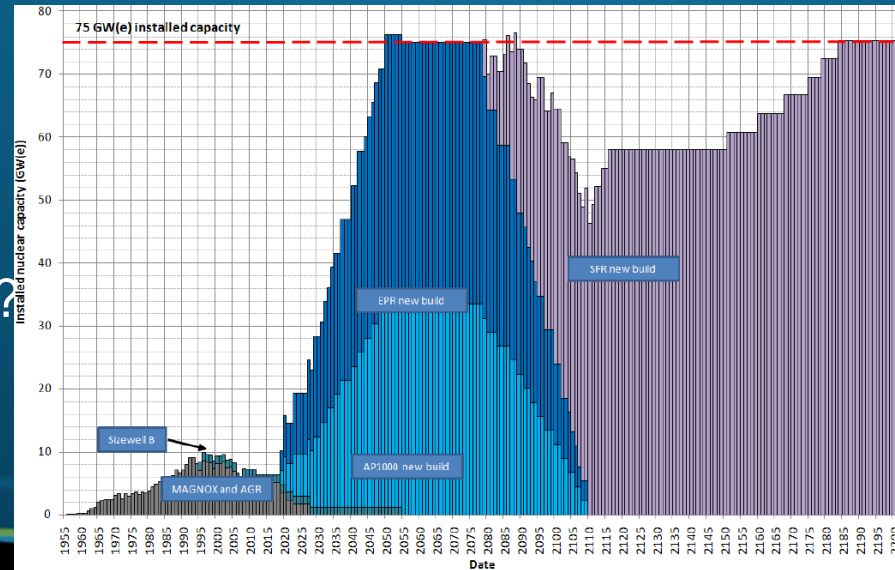
- Utilization potential of Th in CANDU reactors and in fusion-fission hybrid reactors  
by S. Sahin from Atilin University, Turkey
  - Detailed analysis of the use of triso particle based fuel in CANDU for deep-burn (400 GW d/t) of Pu and MA
  - Different blanket configurations for breeding tritium  
LiF-BeF<sub>2</sub>-thorium molten salt  
Li cooled ThO<sub>2</sub> fuels with Pu and MA



# Contribution#2

- The Thorium Fuel Cycle by D. Mathers, NNL, UK

- Detailed review of the thorium fuel cycle and its utilisation in advanced reactor systems (MSR, ADS)
- Fuel cycle scenario modelling => transition from LWRs to FRs
- MA waste, reprocessing capacity ?



# Contribution#3

- Recycling Challenges of thorium-based fuels  
by P.K.Watta, BARC, India
  - Extensive review of the Indian research wrt front end and back end of the fuel cycle including irradiations
  - Based on Aqueous reprocessing technology => alternatives ?

# Contribution#4

- Aqueous and Pyro-reprocessing  
by S. Delpech, CEA, France

# Contribution#5

- PSI studies on advanced fuel cycle options for fast/thermal MSR utilising thorium  
by J Krepel, PSI, Switzerland

# Contribution#6

- Nuclear data development related to Th-U fuel cycle in China by HaichengWU, CIAE, China

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# Thank You

Yacine Kadi

iThEC