



NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR.
Hazratbal, Srinagar-190 006, (J&K)

Prof. M. S. Mubashshir,
Director

No.NIT/DO/P/09/00

Dated 02.12.2009

Dear *Shri Prof. Vijay Sazawal ji,*

On behalf of Shri Wajahat Habibullah, IAS, Chairman, Board of Governors, National Institute of Technology, Srinagar, and, on my own behalf, I am bestowed with the honour to invite you to National Institute of Technology, Srinagar to deliver a lecture on "Advances in the Nuclear Fuel Cycle" to the faculty and students of the Institute at 2.30 p.m. on Friday, December the 4th, 2009, in DH-1.

With respects and regards,

Yours *Sincerely,*

(Prof. M. S. Mubashshir)

Shri Prof. Vijay Sazawal,
Professor of Nuclear Technology,
United States of America.

NIT hosts Sazawal

Nuclear technology expert insists on nuclear power generation

RIISING KASHMIR NEWS

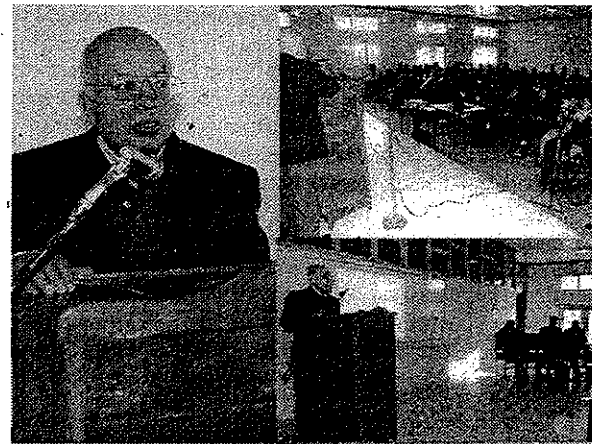
Srinagar, Dec 04: Advocating use of nuclear energy for the welfare of mankind, US-based Nuclear Technology expert, Prof Vijay Sazawal on Friday said the nuclear power generation can change technical and economical condition of the world.

Prof Sazawal was speaking

on 'Advances in Nuclear Fuel Cycle' here at National Institute of Technology, Hazratbal.

He discussed the cyclic generation and enrichment of nuclear elements for its beneficial uses besides highlighting the importance of centrifuge technology during the nuclear fuel cycling.

He also deliberated on the safe use of nuclear energy.

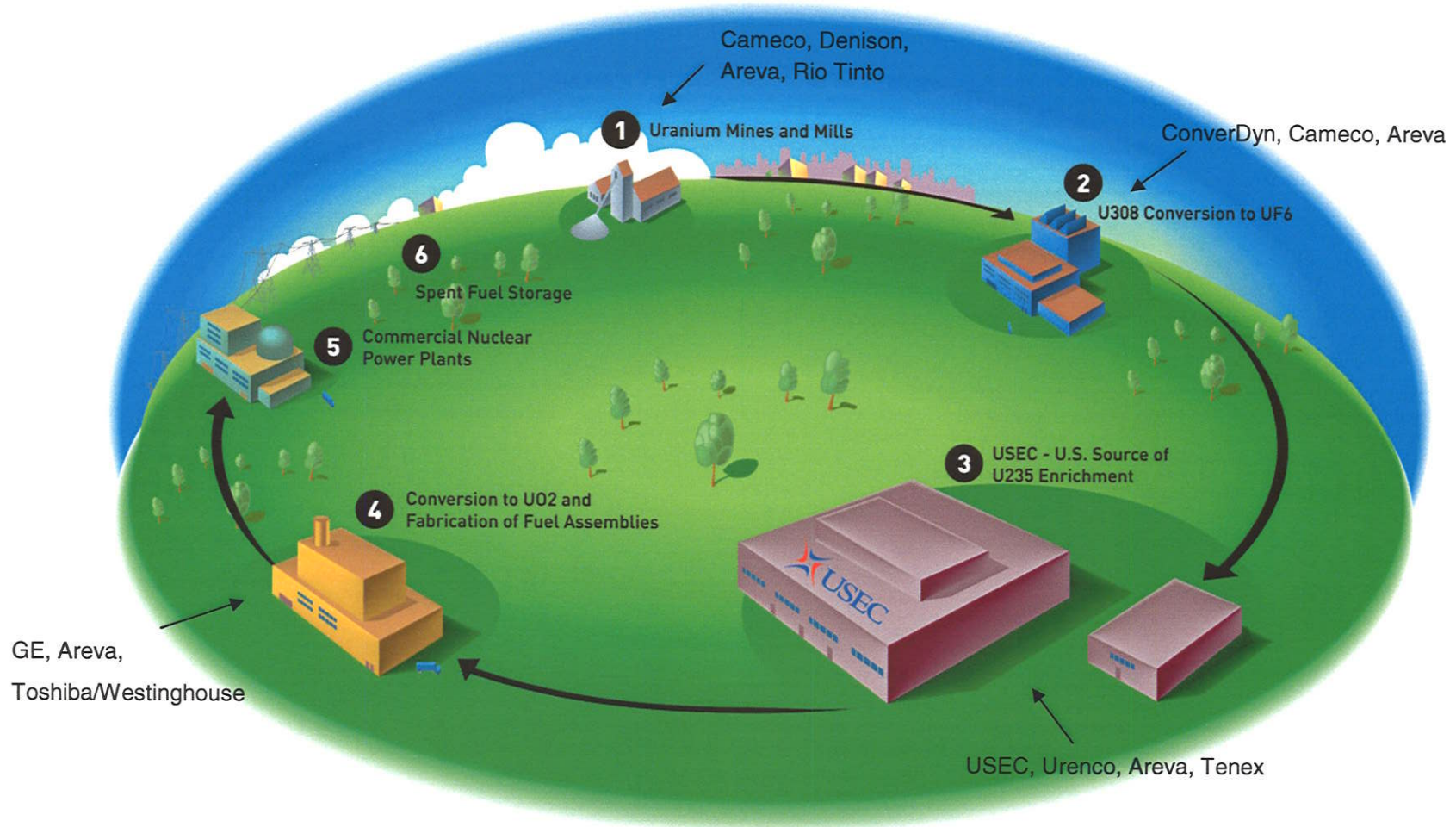


Advances in the Nuclear Fuel Cycle

Presentation at the NIT, Srinagar

Vijay K. Sazawal, Ph.D.
December 2009

The Nuclear Fuel Cycle (excluding Reprocessing and Repository)

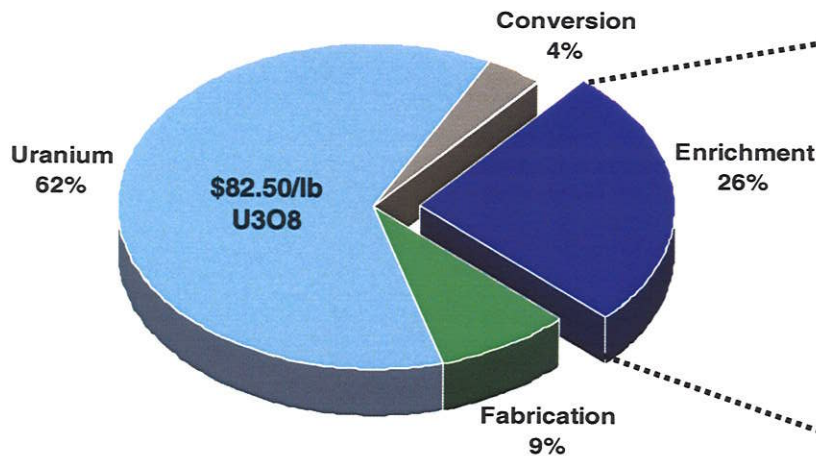


Advances in the Nuclear Fuel Cycle

- Mining
- Conversion
- Enrichment
- Fuel Fabrication
- Fuel Supply
- Nuclear Reactors
- Spent Fuel Management
- Reprocessing
- Repository

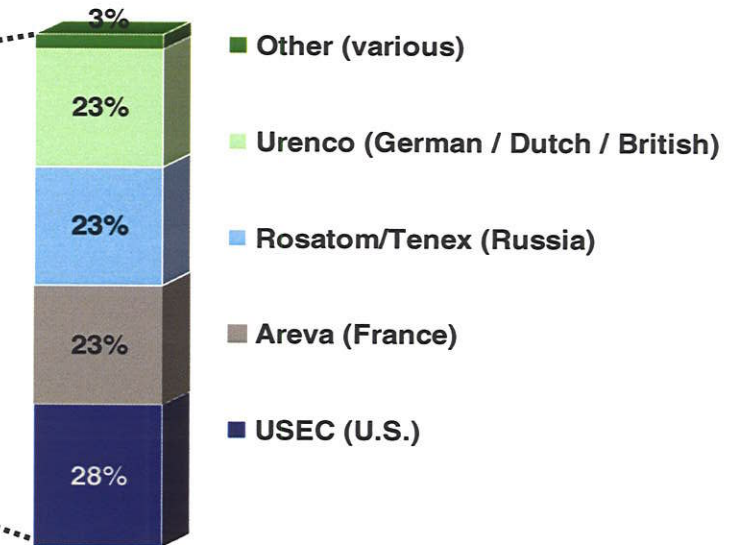
Enrichment Is a Key Element of the Fuel Cycle

2008 Front-End Nuclear Fuel Market Costs*



**Front-End Nuclear Fuel Industry:
\$23 Billion**

2007-08 Share of Worldwide Deliveries**



**Enrichment Industry:
~45 MMSWU*** or \$6 Billion**

*Based on TradeTech, LLC 2008 average market term prices and assumes 4.0% enriched, 0.30% tails

**NAC FuelTrac and USEC. Average of 2007 – 2008 estimated market shares. USEC market share includes Megatons to Megawatts

*** Composite based on ERI and NAC FuelTrac 2008 worldwide demand estimates

Summary

- Last 2 decades have brought considerable development
- Focus on safety PLUS non-proliferation
- New resolutions passed by the UNGA/UNSC affect the future of nuclear fuel cycle development, especially ENR technologies
- Latest sound bite: “assured fuel supply”
- “Trust but Verify”