Mitigating Climate Change

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Nuclear Technology for Climate

Mitigation, Monitoring, Adaptation

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A Challenge and Opportunity

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Innovation Opportunities

❖ Advanced Nuclear Power Systems

- More Passive features in NPPs- No offsite impact, cost reduction
- Low Gestation Time and Costs - Standardization, modular construction and economy of scale

❖ Advanced Fuel Cycles

- Closed Fuel Cycles (Breeder Reactors), and Thorium
- Management (Separation & Burning) of long lived wastes

❖ Developing Advanced Energy Applications

- Heating source, Desalination, etc
- Production of Hydrogen as an alternate energy carrier-High Temperature Reactors(HTRs)
- Accelerators Driven Systems for energy production and burning of long lived wastes.

Level playing field for Nuclear Power

- ***No Single Low Carbon Technology can address the climate and sustainable developmental goals simultaneously***
- ***Nuclear Power - most potent, clean and green technology for addressing Climate Concerns***
- **Should be considered at par with other low carbon technologies in extending benefits and support including**

Carbon credits, **must run status** and other financial incentives.

Addressing the Challenges

❖ Public Acceptance:

Gaining of Public trust through,

- Demonstrating **safe operation of NPPs**
- **Innovative** public outreach with transparency, clarity and fact based communication

❖ Financing

- Restructuring of financing models - More Debt
- Government, bilateral and multilateral funding
- Developing Consortiums among the companies
- Sovereign guarantees for investments

India's Climate Actions

- **Avoided 516 Million Tonnes CO_2 emissions by Nuclear**
- **Voluntary goal of reducing the emissions intensity of its GDP by 20–25%, over 2005 levels by 2020 - about 20% already achieved**
- **India's INDC commitment**
  - **Reduce the emissions intensity** of its GDP by 33-35% by 2030 from 2005 level
  - **40% cumulative installed capacity** from non-fossil fuel based energy resources by 2030
- **Actions**
  - Deployment of **low Carbon Technologies** - Nuclear power given boost
  - **Three Stage Nuclear Power Programme-Closed fuel Cycle**
  - Development of Future Technologies-**Thorium based technologies - MSBR, CHTR, ADS**

Thank You