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Panel Presentation 3

Workforce Development and Reskilling in the Energy Sector

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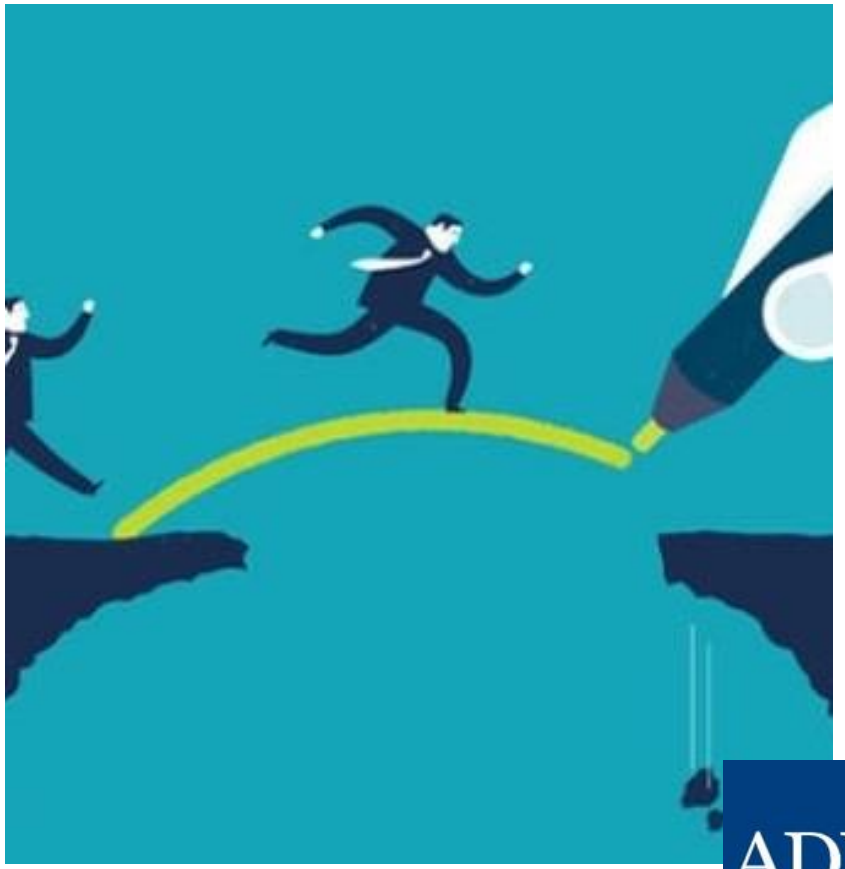
Key Messages

- **Workforce development** and **reskilling** are essential for India's energy transition to clean and sustainable solutions.
- Key challenges include bridging skills gaps in RE technologies like solar and battery storage, reskilling fossil fuel workers, and integrating digital skills for smart grids and AI-enabled energy systems.
- Gender equality and social inclusion (GESI) inclusion remains critical, with underrepresentation of women and disadvantaged groups in technical roles.
- India must prioritize scalable training programs in rural areas, foster public-private collaborations, and address climate resilience by training for disaster-resilient energy systems.
- Leveraging initiatives like the National Skill Development Corporation (NSDC) and regional cooperation can align training with market needs and ensure a future-ready energy workforce.

1. Skills Gap in Emerging Energy Technologies

- **Global Perspective**: The rapid deployment of RE technologies like solar, wind, and battery storage requires a workforce with specialized skills in system design, installation, and maintenance. However, there is a global shortage of skilled workers in these areas.
- **Asian Context**: Countries such as PRC and Vietnam have made significant progress in RE but face shortages of technicians skilled in operating and maintaining advanced energy systems.
- **India**: With the government's focus on solarization (e.g., solar pumps and feeders) and battery storage (e.g., two-cycle systems), India needs to upskill its workforce in RE technologies and grid management.

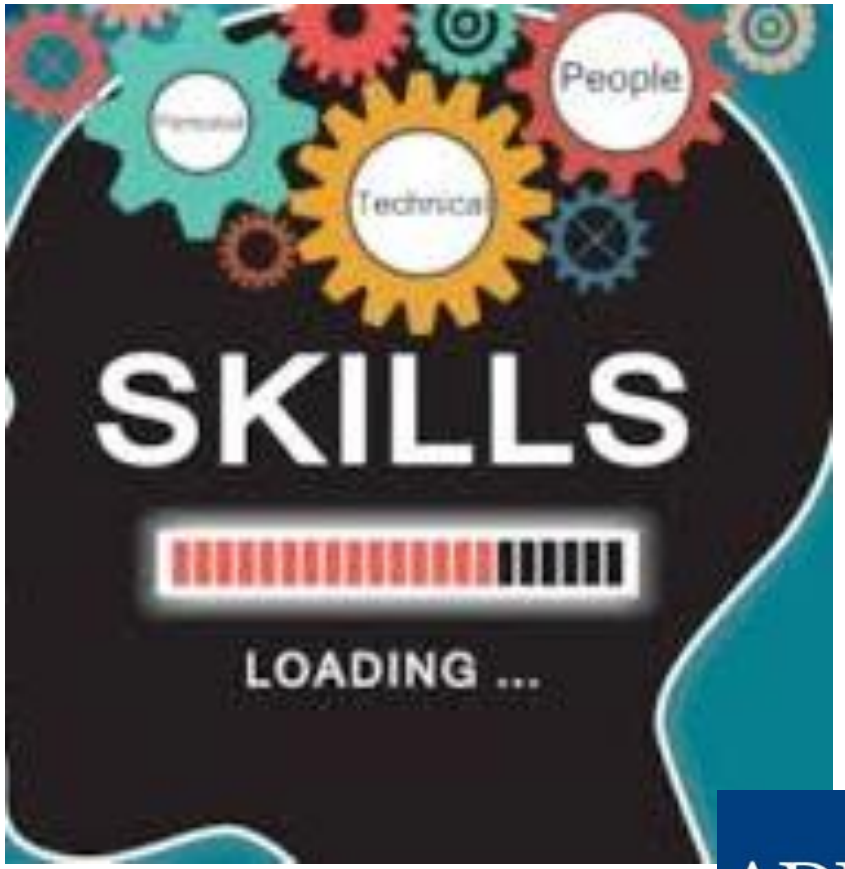


2. Reskilling Workers from Fossil Fuel Industries

- **Global Perspective:** The transition away from coal and other fossil fuels has left workers in traditional energy sectors vulnerable. Reskilling these workers for jobs in renewable energy and energy efficiency is essential.
- **Asian Context:** Coal-dependent economies face challenges in creating pathways for displaced workers in coal and thermal power sectors.
- **India:** As coal plants are decommissioned, workforce reskilling programs need to focus on training in RE, energy storage, and electric vehicle infrastructure development.

3. Integrating Digital Skills

- **Global Perspective**: The energy sector is increasingly digitized, requiring skills in smart grid technologies, data analytics, and AI applications.
- **Asian Context**: Countries like Singapore and South Korea have invested in training programs for digital energy management systems.
- **India**: India's push for smart grids and AI-enabled energy systems demands workforce readiness in digital skills to optimize grid efficiency and integration of renewables.



4. Gender and Social Inclusion

- **Global Perspective**: Women and marginalized groups remain underrepresented in the energy workforce, particularly in technical and leadership roles.
- **Asian Context**: Initiatives like the WBG-ADB supported *We-POWER* aim to enhance women's participation in South Asia's energy sector [▶ other dimensions: disabilities and SOGI].
- **India**: GESI remains a challenge, with women accounting for only a small fraction of the energy workforce. Promoting inclusive workforce policies is crucial for India's energy transition.

5. Affordable and Scalable Training Programs

- **Global Perspective:** Developing countries struggle to scale affordable, high-quality training programs.
- **Asian Context:** Regional cooperation, especially through initiatives like SASEC, addresses training gaps through knowledge sharing, capacity building, and cross-border collaboration. While SAARC aims to enhance integration, political challenges have limited progress, making targeted initiatives like SASEC more crucial.
- **India:** The government's ***Skill India initiative*** should prioritize sector-specific training, particularly in rural areas where renewable energy deployment is high.

6. Policy Support and Private Sector Collaboration

- **Global Perspective**: Government policies and private sector investments are needed to fund large-scale reskilling initiatives.
- **Asian Context**: Countries like Japan and South Korea have created public-private partnerships to accelerate workforce training.
- **India**: Partnerships with industries like Tata Power and state utilities can help align workforce training programs with market needs.

7. Supporting Older Workers in Transition

- **Global Perspective:**
  - **Income Support:** Strong pension systems and bridge programs in Germany and the Netherlands ensure financial security.
  - **Employment:** Flexible roles and mentorship keep older workers engaged.
  - **Health:** Sweden prioritizes affordable healthcare and mental health.
- **Asian Context:**
  - **Finance:** Microcredit from Grameen Bank empowers small businesses.
  - **Community:** Japanese cooperatives foster income and peer support.
  - **Policy:** Singapore integrates healthcare with financial aid for older adults.
- **India:**
  - **Support:** PM-KISAN (**Pradhan Mantri Kisan Samman Nidhi)** bridges job and retirement gaps.
  - **Loans:** PMJDY (**Pradhan Mantri Jan Dhan Yojana (PMJDY)** –financial inclusion initiative- enables small enterprises with accessible loans.
  - **Health:** Ayushman Bharat –towards Universal Health Coverage- aims to improve care; cooperatives support income and learning.