Challenges and Opportunities for Renewable Energy in the Asia-Pacific Region

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ISES WEBINAR
April 22, 2016
Balancing the ‘Energy Trilemma’

**Energy Security**
The effective management of primary energy supply from domestic and external sources, the reliability of energy infrastructure, and the ability of energy providers to meet current and future demand.

**Energy Equity**
Accessibility and affordability of energy supply across the population.

**Environmental Sustainability**
Encompasses the achievement of supply and demand side energy efficiencies and the development of energy supply from renewable and other low-carbon sources.

Figure 6.1  
Electricity demand by region in the New Policies Scenario

- Middle East
- Africa
- Latin America
- OECD Asia Oceania
- E. Europe/Eurasia
- India
- Other Asia
- OECD Europe
- OECD Americas
- China

End point of range:
- 450 Scenario
- Current Policies Scenario

SOURCE:
“WORLD ENERGY OUTLOOK 2014”
(PUBLICATION OF INTERNATIONAL ENERGY ASSOCIATION (IEA))
NEW POLICY SCENARIO (IEA)

- Energy policies to limit the long-term average global temperature rise to 2° C.
- Policies promoting renewable energy, energy efficiency, alternate fuels and vehicles
- Commitment to reducing carbon emissions
- Removal of inefficient fossil fuel subsidies
Figure 6.8  World electricity generation by source in the New Policies Scenario

Source: IEA
CHALLENGES

- Countries of different sizes and level of advancement
- Geographical variations
- Political conditions
- Energy priorities
- Economic conditions
- Needs of people and society
OPPORTUNITIES

• Declining cost for renewable energy
• Technological advances
  o Smart Grid
  o Energy Storage
  o Electric Vehicles
• Worldwide acknowledgment of global warming (Paris 2015) and willingness to make a change
“……..we endorse the Energy Ministers’ aspirational goal to double the share of renewables including in power generation by 2030 in APEC’s energy mix. We affirm our commitment to rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption while still providing essential energy services.”
Ministers stressed the importance of clean energy technologies, energy efficiency and low carbon initiatives, and renewable energy development and deployment to further progress toward the Leaders’ goals of reducing energy intensity by 45 percent by 2035 and doubling renewable energy by 2030 in the region.

Ministers emphasized the need to increase energy access, particularly in remote communities, and noted the benefits of microgrids, energy storage, and integration of renewables into the grid.

They welcomed the activities already undertaken by the Energy Working Group and strongly encouraged the acceleration of renewable energy projects to further progress toward the Leaders’ renewable energy goal.
APEC MEMBER ECONOMIES SPAN THE PACIFIC
APEC RENEWABLE ENERGY WORKSHOP

November 10-11, 2015: Daegu, Korea

- **Currents trends and barriers**: policy, technical, and social to advancing renewable energy

- **Opportunities and strategies** for strengthening renewable energy implementation: emerging technologies, innovative financing, public-private partnership, and business strategies

- **Best practices** for advancing renewable energy: training for capacity building, reducing soft costs, resources for information sharing, and stakeholder engagement

- **Guidelines** for economies to prepare a roadmap to **DOUBLE** renewable in the energy mix by 2030.
WORKSHOP AGENDA

• Presentations by experts on global projections for renewable energy, projections and consequences for the APEC region, system integration and flexibility issues, renewable energy for buildings, and green technologies

• Experiences and plans by delegates from Korea, China, Chinese Taipei, Japan, Malaysia, Papua New Guinea, Peru, Philippines, Thailand, and Vietnam
BRAIN STORMING OUTCOME
Top Five Issues for the future

1. Education, training, collaboration, and information exchange
   - Education and training
   - Encourage international and interregional information exchange
   - APERC could work on reporting of progress towards RE goals
   - More collaboration among different APEC working groups

2. Policies
   - Keep policymakers informed
   - Policies unstable or lacking
   - Classification of doubling RE targets by sector is needed
   - More coordinated approach to achieving doubling RE goal
   - Renewable are not a priority
BRAIN STORMING OUTCOME
Top Five Issues for the future

3. Market reforms
   3. Cost of renewable energy for developers and consumers
   4. Subsidy removal in the electricity market
   5. Foothold of fossil fuels industry

4. Technology
   3. Leverage advances in smart grid and energy storage
   4. Integration of RE both in buildings and the grid is challenging
   5. Maintain compliant and licensed service providers
   6. Lengthening local manufacturing chain

5. Strategic and innovative financing
   3. Creating bankable projects
   4. Eliminate upfront costs