Sustainable Energy Development Strategy for Bangladesh: Going towards Green

Sustainable & Renewable Energy Development Authority

Government of the Peoples Republic of the Bangladesh

Ministry of Power, Energy and Mineral Resources

Power Division

11 November 2014
Vision 2021

50 years of Independence

- Electricity for all (with quality)
- Ensuring Energy Security with Sustainability
- Generation – Transmission - Distribution
5 (five) Fuel Strategy for Sustainability/Security

• Priority 1: Natural Gas
• Priority 2: Coal
• Priority 3: Energy efficiency
• Priority 4: Renewable Energy
• Priority 5: Nuclear
Renewable Energy Development
Energy Efficiency Improvement
Priority area considering
- Energy Security
- Environment
- Climate Change Mitigation
Renewable Energy Development: Enabling Policies

- Systematic approach towards RE development
- 6th Five year plan (11-12 to 15-16) envisages development RE
- Bangladesh Climate Change Strategy & Action Plan 2008 identifies RE an important mitigation measure under its 5th pillar of ‘Mitigation & Low Carbon Development’
  - Policy adopted in December 2008 (Effective from 2009)
  - A dedicated agency formed: Sustainable and Renewable Energy Development Agency (SREDA)
Renewable Energy Policy approved in 2009

Create environment & encourage the use of renewable energy

Sustainable and Renewable Energy Development Agency (SREDA)

Renewable Energy Policy envisions:
- 5% of total power from renewable sources by 2015
- 10% of total power from renewable sources by 2020-

Policy demands:
- 800 MW power from renewable by 2015 (including Hydro)
- 2000 MW power from renewable by 2020
- 4000 MW power from renewable by 2030
Policy Objectives:

• Harness Renewable Energy Potential & Disseminate
• Enable, Encourage & Facilitate Public & Private Sector development
• Scale up Renewable Energy for Electricity & Heat Energy
• Promote Appropriate, Efficient & Environment Friendly use of Renewable Energy
• Develop Capacity at every level.
Renewable Energy Development Roadmap

- Policy & Regulatory Framework Development
- Institutional Framework Development
- Capacity Development
- Project Development

Target Achieved

- Assessment of Potential
- Project Identification
- Impl.
800 MW Target by 2015

a. Solar 500 MW
b. Wind 015 MW
c. Biomass/gas 010 MW
d. Hydro 250 MW
e. Others 015 MW
500 MW Target Solar by 2015

a. Commercial Projects - 340 MW
   i. BOO
   ii. RAPSS

b. Social Solar Projects - 160 MW
   i. Health Center
   ii. Remote educational institutes
   iii. Union Information Centers
   iv. Un electrified Religious institutes
   v. Railway stations
   vi. Government Offices in off grid locations
Existing Incentives from Government

• Electricity from Renewable Energy Projects (less than 5 MW) - Purchase by Utility or any Consumer

• Exempted from Corporate Income Tax for 10 years.

• RE Equipment/Raw Materials Exempted 5% VAT

• An Incentive Tariff

• Duty exemption: Solar, LED, Wind Power Plant

• Promotional Funds for Renewable Energy Projects:
  - Bangladesh Bank
  - IDCOL
  - Commercial Banks
  - Donors like GiZ involvement
# Achievement on Renewable Energy Development

<table>
<thead>
<tr>
<th>Category</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar Home System (SHS)</td>
<td>124 MW (2.4 Million Units)</td>
</tr>
<tr>
<td>Other Solar PV Applications (e.g. Markets, Office Buildings etc.)</td>
<td>1 MW</td>
</tr>
<tr>
<td>Roof-top Solar PV Systems</td>
<td>10 MW</td>
</tr>
<tr>
<td>Wind Energy</td>
<td>2 MW</td>
</tr>
<tr>
<td>Biomass based electricity</td>
<td>1 MW</td>
</tr>
<tr>
<td>Biogas based electricity</td>
<td>1 MW</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>108MW</strong></td>
</tr>
<tr>
<td>Hydro Power</td>
<td>230 MW</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>369 MW</strong></td>
</tr>
</tbody>
</table>
Barriers to promotion of RE

- High cost of generation
- High initial investment
- Low purchasing power of potential consumers
- Lack of awareness among the potential users
- Absence of policy/legal framework
Energy Efficiency issue
Energy Efficiency Action Plan

• Government prepared Energy Efficiency Action Plan
• Following targets set up by the Government:
  - 10% of primary and secondary energy saving by 2015
  - 15% by 2021 and
  - 20% by 2030
• 39 interventions identified in Industrial, Commercial and Residential sector
• Energy Efficiency & Conservational Masterplan upto 2030 under preparation
Energy Efficiency (EE) Action Plan

Major interventions are identified:

• Improve EE in Generation-Transmission & Distributions
• Demand Side Management through introduce:
  - Time of Use (TOU) & Prepaid Metering
  - Replace energy inefficient electrical equipment and appliances by efficient one
  - Discourage unnecessary lighting and illumination in community centers, markets and in residential buildings
  - Commercial and Industrial Re-lamping Program
  - Improve Boiler and Furnace efficiency
Energy Efficiency Action Plan (Cont…)

- Introduction of Solar Water Heater
- Retrofitting Urea Fertilizer Plants
- Introduction of Improved Brick Kiln
- Introduction of improved rice parboiling program
- Waste Heat Recovery and Co-Generation in Industrial Power Units
- Improve energy efficiency of Gas Burners
- Accelerate dissemination of Improve Cock Stove
Donor Cooperation on RE & EE

- Memorandum of Understanding (MoU) on India-Bangladesh Renewable Energy Cooperation signed on 6th September 2011 at Dhaka during the visit of Honorable Prime Minister of India.

- Another MoU has been signed between Bangladesh and UK to support R&D in renewable energy and energy efficiency.

- Different donor agencies and development partners providing support to develop renewable energy in the country.
Donor Cooperation on RE & EE
Power & Energy Research Council Bangladesh (PERC) 2013

• Draft is ready and sent to Cabinet Committee.
• The function of PERC would be-
  - To act as a research organization in Power & Energy sector;
  - Technological solutions for improvement of RE, EE
  - To disseminate the result of the Action Research to the utilities/industries for its implementation
  - To involve the national and non-residence Bangladeshi scholars in research work
  - To arrange fund for research
  - To network with national and international Organization
  - To involve national and international scholars/business leaders/academician and researchers to advise the council

Work for Sustainability & Security of Energy
Development Impact

• Improved quality of life through access to electricity
• Wider coverage of rural areas under electrification
• Impact on poverty alleviation through creation of income generation opportunities
• Impact on women empowerment
• Impact on education and right to information
Thank you
Sustainable Energy Development Strategy for Bangladesh: Going towards Green

Your Feedback

Shah Zulfiqar Haider, Peng, CEA
Director (EE & C)
Sustainable & Renewable Energy Development Authority
Power Division, Ministry of Power, Energy and Mineral Resources
Government of the Peoples Republic of the Bangladesh
Email: szhaider123@hotmail.com