Philippine Bioenergy Situation

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Philippine Energy Situation

Total Primary Energy Supply, 2012

- Coal: 21.72%
- Natural gas: 7%
- Oil & Oil Products: 32.31%
- Geothermal: 20.55%
- Hydro: 5.95%
- Wind: 0.151%
- Solar: 0.0003%

Total Final Consumption, 2012

- Renewable Energy: 27%
- Coal: 10%
- Natural Gas: 0%
- Oil & Oil Products: 63%

Energy Use By Sector, 2012

- Industry: 25%
- Transport: 36%
- Residential: 25%
- Commercial: 12%
- Agriculture: 1%
- Non-Energy Use: 1%
Data collection

- **Basis** – Energy laws
- **Data Users** – policy makers, business community, international organizations, general public
- **Main issues** – timeliness, accuracy, availability of data

### Power Generation Mix, 2012

- **Coal** 29.025%
- **Natural gas** 13.790%
- **Oil & Oil Products** 4.474%
- **Hydro** 11.759%
- **Geothermal** 40.609%
- **Wind** 0.030%
- **Biomass** 0.312%
- **Solar** 0.001%
- **Biomass** 0.312%
Philippine Agriculture Situation

- Main food crops produced – rice, corn, sugarcane, cassava, banana, coconut, pineapple
- Main export staples - none
- Crop residues/waste produced – sugarcane bagasse, rice straw, rice hulls, corn cobs, corn stovers, coconut shell, coconut husks
- Agriculture strategy – technology innovations, modernization thru public investments and good governance
- Main issues – absence of a national Land Use Policy; availability of water for irrigation; fragmented farms due to agrarian reform
Bioenergy in the Philippines

- **Policy frameworks for bioenergy**
  - **Biofuels law** – mandates that all liquid fuels in the Philippines contain locally-sourced biofuels; current mandate is 2% biodiesel and 10% bioethanol blends; [target biofuels blends](#)
  - **Renewable Energy Law** – provides fiscal incentives such as income tax holiday, duty-free importation of machinery & equipment; [biomass roadmap; Fit Rates](#)

- **Biomass resource availability** – local and national level assessment on current and future biomass production potential were done in the past through the study on the “Establishment of a Lignocellulosic Feedstock Data Bank and a Single Agriculture and Forestry Bioenergy Network”; potential expansion areas have been identified for matching with potential investors; actual measurement of biomass produced especially n cor, rice and coconut are based on percentage composition of the crop. Sugarcane bagasse volume are actual data from the sugar mills gathered by SRA.

- **Market potential and economic impact** of bioenergy production – market is assured because it is a mandated market; several feasibility studies were made by private investors on costs and government has laid down the National Biofuels Program and National Renewable Energy Program supportive of long-term investments; Employment benefits has been studied by the Department of Labor and Employment and the biofuels law provides for the socio-economic benefits of biofuels workers

- **Technology, infrastructure and required skills** are all available although these need improvement, updating and capacity building initiatives
Target Biofuel Blends

B5, E10
• 2015

B5, E10
• 2016

B20, E10
• 2020

B20, E20
• 2025

B20, E20/85
• 2030
Biomass Roadmap, 2011-2030

- **2011**: FIT, RPS and other policy initiatives have been promulgated. 276.7 MW biopower capacity are added to the grid.
- **2015**: Mandatory B5 to all Diesel by 2015.
- **2020**: PNS for B10 and E20 by 2020.
- **2025**: DC on B10 and E20 by 2025.
- **2030**: DC on B20 and E85 by 2025.

**FIT and RPS**

1. Mandatory E10 to all Gasoline by 2012.
2. DC on B5 by 2015.
3. DC on B10 and E20 by 2020.
4. DC on B20 and E85 by 2025.

Assessment of Biomass Utilization; Identification of new projects.

Continuing resources development, R, D & D and technology support activities.
## Updates on RE Policy Mechanisms

### APPROVED FIT RATE

<table>
<thead>
<tr>
<th>RE Resources</th>
<th>FIT Rate (Php/kwh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>9.68</td>
</tr>
<tr>
<td>Wind</td>
<td>8.53</td>
</tr>
<tr>
<td>Biomass</td>
<td>6.63</td>
</tr>
<tr>
<td>Run-off river hydro</td>
<td>5.90</td>
</tr>
</tbody>
</table>
Recommendations

- Fragmented farms need to be consolidated back to plantation size and managed as an agribusiness enterprise; a national land use policy should be legislated to ensure food security and avoid undue conversion of agricultural lands and protected / environmentally fragile areas.

- There is a need for a firm and stable policy framework to sustain investors’ confidence in the country that will ensure long-term investment profitability.

- Changes in the policy structure will take long considering the political nature of the country, however, structural reforms such as consolidation of lands, infrastructure development, capacity building, technology advancement/development can be done depending on fiscal support and good governance.

- Changes in the policy structure such as a national land use policy and amendments to existing laws on biofuels and renewable energy need legislators’ support while fiscal support and good governance rest upon the cabinet heads, economic managers and members of the National Biofuel Board and National Renewable Energy Board.

- Doable assistance is through international cooperation on technological advances and technical / financial assistance on capability building of workers, farmers and technical working groups.
The Philippines is committed to sustain the development of bioenergy to supplement food security efforts, develop the countryside and local economies, and provide a cleaner and healthier environment for our people.
Thank You

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