Islamic Republic of Afghanistan
Overview of Power Sector Status

Task Force Meeting
Energy Charter Treaty

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Current Status of Electric Supply in Afghanistan

- Approx. 20% of population has access to electric energy

- 543,000 connections to public grid – 33% in Kabul

- Afghanistan National Development Strategy mandates expanding existing networks to serve 90% commercial, 65% residential in urban areas, and 25% rural household (2010)

- Most of current generation is from 30-40 year old hydro and thermal plants, most of which are being upgraded

- Considerable development funds being spent on diesel fuel; meets only a small portion of immediate needs; not sustainable
Afghanistan – Electric Power System
Snapshot - 2008

Current operating capacity: 360 MW
Imported Power: 100 MW

Current Annual Energy Consumption in AFG: 1,200 GWh
Estimated unconstrained winter peak demand in AFG: 530 MW
Current shortage in Kabul (winter): 200+ MW

Load shedding both in summer and winter
Transmission System – Existing and under construction
Medium Term Projection

Estimated Unconstrained Power Demand in MW*

<table>
<thead>
<tr>
<th>Year</th>
<th>Kabul</th>
<th>Other NEPS</th>
<th>NEPS NEPS</th>
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<tbody>
<tr>
<td>2008</td>
<td>530</td>
<td>n/a</td>
<td>530</td>
</tr>
<tr>
<td>2010</td>
<td>720</td>
<td>430</td>
<td>1,150</td>
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<tr>
<td>2015</td>
<td>1,240</td>
<td>970</td>
<td>2,210</td>
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* Afghan Energy Information Center Forecast
Planned Generation inside Afghanistan

Planned Generation
- Kabul Diesel 108 MW (2008-09) – under construction
- Sheberghan Gas fired 105 MW (2011) – under active study
- Surobi II Hydro 180 MW – Feasibility Study
- Baghdadara Hydro 280 MW – Feasibility Study
- Panshir (Gulbahar) Hydro 120 MW – Feasibility Study
- Studies ongoing for small, mini, and micro hydro
- Aynak Copper mine Project Coal-fired 400 MW (200 MW to grid) – under negotiation
Significant Additional Capacity Required to Meet Demand

Kabul Power Production Capacity
Base Case

MW

- 200 400 600 800 1000 1200 1400

Total Capacity Available
Unconstrained Peak Load

ICE Secretariat and AEIC
Import of Power - Initiatives

Tajikistan
- 150 MW by 2010; 300 MW by 2012/13
- Transmission lines and substations completed or under construction (2009 Dec commissioning)
- Tajikistan border to Pul-e-Khumri Node – 164 km
- PPA negotiations underway

Uzbekistan
- 150 MW by Oct 2008; 300 MW by 2010
- Agreements to build 43 km 220 kV two single circuits in Uzbekistan being signed
- Transmission lines and substations completed or under construction (2008 October commissioning)
- Hairatan to Kabul (Chimtala) Node – 420 km
Import of Power – Initiatives 2

Turkmenistan
• 300 MW by 2011 (with transaction time of 6 months max.)
• Maximum import possible 800-1000 MW
• Transmission lines and substation committed funding
• Aqeeqa to Naibabad Node – 271 km
• Protocol of Technical Experts signed April 9, 2008

CASA 1000 (4000)
• 300 MW in 2013/14
Current NEPS Funding Needs M US$

- Donor Funding: 379
- Gov IROA Funding: 160
- Unfunded: 956

- Donor Funding
- Gov IROA Funding
- Unfunded
Commercial Reforms/Initiatives

• Pending Energy Charter Treaty membership in Cabinet

• Incorporation of Government owned Electric utility (DABS)

• Establishment of electricity Regulator

• Opportunity private investment in power sector
Long term Outlook

- Afghanistan – a power transit Country
  - Energy Charter Treaty: accession ongoing
  - CASA 1000 (4000)

- Extended National grid
  - NEPS Phase 2
  - SEPS

- Regional Distribution Expansion

- Rural Electrification