Turkey Electricity Market Reform
ESMAP’s Role

Energy Week

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Turkey’s Electricity Reform Program

- Strong **independent regulator** in place for 8-9 years
  - **Tariff reform** – **cost-based pricing** for electricity and gas in place, modified quarterly, automatically
  - Licensing and supply quality monitoring

- **Modern electricity market**
  - 18-20% of wholesale electricity transacted through the market
  - ~50% of retail consumers eligible – free to choose supplier
  - Day-ahead market scheduled to start shortly

- **Strong program of privatization** in electricity and gas
  - Entire distribution business sold – US$ 16 billion
  - Private greenfield gas distribution companies in all major provinces
  - Elec. Gen. privatization to start shortly

- **Major effort in clean energy** – Renewable and Energy efficiency
  - **15,000 MW of wind** expected over next 5 years
  - Large scale ongoing hydro program
Key priorities supported by ESMAP 2007 – 2011 (ongoing)

- Mitigation of supply security risks
- Capacity building for electricity market operations
- Support for the development of “actively managed grid” operations (“smart” grid sort of effort) – in order to enable efficient integration of intermittent generation
Mitigation of supply security risks

- Assessment of extent of risks – timing and magnitude
- Assessment of solutions consistent with competitive liberalized market structure
  - Broad spectrum – IPP model to competitive auctions for new capacity
- Solution proposed:
  - Capacity-based incentive mechanism + competitive auction for new capacity
  - Draft regulations
  - Amendments to Energy Market Law to enable supply security measures
Capacity Building for Electricity Market Operations

- Support for economic valuation of water (for hydro operations)
- Capacity building for system operations/dispatch of intermittent energy (wind mainly)
- Capacity building for market splitting
- Also supported the assessment of options for improving the autonomy of the transmission system/market operator
Development of actively managed grid operations

- This study aimed at assisting the economic and efficient integration of the large-scale intermittent generation planned (wind mainly)

- Diagnosis of the current grid, system operation, SCADA, telecom
- Assessment of international practices – Spain, Italy, Germany…
- Development of specific investment needs in SCADA, grid, telecom – in order to enable optimal utilization of wind energy, while reducing the incremental back-up requirement
- Assessment of regulatory aspects, grid code requirements

- Follow-on work ongoing – Capacity building for system operator for AMAG operations

- This work is expected to feed into a proposed CTF loan for a “smart” grid type solution in support of RE development
Thoughts

- Trust fund resources are absolutely critical for the Bank’s partnership on complex programs such as in energy.

- Going forward, several areas emerge as priorities for ESMAP support:
  - Further capacity building for transmission company – planning, day-ahead market operations, demand-side participation in market operations
  - Energy efficiency
  - Support for regulatory framework for RE
  - Broader environmental sustainability issues relating to RE development

- ESMAP’s annual cycle can sometimes impact efficient implementation.

- Existing funds are insufficient, compared to the needs of client countries.