Middle East & North Africa

Power Sector Financial Vulnerability Assessment

Concluded in February 2010

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Key Findings

Power Demand & Supply

- Lower demand growth in 2009/2010, around 4-5% per year. Medium to long term trends unchanged, typically in the 6-7% per year range.
- Additional capacity is still needed & no major change to national investment plans.
- In the next 5-7 years:

<table>
<thead>
<tr>
<th>Country</th>
<th>Additional MW</th>
<th>Current MW</th>
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</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>&gt; 9,000</td>
<td>~ 22,600</td>
</tr>
<tr>
<td>Jordan</td>
<td>&gt; 1,000</td>
<td>~ 2,600</td>
</tr>
<tr>
<td>Morocco</td>
<td>&gt; 4,000</td>
<td>~ 6,100</td>
</tr>
<tr>
<td>Tunisia</td>
<td>&gt; 1,400</td>
<td>~ 3,300</td>
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</tbody>
</table>
Public Investment

- Generally on balance sheet – corporate financing
- Development FIs (especially regional ones) are active
- Local banks more active
- Islamic finance complements traditional finance
- Debt capital market instruments not widely used
- Benefit from concessionary/low interest rates
- Priority given to public-private partnership
Key Findings – Financing (2)

**Private Investment**

- Development FIs and export credits are active. ECAs maximum tenor: 12 yrs post-completion for fossil fuel-fired & 18 yrs for renewables and nuclear. CIRR 2.4 – 4.1%.
- Higher commercial margin (+ 300 bps vs < 100 pre-crisis), but all-in financing cost remains commercially viable
  - Long-tenor swap/CIRR 4-5 % + margin 3-4% → 7-9% all-in
- International banks: lending shorter (< 10 yrs); requiring risk coverage; less number players
- Reduced leverage / higher bank fees / stricter covenants
- Local banks more active / Islamic finance complements traditional finance/ debt capital instruments not widely used
- Refinancing is envisaged
Case Study - Egypt
Egypt – A Case Study

• An unbundled power sector, with 10% IPP share
• 22.6 GW installed capacity, of which 19 GW is fossil-fueled
• Fuel mix: ¾ natural gas, ¼ fuel oil, residual diesel
Key Issues

- Step-up investment program: 9,000 MW vs 22,600 MW installed
- Higher capital cost for new projects
Egypt – A Case Study (cont.)

Key Issues (2) – structural issues creating financing gap

• Tariffs increases (~7% pa) commenced in 2004, now on hold
  – Average tariff 3.4 US cents/kWh

• Public power utility:
  – Highly leveraged (liabilities-to-equity > 8x)
  – Limited room for significant cost control
    • Fuel unit cost is already low (gas $1-3/MMBtu; HFO/diesel < $100/ton)
    • Reasonable T&D losses of around 12%
    • Already long depreciation ~ average 33 years
    • Staff cut is unlikely
    • Financing cost already at or below prime rates
Egypt – A Case Study (cont.)

A Working Roadmap

• Reduce public utility investment program & recapitalization
• Re-engage private sector investment
  – sequencing to reduce financing bottleneck
  – leverage local lenders
  – credit enhancement supports for international lenders
  – manage contingent liabilities
• Selective tariff increases
  – current tariffs: residential 1-9 US cents; commercial 4-11; heavy users 1-5 cents / kWh
• Selective cost control
  – hiring freeze
Egypt – World Bank Group current activities

**Investment Lending**

- 2,250 MW Giza North power project
- 1,300 MW South Helwan power project
- ~100 MW Qom Ombo concentrated solar power project
- Electricity transmission project

**PPP and Technical Assistance Activities**

- 1,400 MW Dairut IPP project – IFC Advisory
- Wind IPP program development; wind measurement & wind power integration
- Power system planning assessment (up to 2020)
Thank You
Assessment Approach

- Build on Bank Group’s on-going sector activities with the countries: Jordan, Egypt, Morocco, Tunisia
- Draw on internal knowledge – Bank, IFC, MIGA
Assessment Approach (2)

*Desk Review* – useful sources:
- Central banks, MOF, MOE, commercial banks, stock exchanges, law firms
- Power utilities and regulators
- Project finance publications

*Interview* – tips:
- Target diverse stakeholders: local, regional & international financiers / development FIs / developers / gov. agencies
- Send question list prior to meetings