Session III:
The Prospects of a Power Exchange in the GCC

“The GCC Interconnection Super Grid: Platform for a Regional Power Exchange”

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Workshop “Electricity Interconnections and Trading for Growth and Efficiency”

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1. Establishing The GCC Interconnection 2005-2011

2. Creating the GCC Power Market 2010-2020

3. Connecting Beyond the GCC Region 2015-2025
2. Establishing the GCC Power Market
2010-2020
Summary of GCCIA Power Trade Pilot Project Results in 2016

- Power traded for 244 days between 5 States.
- The amount of energy traded reached 1,320,000 MWh.
- The energy traded in cash in 92 days.
- Value of the energy traded reached $127 million US dollars using the average value of energy, where it reaches $192 million US dollars using the agreed tariff price during the peak time.
- GCCIA income from the traded energy would have reached $6.6 million US dollars, where this value was exempted for the Member States.
- A significant change in energy prices offered for sale.
- The GCCIA played a key role as FACILITATOR.
Energy Exchanges on GCCIA Interconnector
2010-2016

MWh

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Energy</th>
<th>Unscheduled Energy</th>
<th>Network Loss</th>
<th>Scheduled Compensation</th>
<th>Traded Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>185,194</td>
<td>56,881</td>
<td>-</td>
<td>314</td>
<td>158,899</td>
</tr>
<tr>
<td>2011</td>
<td>398,624</td>
<td>42,671</td>
<td>398,624</td>
<td>209,578</td>
<td>100,375</td>
</tr>
<tr>
<td>2012</td>
<td>444,850</td>
<td>81,948</td>
<td>444,002</td>
<td>235,034</td>
<td>209,918</td>
</tr>
<tr>
<td>2013</td>
<td>540,139</td>
<td>100,501</td>
<td>540,139</td>
<td>298,192</td>
<td>103,221</td>
</tr>
<tr>
<td>2014</td>
<td>607,946</td>
<td>103,221</td>
<td>607,946</td>
<td>147,599</td>
<td>114,773</td>
</tr>
<tr>
<td>2015</td>
<td>605,244</td>
<td>147,599</td>
<td>605,244</td>
<td>340,019</td>
<td>150,452</td>
</tr>
<tr>
<td>2016</td>
<td>1,320,000</td>
<td>342,949</td>
<td>1,320,000</td>
<td>138,892</td>
<td>1,081,108</td>
</tr>
</tbody>
</table>

Key:
- Total Energy
- Unscheduled Energy
- Network Loss
- Scheduled Compensation
- Traded Energy
The Need for an organized Market (Power Exchange)

- Establishing a competitive environment
- Gain market transparency with price transparency for consumers and authorities / electricity companies
- Reduce new investments in peak capacity
- Welfare allocation across region via market coupling and optimal capacity management
- Support trading of power based on:
  - Short term planning
  - Optimizing production assets
  - Balancing own portfolio hour by hour
  - Capacity management and balancing services
### Three Possible Scenarios for the development of the GCC Power Exchange

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCCIA as a Market coupling mechanism</td>
<td>GCCIA as a regional market and Technology and know-how provider for local PEXs</td>
<td>GCCIA as a nucleus for intra country markets</td>
</tr>
<tr>
<td>o States create their own markets</td>
<td>o GCCIA Exchange will act as a technology and know how provider for local markets to evolve and connect them by market coupling mechanism</td>
<td>o Market reforms and expansion of GCC Exchange into individual markets of the countries (market splitting Nord Pool model)</td>
</tr>
<tr>
<td>o GCC Exchange will act as a market coupling mechanism (EPEX model).</td>
<td>o Faster and more effective than Scenario 1 and to be considered if MS are committed to create “National” exchanges</td>
<td>o All GCC market is connected as one providing maximum competition and liquidity</td>
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<tr>
<td>o This scenario may postpone creation of GCC competitive and transparent energy market as most of the countries are too small to develop internal competition and market liquidity</td>
<td>o This concept gives additional reason to the establishment of the Regional Regulator.</td>
<td></td>
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</tbody>
</table>

Scenario 3 is strategically most preferable given regional challenges.
Power Trade Pilot Project - 2017 (Evolving the Model)

Based on CEOs Round Table decisions GCCIA continues its efforts towards market establishment, with the aim to:

- Enable GCCIA to open the trading platform to forward contracts (“FPM”) and a Day-Ahead Market (“DAM”), as well as Inter-Day Market “IDM”.

- Create a comprehensive regulatory (Market Rules and Exchange Rules), software (MTP platform) and organizational setup for the GCC regional power market. First versions of both documents already discussed with MS’s and approved.

- Extending the trading system services to the GCC Member States/utilities based on same transmission fees as bilateral market (fees for 2017 already approved by ARC);

- Several bilateral transactions for Summer 2017 already being negotiated.
3. Interconnecting Beyond the GCC Region  2015-2025
Expanding the Grid Beyond the GCC

Connect Joint GCC Power Plants
THANK YOU

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