Infrastructure Projects in the Energy Sector: the Case of Lithuania

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Structure of EPSO-G Group

- Ministry of Energy
  - EPSO-G
    - Litgrid
    - Amber Grid
    - Balt Pool
      - TETAS
      - GET Baltic
      - Litgrid
      - Nord Pool Spot
      - LitPol Link S.P.z.o.o

<table>
<thead>
<tr>
<th>Performance indicators</th>
<th>2015</th>
<th>2016 1st Q</th>
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</thead>
<tbody>
<tr>
<td>Income (mEUR)</td>
<td>156.8</td>
<td>62.2</td>
</tr>
<tr>
<td>EBITDA (mEUR)</td>
<td>56.5</td>
<td>27.8</td>
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<tr>
<td>Profit (mEUR)</td>
<td>12.6</td>
<td>12.8</td>
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<tr>
<td>Assets (mEUR)</td>
<td>1.152,1</td>
<td>1.158,7</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>1030</td>
<td>1061</td>
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Strategic Task: from Energy Island to Regional Hub

Electricity sector

- LitPol Link
- NordBalt
- Extension of LitPol Link
- Synchronization with Continental European Network

Gas sector

- Klaipėda-Kuršėnai pipeline
- GIPL
- Gas market integration in the region

Source: LITGRID

Source: Amber Grid
LitPol Link: Completion of First LT-PL Power Link

**Goals and Importance of the Project:**

- Connecting power system of the Baltic States to the power system of Western Europe
- Connecting the ring of power transmission systems of the countries of the Baltic sea region
- Strengthening energy independence of both countries as well as countries in the region
- Expansion of opportunities of electricity supply and strengthening countries’ self-sufficiency
- Safety and reliability of electricity supply

- 163 km transmission line Alytus-Elk
- 500 MW HVDC converter station
- Project value – 580 mln. EUR

Source: LITGRID
Goals and Importance of the Project:

- Ensures diversification of energy sources
- Is an essential condition for the creation of a common electricity market of the Baltic states and the Nordic countries
- Alternative import and export channel
- Market price drop in the Lithuanian/Latvian price area

- 453 km HVDC cable (400 subsea and 53 land cable) with converters in Klaipėda and Nybro
- 700 MW capacity
- Project value – 552 mln. EUR

Source: LITGRID
Impact of the New Power Links

- Positive impact on consumer prices
- The Baltic, the Nordic and CEE become an integral power market
- Swedish, Finnish and Polish markets will dominate market situation in the Baltic
- Nordic and Polish electricity strategies will impact Baltic countries' energy sector

Average market price in the Lithuanian zone, EUR/MWh

Source: LITGRID
Next Major Milestone – Synchronization with European Grid

By synchronizing with the European Continental Network, the Baltic States seek to:

- Connect to decentralized European electricity system
- Take over essential rights and obligations of system dispatching from Moscow

Goals and Importance of the Project:

- Reliable operation of energy systems and safe transmission
- Coordinated actions of equipment maintenance
- Common rules of energy systems management – Grid codes
- Guaranteed availability of electricity from Western European systems

Source: LITGRID
Strategic Infrastructure Projects in the Gas Sector (1)

1. Enhancement of Klaipėda–Kieménai pipeline

- 110 km pipeline project was implemented within particularly short period - 27 months
- Project investments comprise 57.9 mln EUR

**Goals and Importance of the Project:**

- Enables diversification of gas supply sources for the Baltic countries’ market participants
- Increases Baltic countries’ gas market competitiveness
- Enables full utilization of capacities of the LNG terminal in Klaipėda
- Increases reliability of the transmission system
Strategic Infrastructure Projects in the Gas Sector (2)

2. Gas Interconnection Poland-Lithuania (GIPL)
   - 534 km length (including 177 km in the LT territory)
   - Planned start of operations 2019
   - Project value: 558 mln EUR

Goals and Importance of the Project:
   - Will allow transporting about 27 TWh (2.4 bcm m³) of gas per year to the Baltic states; reverse flow to Poland could comprise up to 19 TWh per year
   - Integration of isolated Baltic states’ gas markets into common EU market
   - Diversification of supply sources
   - Access to various gas supply markets – German, Czech, Polish, Slovakian
   - Framework for competitive regional gas market

3. Enhancing capacity of LV-LT interconnection
   - Amber Grid CAPEX 3 mln EUR
   - Capacity increase up to 12 mcm/day
   - Commissioning in 2020
Next Major Milestone – Common Regional Gas Market

**Necessary conditions for the establishment of Regional market**

- Harmonized legislative and regulatory framework
- Sufficient gas infrastructure
- Commercial and operational adaptation between the regional TSOs

**Benefits**

- Increased liquidity of the market
- Increased competition
- More efficient use of regional gas infrastructure
- New opportunities for market participants

**Action plan currently being prepared to reach the goal by 2020**
Game Changer in the Biomass Market – Energy Exchange Baltpool

Impact on Prices:
- **2012-2013 heating season**: Price differences between regulated CHPs in neighboring districts very significant: from 160-180 EUR/toe to over 220 EUR/toe
- **2015-2016 heating season**: Biomass prices fell by 20-39 per cent
Strategic Task completed – Baltic Region Energy Hub

Electricity sector

Gas sector

Crossroads of Electricity Power Flows

Regional Gas Market