Lessons learned from completion of nuclear power plant EMO 3,4
Case Study

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Juraj Chren, Centrel Business Development Manager
Slovenské Elektrárne, member of Enel group, is the leading generation company in Slovakia

Production portfolio composition

<table>
<thead>
<tr>
<th>Plant</th>
<th>Installed capacity (MW)</th>
<th>Nº of Units</th>
<th>Mix %</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBO 3&amp;4</td>
<td>1 000</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>EMO 1&amp;2</td>
<td>940</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>EVO</td>
<td>880</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>ENO</td>
<td>518</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Hydro (1)</td>
<td>2 399</td>
<td>34</td>
<td>42</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5 737</strong></td>
<td></td>
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1) Including the Gabcikovo hydro plant which is operated by SE Slovaké Elektrárne.
Case study – EMO 3,4 completion

Project background and history

Restart of the project in the nuclear renaissance era

- Construction of units 3 and 4 of VVER-440 nuclear power plant in Mochovce (“EMO 3,4”) were started in 1986 and suspended in 1992
- Approximately 30% of technology had been supplied and 70% of civil works had been done
- Slovenske elektrárne, a.s. (“SE”) acquired by Enel in 2006 (66%), started project of EMO 3,4 completion in 2009
- SE possesses wide experience basis regarding VVER nuclear technology gained with development, construction and operation of EMO 1,2 and EBO 1,2,3,4 power plants
- EMO 3,4 will be ready for the power up-rate after the phase-in scheduled to 2012 and 2013
- EMO 3,4 represents the biggest private sector investment in Slovakia ever.
## Main project data

<table>
<thead>
<tr>
<th><strong>Investment cost</strong></th>
<th>2 775 M€</th>
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</table>
| **Construction period** | 50 months  
Unit 3  
Unit 4  |
| **1st synchronization** | 58 months  
| **Contractual strategy** | Multi-contract (more than 100 contracts)  
Slovenske elektrarne-Enel |
| **Main Contractors** | Skoda JS, ASE, VUJE, Enseco, ISKE, PPA, Rolls Royce  
Enel (EPCM Contractor), Skoda Power, Brush, ZIPP  
Areva-Siemens |
| **Project Management Team** | approx. 420 (SE + Enel EPCM, outsourcing excluded) |
| **Site construction** | More than 15 million  
More than 3500 |
Case study – EMO 3,4 completion
Legal and regulatory framework

Slovakia – nuclear country

- Slovakia is a nuclear country with a well-developed regulatory framework, established and working regulatory and nuclear oversight authorities, and a positive perception of citizens.
- EMO 3,4 is in compliance with the IAEA standards and has undergone all required international and local permitting and licensing procedures, including EU commission inquiry.
- SE, with existing nuclear production, has been in a positive working relationship with all nuclear authorities and regulatory bodies.
- Nuclear project development in a well-experienced country represents considerable simplification and strongly supported project feasibility.
- Some legislation change is required, however, it was well defined in the privatization documents.
Case study – EMO 3,4 completion

Financing

Positive financial performance of SE made the financing easier

- SE successfully passed through the restructuring and cost reduction process after acquisition by Enel that enabled flexible financing structure
- Operating cash flow is the key source of EMO 3,4 financing
- Multi-purpose loan facility, secured by corporate cash flow, supplemented required funds
- No state or mother company guarantees has been required
- Project financing, typically used for financing of energy projects based on conventional or renewable fuels in the region, was not necessary.
Case study – EMO 3,4 completion

SE has become a healthy company and it made financing easier

SE’s changeover - a gradual process of continuous improvement

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>2005</td>
<td>Initial mapping of potential</td>
</tr>
<tr>
<td>2006</td>
<td>New shareholder</td>
</tr>
<tr>
<td>2007</td>
<td>Start up of initiatives</td>
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<tr>
<td>2008</td>
<td>Healthy company</td>
</tr>
<tr>
<td>2009</td>
<td>Record operational and financial results</td>
</tr>
<tr>
<td>2010-2013</td>
<td>Continuous growth</td>
</tr>
</tbody>
</table>

**EBITDA and Net debt development**

Fitch rating was continuously improved from BB+ in 2006 to the current level (2010) of BBB
Case study – EMO 3,4 completion
Positive results support new investment strategy

SE investment plan

Over 3 bln EUR investments in SK

Up-rate of EMO 1&2 and EBO 3&4
Completion of EMO 3&4
Refurbishment of thermal plants
Biomass and small hydro projects
Hub for commercial activities in the region
Hub for expansion in region
Leverage sustainable energy competences
R&D activities

Further growth
Case study – EMO 3,4 completion
Energy policy and market conditions

Supportive energy policy and liberalized market

- Energy policy of Slovakia strongly supported EMO 3,4 completion to assure energy independence and fuel diversification
- Decommissioning of two units of EBO V1 as a result of EU accession treaty resulted in lack of generating capacity in Slovakia
- Slovak energy market has undergone robust liberalization process (including privatization of SE and distribution companies)
- Slovakia, member of ENTSO-E, is well covered with the high-voltage grid with considerable interconnections to surrounding countries
- EU energy market integration supports export potential of SE.
Case study – EMO 3,4 completion

Investment environment

Favorable investment conditions

- Political stability, Slovakia is a member of EU, NATO and number of world trade, economic and security organizations
- Economic stability, country rating: A+ (S&P)
- Flat tax regime of 19% with 0% withholding taxes on dividends
- Currency stability - Euro has been adopted in 2009
- Highly skilled and experienced workforce
- Steady developing road and railway infrastructure in the very center of the Europe
- Law enforcement improving continuously.
Case study – EMO 3,4 completion
Liabilities and risks mitigation

**Tailored multi-contract vendor solution**

- EMO 3,4, representing completion of the power plant, was a specific case where multi-contract vendors structure were adopted rather than turn-key solution
- SE employs well experienced professionals participating on similar nuclear development projects in the past
- Costs overrun and delay risks covered in vendor contracts.
Completion of EMO 3,4 provides positive effects

- Energy security
- 45% of Slovak electricity consumption will be covered by completed Mochovce NPP
- Total investment of 2.775 bln. EUR
- Up to 4,500 jobs
- Neither state aid nor state guarantees

- Rebuilding of technical competencies (78% of supplies delivered by SK and CZ companies)
- Center of excellence in VVER technology
- Slovak nuclear R&D activities (jointly with Slovak Academy of Science, VUJE, Technical University)
SK Electricity Balance 2009-2030
Long term support to energy security

**SLOVAK PRODUCTION MIX 2009**
- Hydro & renewables: 18%
- Nuclear: 54%
- Thermal: 28%

**SLOVAK ENERGY BALANCE 2009**
- Net balance: -1.3 TWh
- Net demand: 27.4 TWh
- Net production: 26.1 TWh

**SLOVAK PRODUCTION MIX 2030**
- Hydro & renewables: 21%
- Nuclear: 22%
- Thermal: 57%

**SLOVAK ENERGY BALANCE 2030**
- Net balance: +3.6 TWh
- Net demand: 35.9 TWh
- Net production: 39.5 TWh
## Executive summary

<table>
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<td>• Healthy and well performing company: Project financing, typically used for financing of energy projects based on conventional or renewable fuels in the region, was not used.</td>
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<td>• Combination of operating cash flow and uncollateralized multi-purpose loan facility was chosen to improve project flexibility and costs</td>
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<td>• Slovakia represents a stable country with favorable tax regime, experienced workforce, steady developing infrastructure and law enforcement</td>
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<td><strong>Liabilities and risks mitigation</strong></td>
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<td>• EMO 3,4 is being completed using multi-contract strategy with the key technology providers as supplier of both nuclear and conventional island.</td>
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