Energy Sector Reforms in Slovakia

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Kyiv, Ukraine
Content

• Milestones of the energy sector development
• National Energy Regulator
• Energy Efficiency Funds/Programmes
• Lessons learned
• Recommendations for Ukraine
Price liberalization

- Goals: Setting right incentives, financial stabilization, partial privatization, increased competition, efficiency

- 1990-93:
  - Electricity: +70-80%
  - Natural gas: +130%
  - Coal: +240%
  - Heat: +320%

- 1999-2007:
  - Electricity: +100%
  - Natural gas: +100%
Source: Eurostat, other sources, until 2009 rough conversion local currency/euro
Unbundling

- Goals: Eliminating cross-subsidies, partial privatization, trade liberalization, increased competition, efficiency

- 1990-94:
  - Separating three territorial distribution companies from the power generation
  - Separating storage and local exploration & production of hydrocarbons from the transmission and distribution of natural gas

- 2002:
  - Separating high-voltage electricity transmission from the power generation

- 2006:
  - Legal separation of gas distribution and transmission

- 2007:
  - Legal separation of electricity trade from distribution
Privatization

- **Goals:** Financial stabilization, state budget revenues, unbiased regulation, increased competition, efficiency

- **1992-96:** Direct non-transparent sales to local investors (almost 100% of shares privatized):
  - Oil producer and distributor, gas storage and local exploration & production (both were later re-sold to strategic foreign investors)
  - Coal mining company

- **2001-04:** Transparent international tenders (49% of shares with managerial rights)
  - Oil transit sold to Russian Yukos; in 2009 re-sold back to the state
  - Transmission and distribution of natural gas sold to Gazprom, Gaz de France and Ruhrgas; in 2013-14 re-sold to the Czech company EPH except for the gas trade that was re-sold back to the state
  - Three electricity distribution companies sold to E.ON Energie, Elektricité de France International (in 2013 re-sold to EPH) and RWE Plus
  - Power production (66% of shares) sold to the Italian company ENEL; in 2015-16 re-sold to the EPH
Opening markets

- Goals: Fair access to infrastructure, higher transparency, increased competition, efficiency
- 2001: Opening markets to large electricity and gas customers
- 2005: Opening electricity market to all businesses
- 2008: Opening electricity market to all households
- 2009: Opening gas market to all businesses
- 2011: Opening gas market to all households
Suppliers of electricity - households in 2014 (GWh)

Source: Regulatory Office for Network Industries
Overview of gas suppliers to end customers in 2014 (in %)

- Slovenský plynárenský priemysel: 61%
- RWE Gas Slovensko: 18.3%
- ELGAS: 5.2%
- ČEZ Slovensko: 2.9%
- ZSE Energia*: 2.5%
- VEMEX Energo: 2.4%
- GAS Trading: 2.2%
- other: 5.5%

Source: Regulatory Office for Network Industries
Infrastructure development

• 1992: Gabčíkovo hydropower plant
  – 10% of the total electrical power generated
  – Owned by state
• 1998-99: Two blocks of the Mochovce nuclear power plant
  – 25% of the total electrical power generated
  – Other two blocks to be launched soon
• 2006-08: Shutting down two blocks of the Jaslovské Bohunice nuclear power plant
  – Due to the EU accession and security requirements
  – Loss of 20% of power generation
• 2009: Gas transit reverse operation due to Ukrainian-Russian controversies
• 2015: Gas transmission connection between Slovakia and Hungary
• 2015: Oil pipeline Adria renovated connecting Druzhba
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Independent regulation

• Goals: Fair prices, fair access to infrastructure, higher transparency and predictability

• 2001: Setting up the Regulatory Office for Network Industries (RONI)

• 2003: RONI assumes full responsibility for regulation of energy and legal unbundling

• 2012: Creation of a Regulatory Council totally independent in adopting regulatory policy

• Funded from the state budget
Regulated areas

- **Electricity**
  - Generation, transmission, distribution and supply
  - Performance of the short-term electricity market administrator’s activities
- **Gas**
  - Production, transport, distribution, storage and supply
- **Heat**
  - Production, distribution and supply
- **Water**
  - Production, distribution and supply of potable water,
  - Abstraction of surface water and energy water from water flows
  - Utilization of the hydro-potential of the water flows
  - Diversion and purification of sewage through public sewerage system
Key activities

- Issuing licenses for performance of regulated activities
- Price regulation based on the price cap method
  - The regulated entity can appeal against the Office`s decision within 40 days from the notification date

<table>
<thead>
<tr>
<th></th>
<th>Households</th>
<th>Small companies</th>
<th>Large companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>regulated</td>
<td>regulated</td>
<td>deregulated</td>
</tr>
<tr>
<td>Gas</td>
<td>regulated</td>
<td>regulated</td>
<td>deregulated</td>
</tr>
<tr>
<td>Solid fuels</td>
<td>deregulated</td>
<td>deregulated</td>
<td>deregulated</td>
</tr>
<tr>
<td>Fuels in transport</td>
<td>deregulated</td>
<td>deregulated</td>
<td>deregulated</td>
</tr>
<tr>
<td>Heat - centralized supply</td>
<td>regulated</td>
<td>regulated</td>
<td>regulated</td>
</tr>
</tbody>
</table>
Structure of electricity price for small companies in 2014

- Promotion of renewable energy sources: 6%
- Promotion of electricity produced from domestic coal: 4%
- Promotion of electricity produced from combined sources: 5%
- Electricity distribution, excluding losses: 3%
- Tariff for balancing services: 2%
- Cost of supply and fair profit: 3%
- Electricity transmission, including losses: 2%
- Electricity distribution losses: 3%

Structure of electricity price for households in 2014

- Promotion of renewable energy sources: 5%
- Promotion of electricity produced from domestic coal: 4%
- Promotion of electricity produced from combined sources: 6%
- Electricity distribution, excluding losses: 6%
- Tariff for balancing services: 11%
- Cost of supply and fair profit: 2%
- Electricity transmission, including losses: 2%
- Electricity distribution losses: 3%

Source: Regulatory Office for Network Industries
Key bodies

• Chairman of the Office
  – Appointed (for 6-year term) and recalled by the President of the Slovak Republic upon proposal of the Government
  – Chairs the Council for Regulation
  – Governs the Office; acts on behalf of the Office externally in all matters; appoints and recalls the Vice-Chairman; decides in regulation procedures as the first-level authority; decides on the imposition of penalties in appeal proceedings

• Council for Regulation
  – Members are appointed (for 6 year term) and recalled by the President of the Slovak Republic upon proposal of the National Council of the Slovak Republic (3 members) and the Government (3 members)
  – The Council is renewed by replacing one third of members every two years
  – Strategic management; adopts regulation policy; decides in appeal proceedings

• Number of employees (2014): 106
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Key drivers

• Market prices

• European Union:
  – Directive 2006/32/EC on energy services
  – Directive 2012/27/EU on energy efficiency

• Own legislation
  – 2007: Energy Efficiency Policy of the SR
  – 2014: Energy Efficiency Act
## Targets

<table>
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<th>Energy savings based on the recalculated average final energy consumption in 2001–2005</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>[%]</td>
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<tr>
<td>Annual target</td>
<td>1 %</td>
</tr>
<tr>
<td>Three-year target up to 2010</td>
<td>3 %</td>
</tr>
<tr>
<td>Medium-term target up to 2013</td>
<td>6 %</td>
</tr>
<tr>
<td>Long-term target up to 2016</td>
<td>9 %</td>
</tr>
<tr>
<td>Long-term target up to 2020</td>
<td>11 %</td>
</tr>
</tbody>
</table>

Energy efficiency target – to achieve the following level of final energy consumption in 2020 | 105 TWh | 378 PJ |

Energy efficiency target – to achieve the following level of primary energy consumption in 2020 | 191 TWh | 686 PJ |
Methodology

• Defined measures for specific sectors: buildings, industry, public sector, transport, appliances, energy transformation, transmission and distribution
• Each sector has its own sub-targets
• Measures are structured: specific programs, projects, legislative regulation, information campaigns, etc.
• Responsibilities of individual competent ministries are defined
• Annual targets are set as total amounts as well as broken down for individual areas
• The implementation of measures is evaluated on an ongoing basis (Annual reports) and any deflection relative to sub-targets triggers corrective action
Funding

• Public sources:
  – State budget, state-owned companies
  – Funds of European Union
  – Municipalities

• Private sources (significant majority):
  – Loans from commercial banks
  – Voluntary contributions by parties to the agreement
  – Special offers from retailers and manufacturers
  – Consumer associations
  – Consultancy services of energy companies

<table>
<thead>
<tr>
<th>Years</th>
<th>Investment cost</th>
<th>Total</th>
<th>Average annual amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>(EUR thousands)</td>
<td>3 890 550</td>
<td>6 886 333</td>
<td>19 589 886</td>
</tr>
<tr>
<td></td>
<td>30 366 769</td>
<td>2 335 905</td>
<td></td>
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Lessons learned

• Fair/Market prices are the best incentive to increase efficiency
• Keeping artificially low prices for a long time leads to steep price increases which is highly unpopular, often harming poor people, impeding political stability and reversing the reforms
• Direct non-transparent sales to local investors may create oligarchs capable of capturing the state
• Privatizing for low prices may lead to later re-sales to strategic investors for market prices – the state loses privatization revenues, the money pours into private pockets of oligarchs
• Privatization through transparent international tenders maximizes state budget revenues and welcomes strategic investors with better culture and know-how
• People are important – independent Regulator as well as the Government should employ the best people, who deserve to be well-paid
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Recommendations

• Pursue solid Energy Policy: Set up long-term plans for market liberalization, unbundling, privatization, independent regulation, energy efficiency
  – Long-term, binding policy with a set final targets, concrete measures and programs, systems of interim reviews
• Consider the impacts of steep price liberalization
• Privatize through transparent international tenders with price as the chief/single winning criteria
• Set up a strong Regulator independent from the Government
• Install respectable and well-paid individuals in Regulatory and Government institutions
Thank you for your attention!