Ukraine’s Gas Market Reform

Building an open competitive gas market

Andriy Kobolyev, CEO, Naftogaz of Ukraine

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www.naftogaz-europe.com

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Fundamentals for gas market development are established

Key milestones already achieved in the gas sector reform...

- Import supplies effectively diversified
- Gas Market Law passed
- Price increase for residential consumers
- Draft of Public Service Obligations (PSO) developed for transition period

...finally create fundamental framework for competitive and efficient gas market

- Decrease budget and Naftogaz deficit
- Improve competition across value chain in the gas sector
- Enhance energy security via integration into European Energy Community
- Enable local upstream production increase through price deregulation
- Contribute to energy efficiency improvement via measures anchored in PSO framework
Naftogaz has effectively diversified gas imports

Sources of imported gas supplies to Ukraine

<table>
<thead>
<tr>
<th>Year</th>
<th>Russia, single supplier</th>
<th>Europe, multiple suppliers</th>
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<tbody>
<tr>
<td>2013</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>2014</td>
<td>74%</td>
<td>26%</td>
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<tr>
<td>1Q 2015</td>
<td>61%</td>
<td>39%</td>
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Gas Market Law adopted by Rada: 3rd energy package compliance

1. Unbundling on wholesale and distribution levels
2. Independent regulation and clear limits for state intervention
3. Market liberalization combined with public service obligations provisions

Market Regulation and Supervision
Cabinet of Ministers of Ukraine; Ministry of Energy and Coal Industry of Ukraine; National Commission for State Energy and Public Utilities Regulation; Secretariat of Energy Community

Sources
- Imports from the EU, Norway, Russia, etc.
- Domestic Production (Natgas, Syngas, Biogas)
- Liquefied Natural Gas

Trading
- Wholesale Traders
- Retail Suppliers
- Transmission System Operators
- Operators of Gas Storages

Consumers
- Industry
- District Heating Companies
- Public Sector
- Households
Household tariffs increased starting from 1 April 2015

- Tymoshenko Govt.
  Market level tariffs in 3 years by 2012
- Azarov Govt.
  Market level tariffs in 2.5 years by May 2013
- Yatsenyuk Govt.
  Market level tariffs in 2 years by May 2017

$16.4bn IMF program
$15.5bn IMF program
$17.5bn IMF program

Tariff increase schedule the government committed to
Actual tariff level (weighted average across categories of households, in US$)
Ukraine’s gas network is Europe’s missing piece of a puzzle

If Russia cuts off supply through Ukraine, 8 countries would suffer from a gas deficit.

Affected countries:
1. Bosnia
2. Bulgaria
3. Greece
4. Hungary
5. Macedonia
6. Romania
7. Serbia
8. Ukraine

This can be avoided by expanding throughput capacity between Ukraine and the EU.

Current EU Imports:
- Slovakia (key route)
- Hungary, Poland

- Large Slovak Reverse

- New Polish Interconnector

Investment: EUR0.3bn
Time to implement: 2-3 years

EU law enforcement required; no investment
Time to implement: immediately

Source: ENTSOG, Naftogaz, team analysis
EU-Ukraine integration is hindered by Gazprom; action needed