Overview of the Hungarian gas industry

József Tóth, Dr.

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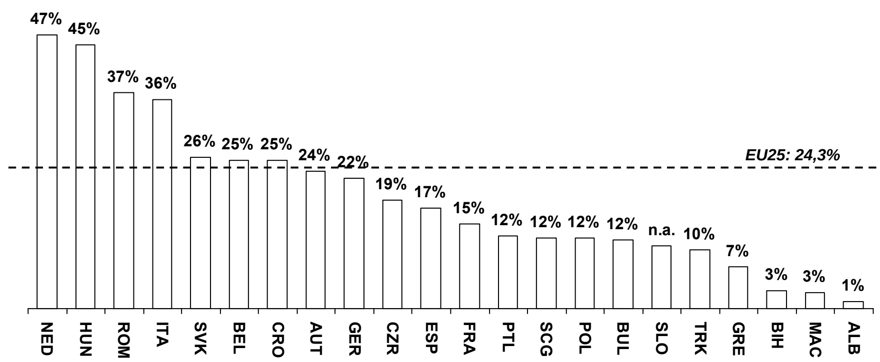
Agenda

- **Natural gas as the prime energy source of Hungary -** Overview and characteristics of the Hungarian gas market
- **Towards liberalization and higher security of supply** - Recent sectoral developments and regulatory changes

Hungary is ranked well above EU averages in dependency on gas from primary energy sources

Share of gas from TPES1), 2005 [%]



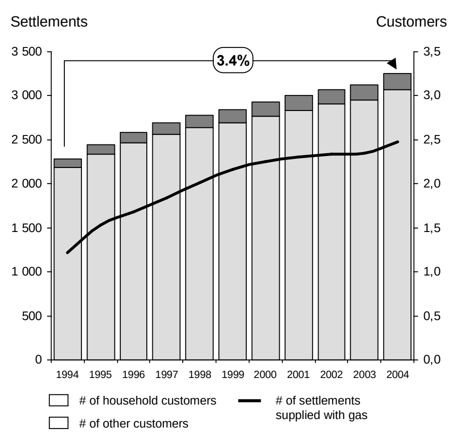
1) Total Primary Energy Supply

Source: Eurogas, BP Statistical Review, 2005

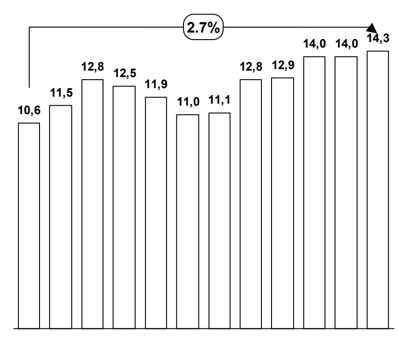
End user consumption growth has been fuelled by growing number of household customers

Natural gas consumption by user type [bcm]

Number of customers and settlements supplied with natural gas



Total natural gas consumption [bcm]

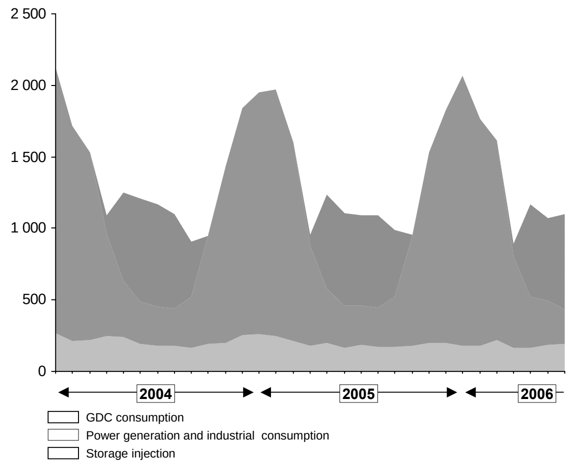


Source: MOL (historicals); MOL Gas business plan 2004—2008 and Wood Mackenzie (forecast growth rates); excludes own use and losses

High seasonality of demand is secured by the existing and proposed storage facilities in Hungary

Gas consumption in Hungary

Monthly consumption [mcm]

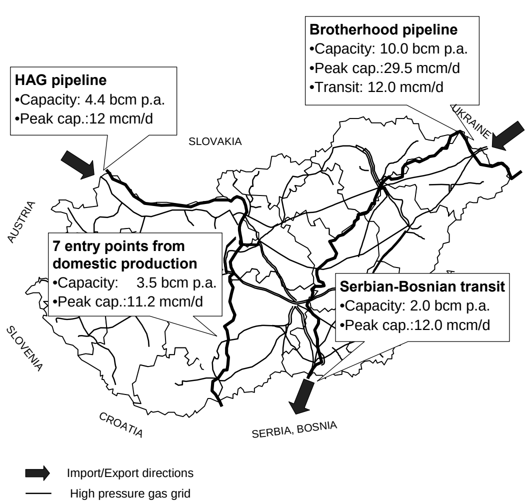


Dynamics

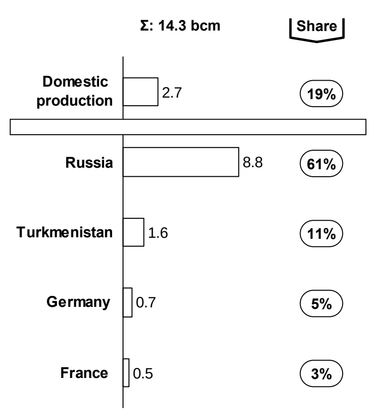
- **14.3 bcm annual consumption** in 2005
- **Daily peak** consumption reached **90 mcm** in winter season
- **Seasonality ratio is 1/6** between summer and peak winter periods
- **Necessity of supply flexibility** is primarily **secured by** the existing and proposed **storage facilities**

With 19% share domestic production, Hungary is highly dependent on Russian import

Overview of Hungary's gas supplies

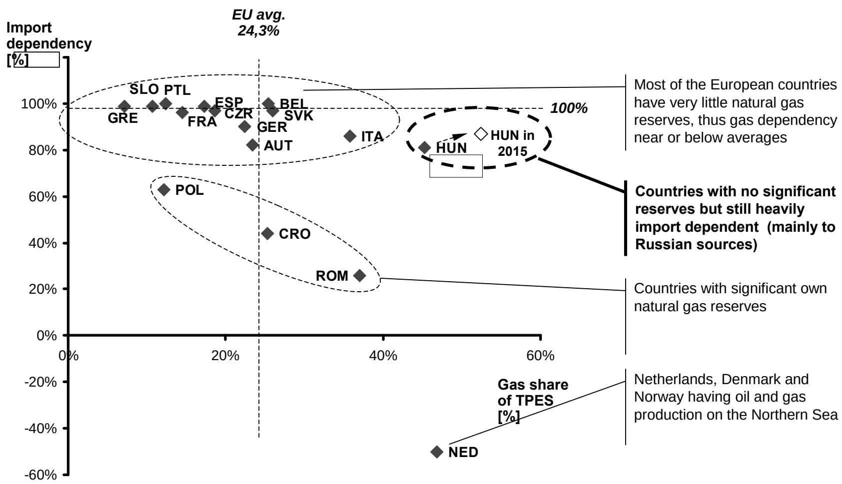


Gas supply by contracts, 2005 [bcm]



High gas and import dependencies at the same time put Hungary's energy supplies in a very vulnerable position

Import dependency vs. gas share of TPES1), 2005



1) TPES: Total Primary Energy Supply
Source: MOL analysis

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The unbundling and liberalization process in the Hungarian gas started in 1999 and planned to be complete by July 2007

Historic highlights of the Hungarian gas industry

- **1998:** Government Harmonization Program requires Hungary to modify Gas Act to bring in line with EU Directive. Ministry of Economy is charged with the implementation of legislative process
- **Oct-2000:** MOL incorporates 3 Gas Cos, they remain dormant until Oct 2003
- **May-Sep-2001:** Regulatory review of asset base and cost base
- **Jun-2003:** Parliament enacts new Gas Act. Subsequent Government decrees and Ministerial Implementation Decrees follow
- **Oct-2003**: MOL applies to HEO for required gas licenses
- **Dec-2003**: Date of legal succession (legal separation)—unbundled gas businesses are transferred to 3 Gas Cos by way of transfer of assets/contribution in kind. Transfer/ contribution [noted in Court of Registration]
- **Jan-2004**: Date of full business separation—HEO grants GasCos relevant licenses, full business trading as unbundled entities commences
- **Nov-2004** to Apr-2006: Negotiations and sale of MOL's storage and trading activities to E.ON-Ruhrgas International
- **July-Dec 2006**: Tendering process of the strategic storage facility in Hungary
- **July-2007**: Total liberalization of the natural gas market is scheduled to commence

1999 2000 2001 2002 2003 2004 2005 2006 2007

As a result of opening up the gas market a number of international market holders are present in Hungary

Overview of the Hungarian gas industry

PRODUCTION
- **Domestic production** 2.7 bcm
- **Import** 11.6 bcm (GAZPROM, e.on, Gaz de France)
- **Transit to Serbia & Bosnia**

TRANSMISSION
- **Transmission** Total volume: 14.3 bcm
- **Transit** Total volume: 2.2 bcm

STORAGE
- e.on **Storage regulated market** Peak: 44.0 mcm/d Mobile: 3.3 bcm
- e.on **Storage open market** Peak : 2.5 mcm/d Mobile: 0.2 bcm

WHOLESALE
- e.on **Regulated market** 13.5 bcm
- **Open market** 0.8 bcm (emfesz, Gaz de France, e.on)

DISTRIBUTION
- **Distribution network** 10.8 bcm Network: Operated by the GDCs: (e.on, Gaz de France)

END USERS
- **Eligible customers/ regulated mkt**
- **Non-eligible customers/ regulated mkt**
- **Eligible customers/ open mkt**

Note: numbers reflect 2005

Market regulations provide clear incentives for new infrastructural developments to increase security of supply

Regulatory developments

PRODUCTION

- The **12% mining royalty for developments after 1998** provides a **clear incentive for new exploration** and development projects. The excess above 12% is paid to the compensation fund in case of gas fields before 1998

TRANSMISSION

- Third party access to transmission after allowing for public supply
- The **return on regulated asset base** (RAB) **is set higher on new developments** on the high pressure transmission grid **at 8%**, as an incentive for new developments

STORAGE

- Third party access to storage after allowing for public supply
- The **return on RAB is set higher on new storage developments at 9%**, as an incentive for new developments
- **Enactment** of the establishment of a 1.2 bcm **strategic storage facility**

WHOLESALE

- On the **regulated** market **wholesale** gas **prices** are **based on average gas import prices, storage and transportation costs** and other accepted costs
- Market split into regulated and competitive markets until July 1, 2007
  - **Non-residential** customers are free to choose their supplier **from January 1, 2004**
  - **Total liberalization** of the natural gas market is scheduled to commence **as of July 1st, 2007**

EXAMPLE

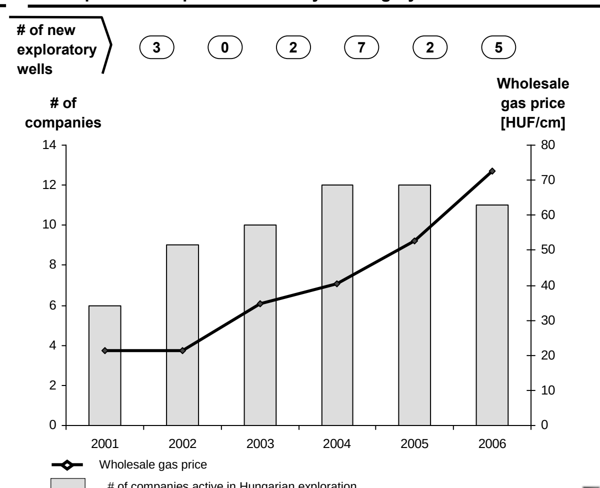
The 12% mining royalty provides a clear incentive for new exploration and development projects

Mining royalty details

Mining royalty scheme

- In case of gas fields developed after 1998 the mining royalty is 12%, providing incentive for new exploration and development projects
- Gas produced from fields developed and produced before 1998 excess mining royalty reaching 60% is to be paid
- Base of the royalty is the value of gas calculated with the regulated (wholesale) gas price

Development of exploration activity in Hungary

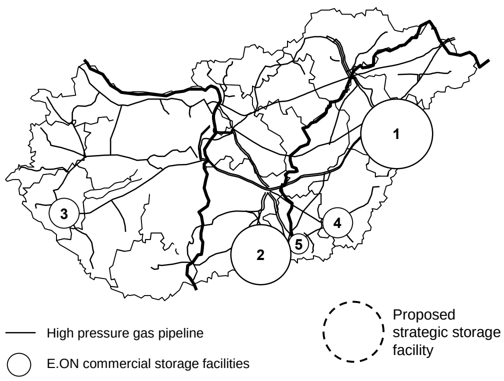


Source: MOL analysis

EXAMPLE

The proposed strategic UGS would add 1.2 bcm reserves to the existing 3.5 bcm mobile capacities in Hungary

Overview of UGS facilities[1)] in Hungary



Storage capacities in Hungary

Facility	Mobile capacity [mcm]	Peak capacity [mcm/d]
1 Hajdúszoboszló	1 440	19.2
2 Zsana	1 340	21.0
3 Pusztaederics	330	2.9
4 Kardoskút-Pusztaszőlős	240	2.6
5 Algyő-Maros-1	150	1.8
Total	3 500	47,5
6 Proposed strategic storage facility	1 200	20.0