

# Natural Gas Overview Hungary 2006



**UNITED NATIONS**  
**Geneva**  
**23-24 January 2007**

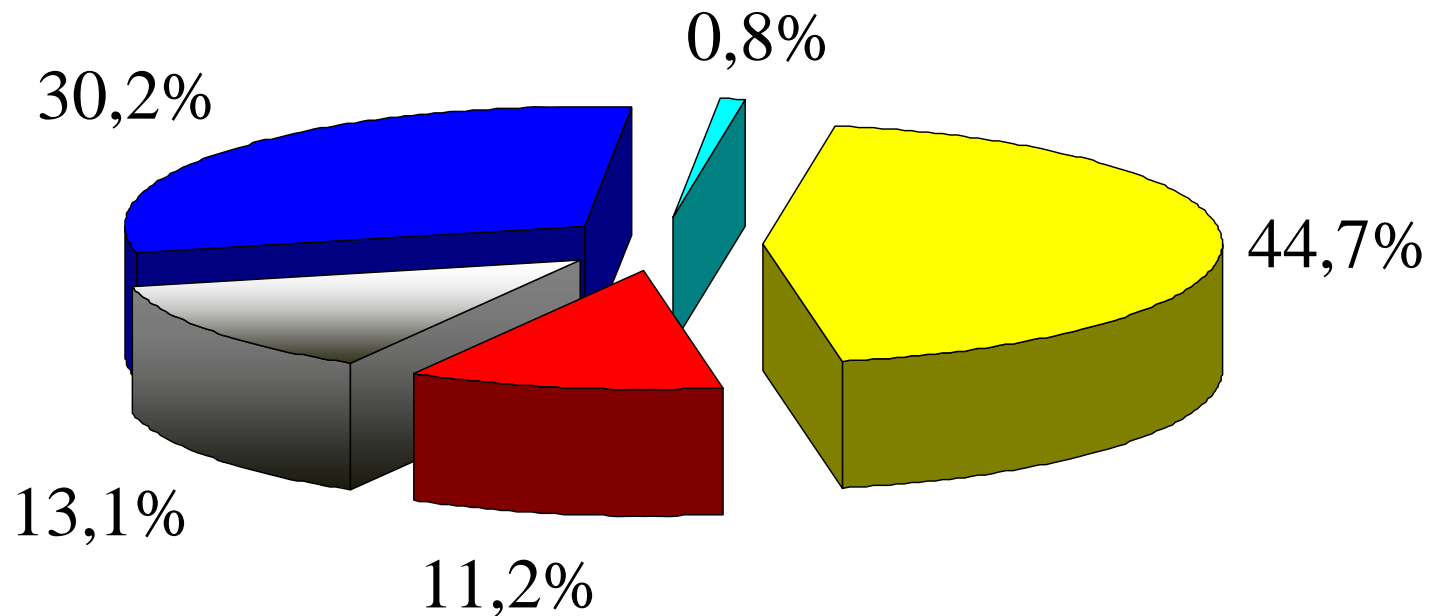
**Tamas Korosi**  
Senior Leading Advisor

**HUNGARIAN ENERGY OFFICE**

# Role of Natural Gas in Hungary

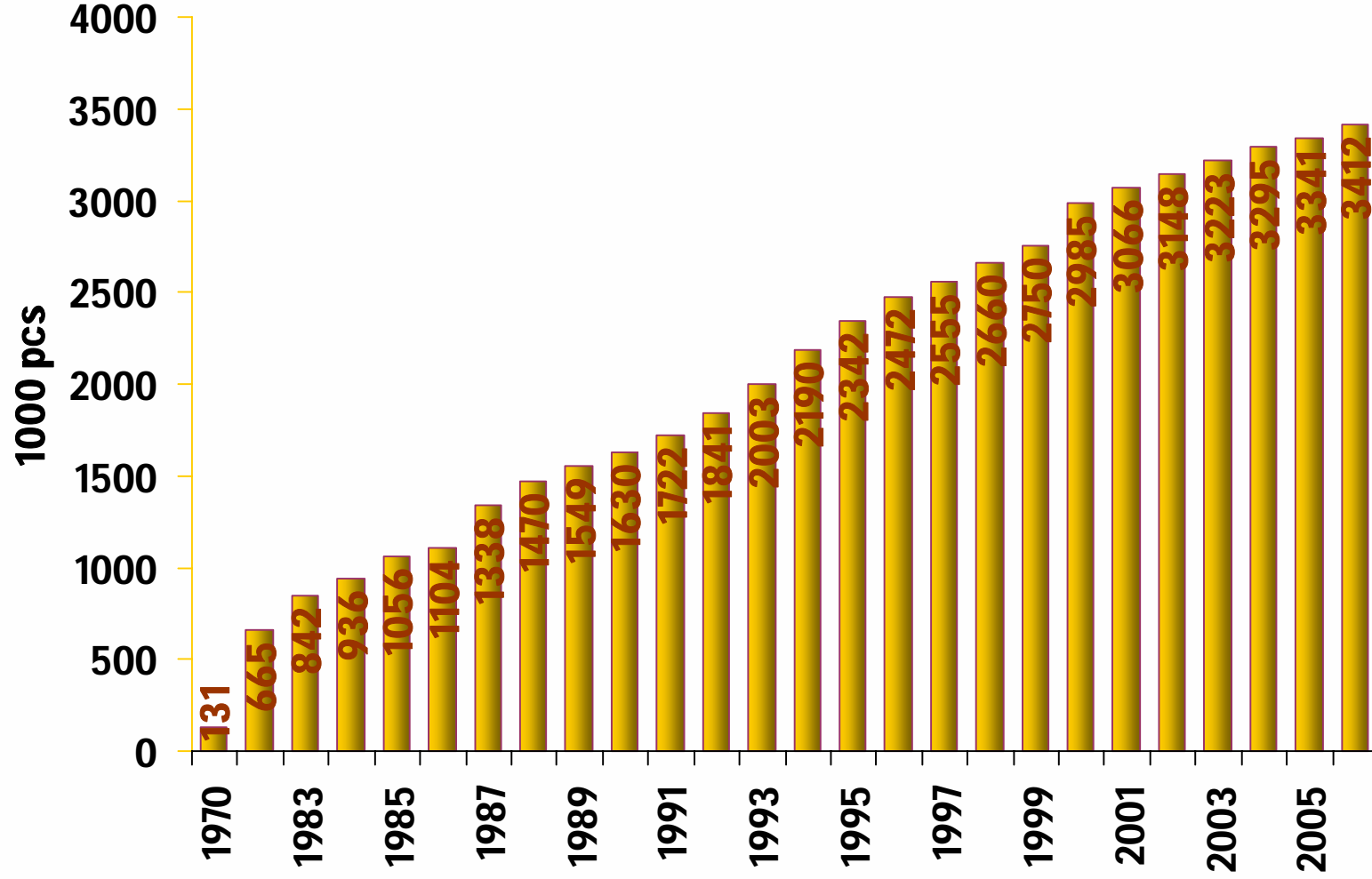
HUNGARIAN ENERGY OFFICE

## Primary Energy Supply



■ solid   ■ crude oil and products   ■ LPG   ■ natural gas   ■ primary electricity

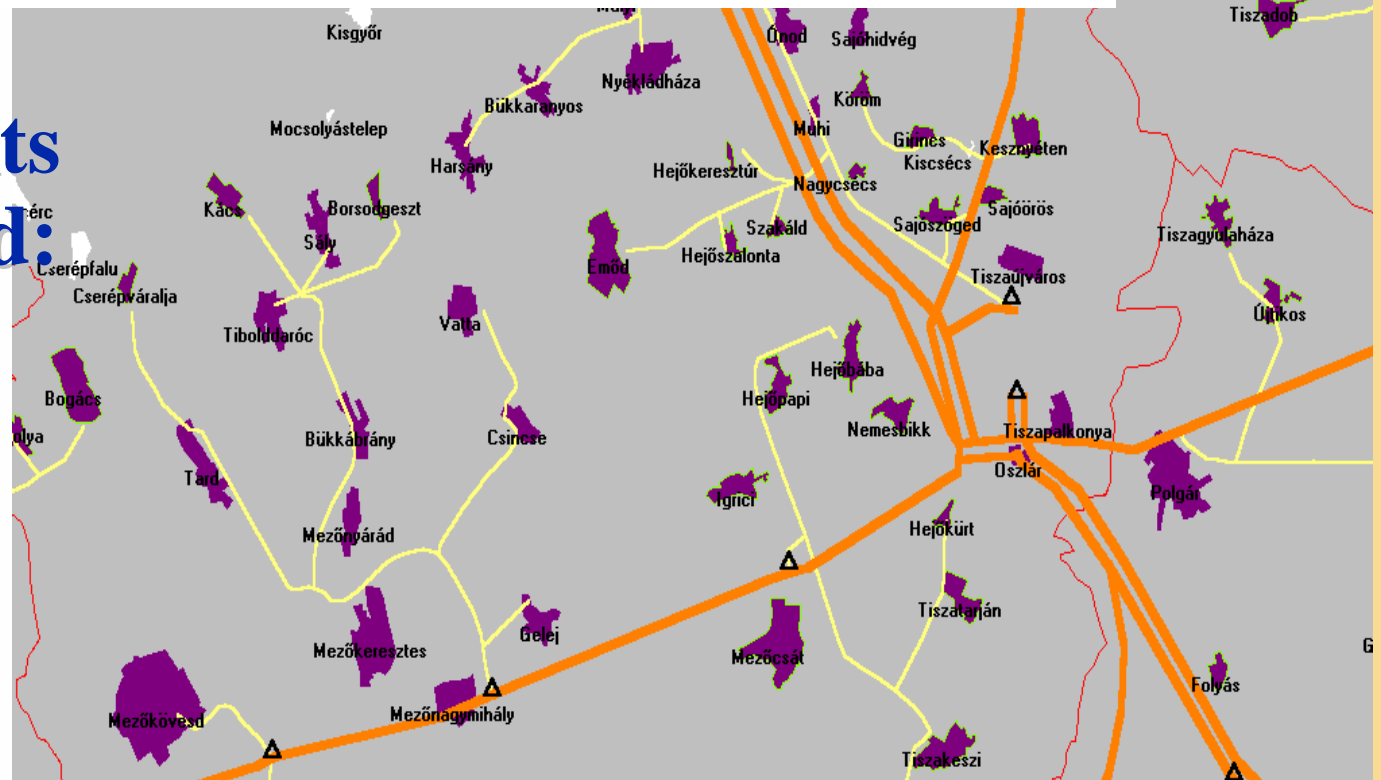
# Household Consumers



# Gas Distribution

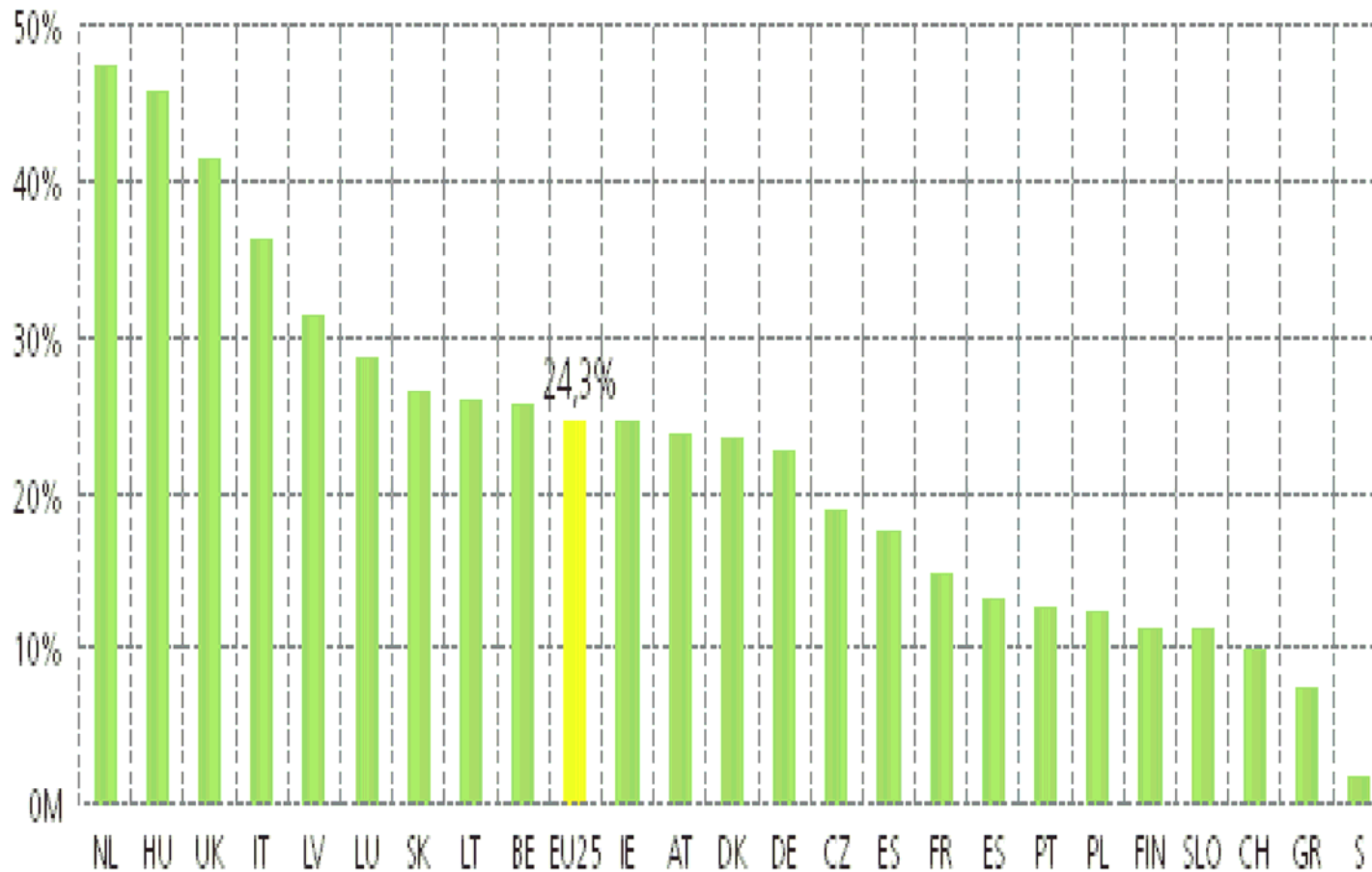
**National Distribution Network:  
79 795 km**

**Settlements  
Connected:  
91,2 %**



**Number of Settlements: 2871**

# Dependency on Gas in EU



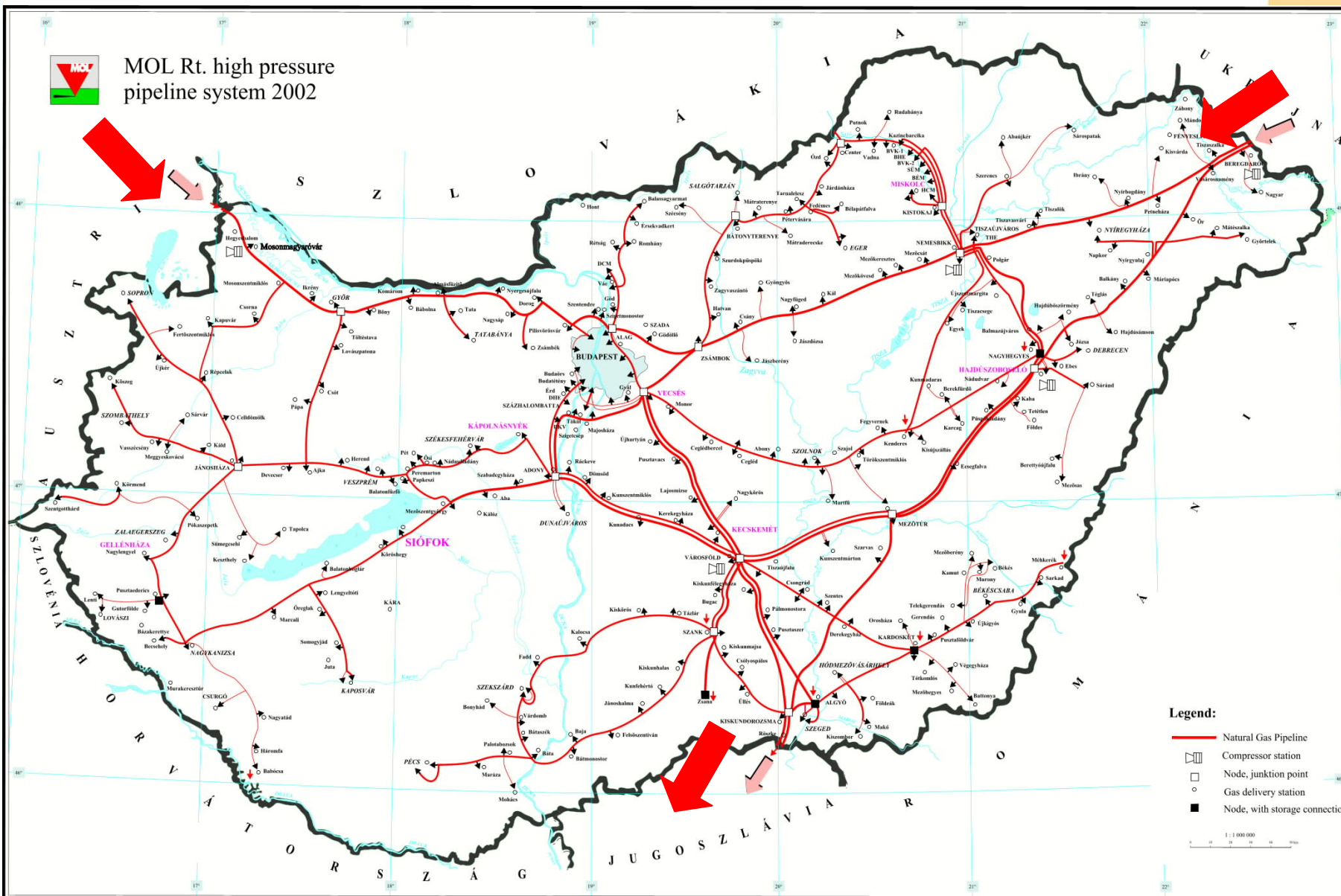
Source: BP Statistical Review, 2005





# Gas Transmission System

HUNGARIAN ENERGY OFFICE



MOL Rt. high pressure pipeline system 2002



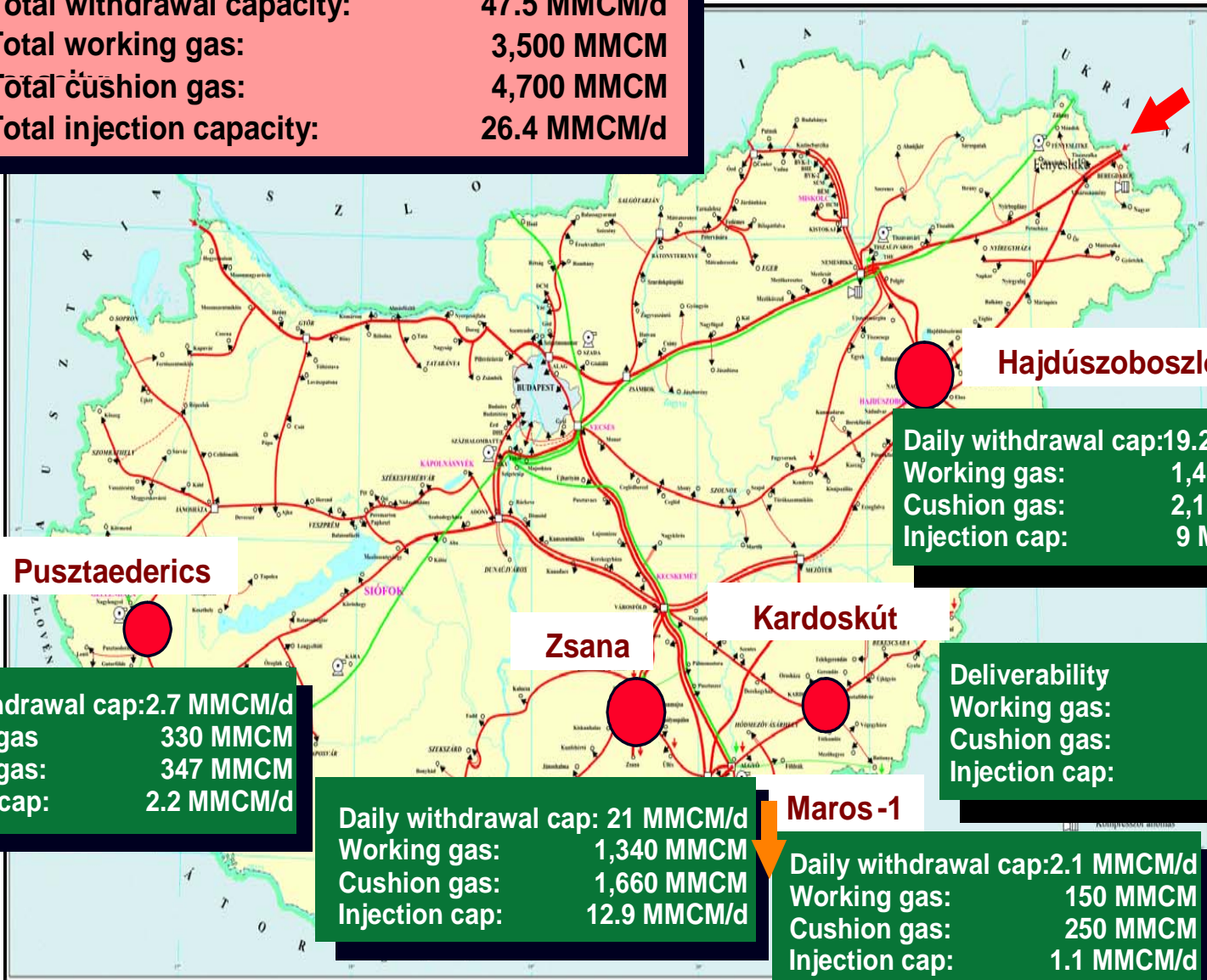
- Legend:**
- Natural Gas Pipeline
  -  Compressor station
  -  Node, junction point
  -  Gas delivery station
  -  Node, with storage connection

1 : 1 000 000

# Underground Gas Storage

**Total withdrawal capacity: 47.5 MMCM/d**  
**Total working gas: 3,500 MMCM**  
**Total cushion gas: 4,700 MMCM**  
**Total injection capacity: 26.4 MMCM/d**

HUNGARIAN ENERGY OFFICE



# Total Capacities of the Gas Network

[MMm<sup>3</sup>/day]

Domestic production	10,5
<b>IMPORT HAG</b>	<b>12,1</b>
Source: Western	3
Russian	6
<b>IMPORT BEREKSZÁSZ</b>	<b>30</b>
Source: Russian	25
other	5
UGS	47,5
<b>TOTAL</b>	<b>100,1 *</b>



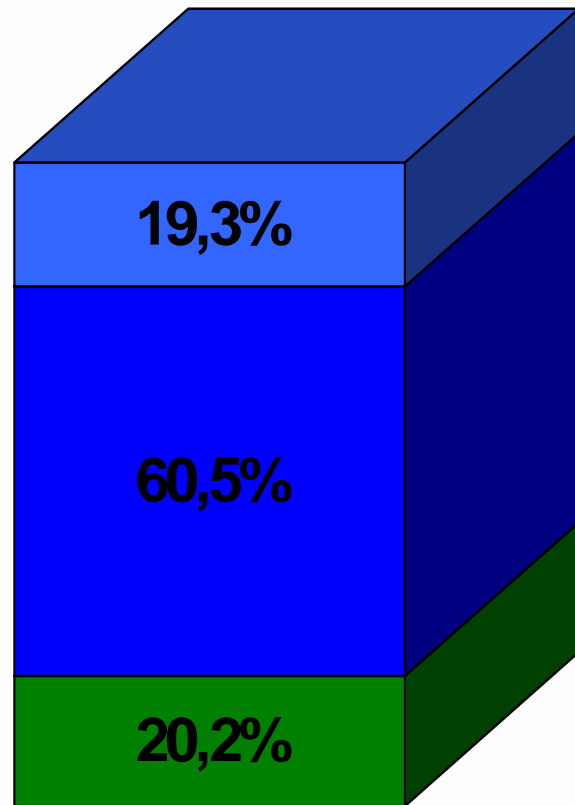
\* Enough to cover winter daily consumption down to -15 °C daily average temperature (no need to interrupt)



# Natural Gas Supply 2006

	bcm
<b>National Consumption:</b>	<b>14.24</b>
<b>Domestic Production:</b>	<b>2.82</b>
<b>Imports (diversified):</b>	<b>11.42</b>
Eastern Direction:	<b>8.75</b>
Western Direction :	<b>2.67</b>

# Natural Gas Sources 2006



Imports ~ 80 %

**Western entry: via HAG**

Gas from Russian and Western-European suppliers

**Eastern entry: via Brotherhood**

Gas from Russian and other FSU suppliers

Domestic production ~ 20 %

# Natural Gas Demand

## Seasonal variation:

- Avg. summer (*June- August*)  
consumption: **16.6 MMcm/d**
- Avg. winter (*December- Febr.*)  
consumption: **65.9 MMcm/d**
- Maximum winter consumption:  
(23<sup>rd</sup> Jan 2006) **89.1 MMcm/d**

# Development of Gas Market

		2004 Dec.	2005 Dec.	2006 Dec.
Legal market opening	%	67	67	67
Traders Licensed	pcs	10	14	16
Eligible Customers stepped out	pcs	23	52	174
Share of free market	%	6	8.6	9.7

## New Gas Reserves Explored in Hungary

- In January 2005 Canadian FALCON Oil & Gas Company acquired licenses to explore and drill the Mako Trough in Southeastern Hungary
- They took a complete 3D seismic program and drilled five wells, including Mako-7 which is the deepest well at 19,862 feet (6054 meters) in Hungarian history.
- The exploration activity indicated the presence of a basin-centered gas accumulation (BCGA) in the syncline, below a depth of 3200m

# Falcon Licensed Exploration Areas

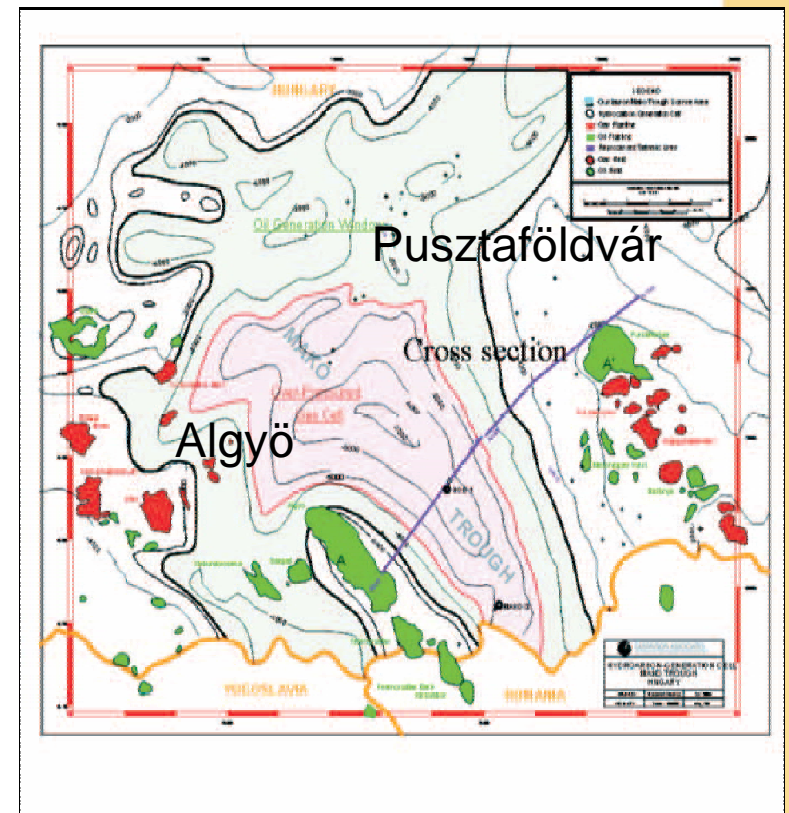


# Mako Trough and Offsetting Fields

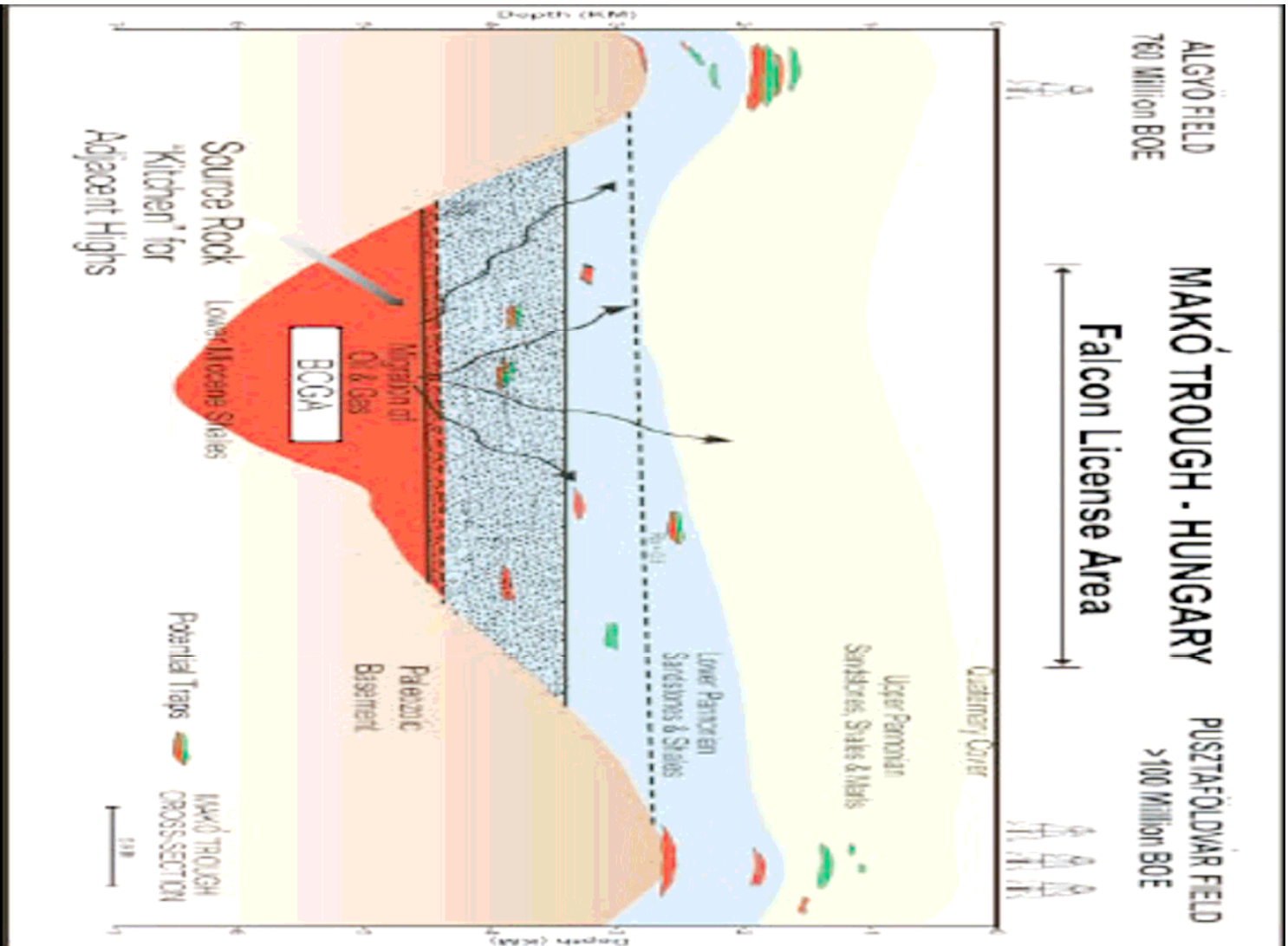
Falcon has acquired oil and gas exploration licenses covering an aggregate of 2328 sq km in the Makó Trough area of southeastern Hungary

## Two geologic plays:

- Conventional Oil and Gas
- Basin Centered Gas Accumulation – BCGA



# Mako Trough Cross Section





## Assessment of the Potential Resources

- The Scotia Group, (a highly respected international oil and gas advisory service) assigned the probabilistic estimation of technically recoverable resources of the Mako Trough Pannonian Basin Gas Accumulation:

Probability Greater Than	P90 (90%)	P50 (50%)	P10 (10%)
Technically Recoverable Resource *	21.8 tcf	54.9 tcf	116.1 tcf

\* tcf = trillion cubic feet  
1m<sup>3</sup> = 35 cubic feet

# Mako Trough – A Giant Gas Field

- TXM Oil and Gas Exploration Ltd. Falcon's wholly owned subsidiary submitted the Closing Report of its exploration activity in Mako Trough, to the Hungarian government authorities in October 2006.
- On 21 December 2006 **Hungarian Geological Survey approved the potential recoverable volumes of gas within the Mako Trough BCGA:**  
**600 BCM**
- A hydraulic frac will be operated on Mako – 6 well at the end of January 2007



**M**AGYAR  
**E**NERGIA  
**H**IVATAL

HUNGARIAN ENERGY OFFICE

[www.eh.gov.hu](http://www.eh.gov.hu)

HUNGARIAN ENERGY OFFICE

**Thank you for your kind attention!**

**[korosit@eh.gov.hu](mailto:korosit@eh.gov.hu)**