NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

ENTSOG WORKSHOP on TRANSPARENCY

Implementation at FGSZ Ltd.

Károly Jenei
FGSZ Ltd. Capacity Management Expert
November 23th, 2011

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

General information I.

Infrastucture

- 5783 km long pipeline network
- Diameters 100-1400 mm
- Operational pressure 40-75 bar
- Daily peak firm **entry** capacity **132** Mcm/d
- 22 physical **entry** points: 3 interconnector,

  12 production (5 commercial points) , 5 storage points (2 commercial points)
- 408 physical **exit** points, **230** Mcm/d

  (315 commercial domestic exit points,

  3 crossborder exit points)
- 6 compressor stations, total compressor capacity: **233** MW

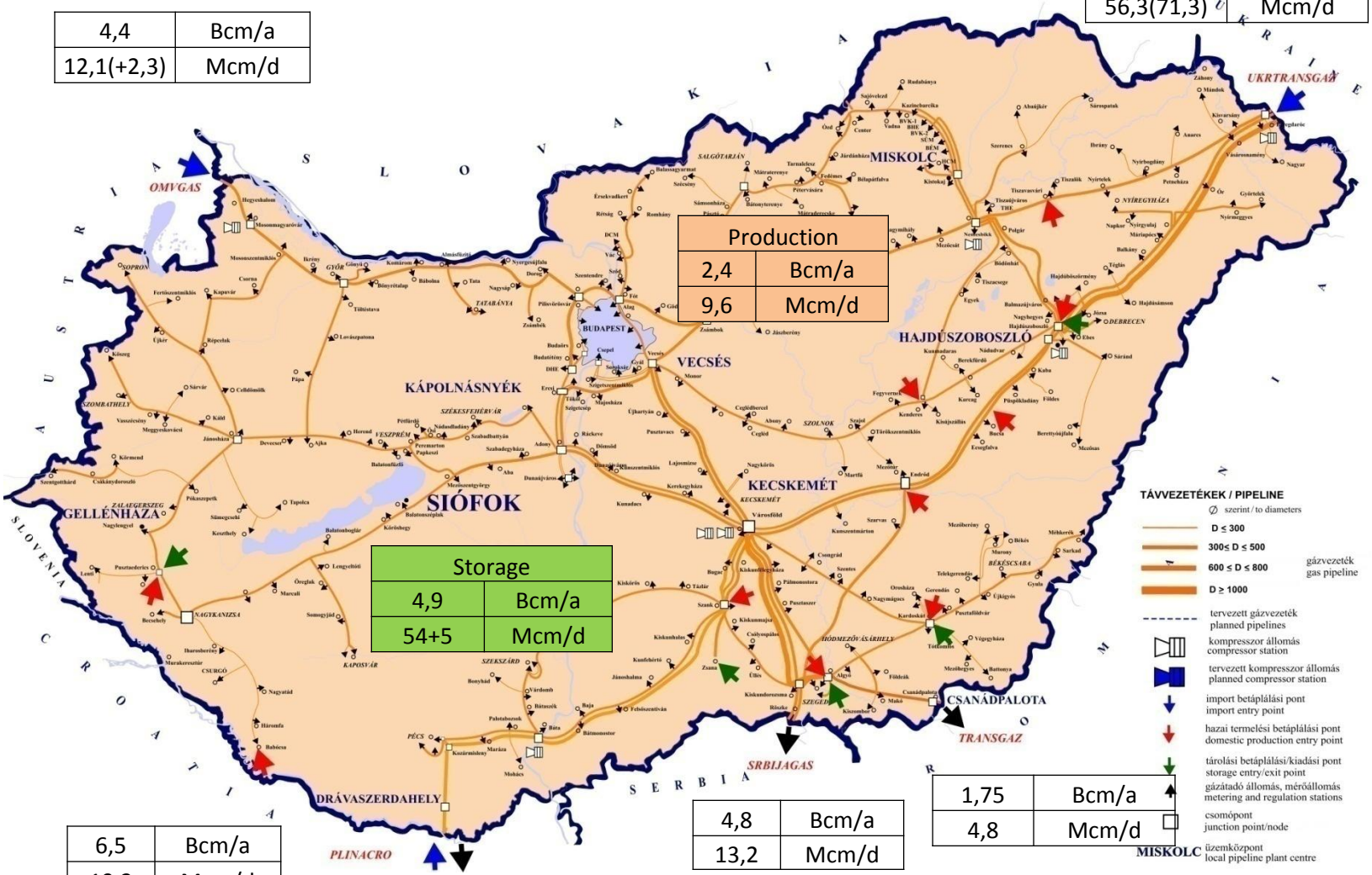
General information II.

The System

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

20,5 (26)	Bcm/a
56,3(71,3)	Mcm/d

4,4	Bcm/a
12,1(+2,3)	Mcm/d



Production	
2,4	Bcm/a
9,6	Mcm/d

Storage	
4,9	Bcm/a
54+5	Mcm/d

6,5	Bcm/a
19,2	Mcm/d

4,8	Bcm/a
13,2	Mcm/d

1,75	Bcm/a
4,8	Mcm/d

TÁVVEZETÉKEK / PIPELINE

Ø szerint / to diameters

- D ≤ 300
- 300≤ D ≤ 500
- 600 ≤ D ≤ 800
- D ≥ 1000

gázvezeték
gas pipeline

- tervezett gázvezeték — planned pipelines
- kompresszor állomás — compressor station
- tervezett kompresszor állomás — planned compressor station
- import betáplálási pont — import entry point
- hazai termelési betáplálási pont — domestic production entry point
- tárolási betáplálási/kiadási pont — storage entry/exit point
- gázátadó állomás, mérőállomás — metering and regulation stations
- csomópont — junction point/node
- MISKOLC üzemközpont — local pipeline plant centre

Best Employer
Világgazdaság - Hewitt Study 2010

Best Employer
Central Eastern Europe
2009/2010
conducted by Hewitt

Best Employer
Central Eastern Europe
2010/2011
conducted by Aon Hewitt

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

FGSZ Transparency Project: Background

Transparency obligations are arising from:

- **EU 3rd Energy package (especially EC 715/2009)**
- **Comitology on Annex 1 part 3 of EC 1775/2005 (and EC 715/2009).**

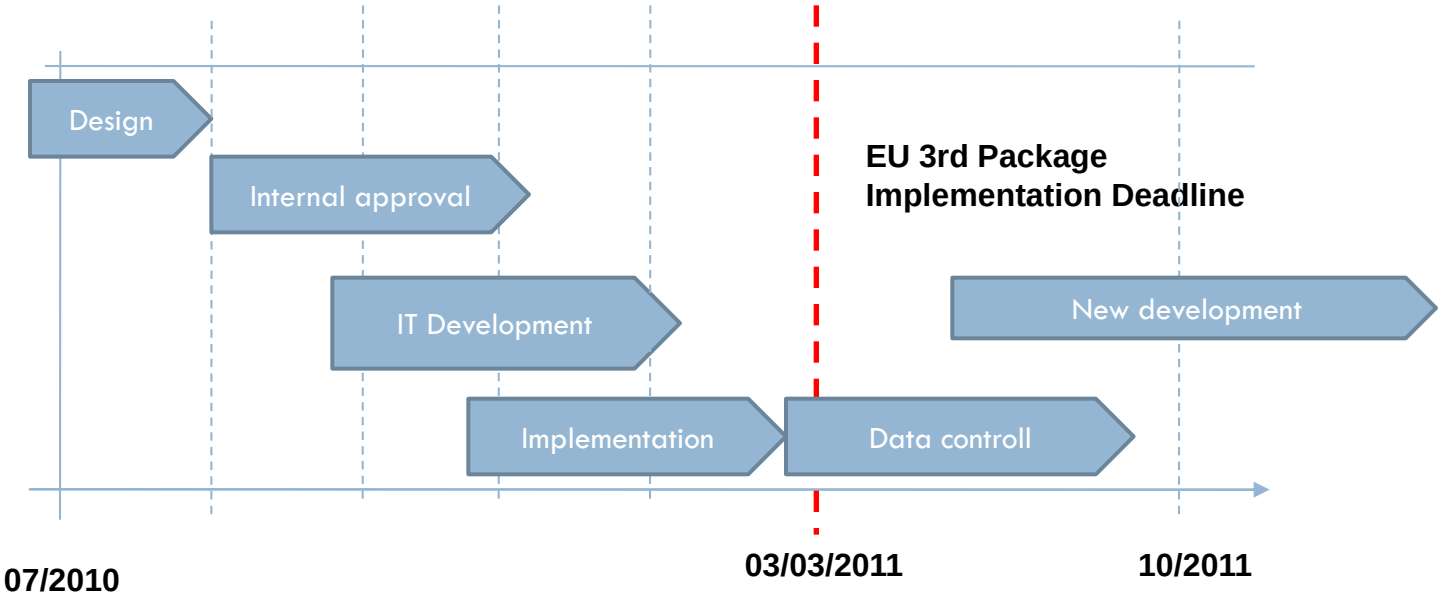
The main target:

To pursue a common European approach to implementation of transparency requirements under Regulation (EC) 715/2009.

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

FGSZ Transparency Project: Implementation I.

Time-table:



NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

FGSZ Transparency Project: Implementation II.

What was the main challenges:

- Ability to prepare IT system to publish all data
  - „near real time” data (daily)
  - to send data to other system automatically (ENTSOG TP)
- Historical data to download (first year 2010)
- Short time to make consultation with stakeholders about
  - relevant point
  - published point
- To make easier tariff calculator

FGSZ Transparency Project: Implementation III.

Transparency Guidelines (Amendment to Chapter 3 of Annex 1 of the Regulation No 715/2009)

The solution: Creating the appropriate structure for 715/2009

3.1.2 Content of publication

Transmission system operators shall publish at least the following information about their systems and services:

(a) a detailed and comprehensive description of the different services offered and their charges;

(b) the different types of transportation contracts available for these services;

(c) the network code and/or the standard conditions outlining the rights and responsibilities of all network users including:

1. harmonised transportation contracts and other relevant documents;
2. if relevant for access to the system, for all relevant points as defined in paragraph 3.2 of this Annex, a specification of relevant gas quality parameters, including at least the gross calorific value and the Wobbe index, and the liability or costs of conversion for network users in case gas is outside these specifications;
3. if relevant for access to the system, for all relevant points information on pressure requirements;
4. the procedure in the event of an interruption of interruptible capacity, including, where applicable, the timing, extent, and ranking of individual interruptions (for example pro-rata or first-come-last-interrupted).

(d) the harmonized procedures applied when using the transmission system, including the definition of key terms;

(e) provisions on capacity allocation, congestion management and anti-hoarding and re-utilisation procedures;

(f) the rules applicable for capacity trade on the secondary market vis-à-vis the transmission system operator;

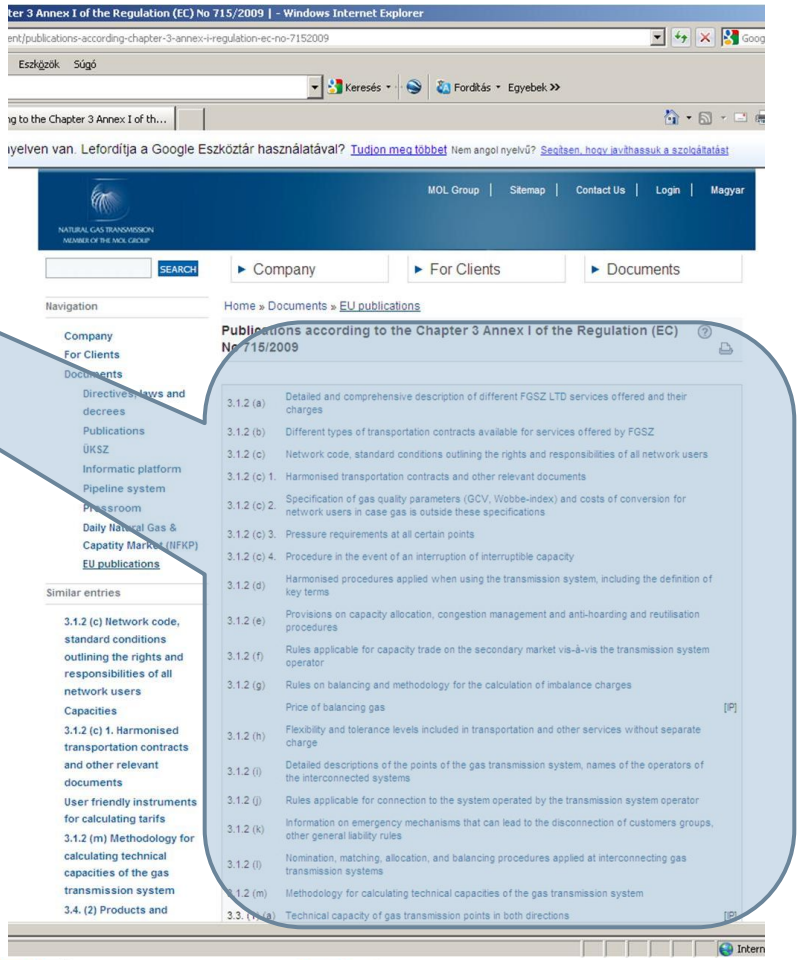
(g) rules on balancing and methodology for the calculation of imbalance charges;

(h) if applicable, the flexibility and tolerance levels included in transportation and other services without separate charge, as well as any flexibility offered in addition to this and the corresponding charges;

(i) a detailed description of the gas system of the transmission system operator and its relevant points of interconnection as defined in paragraph 3.2 of this Annex as well as the names of the operators of the interconnected systems or facilities.

(j) the rules applicable for connection to the system operated by the transmission system operator;

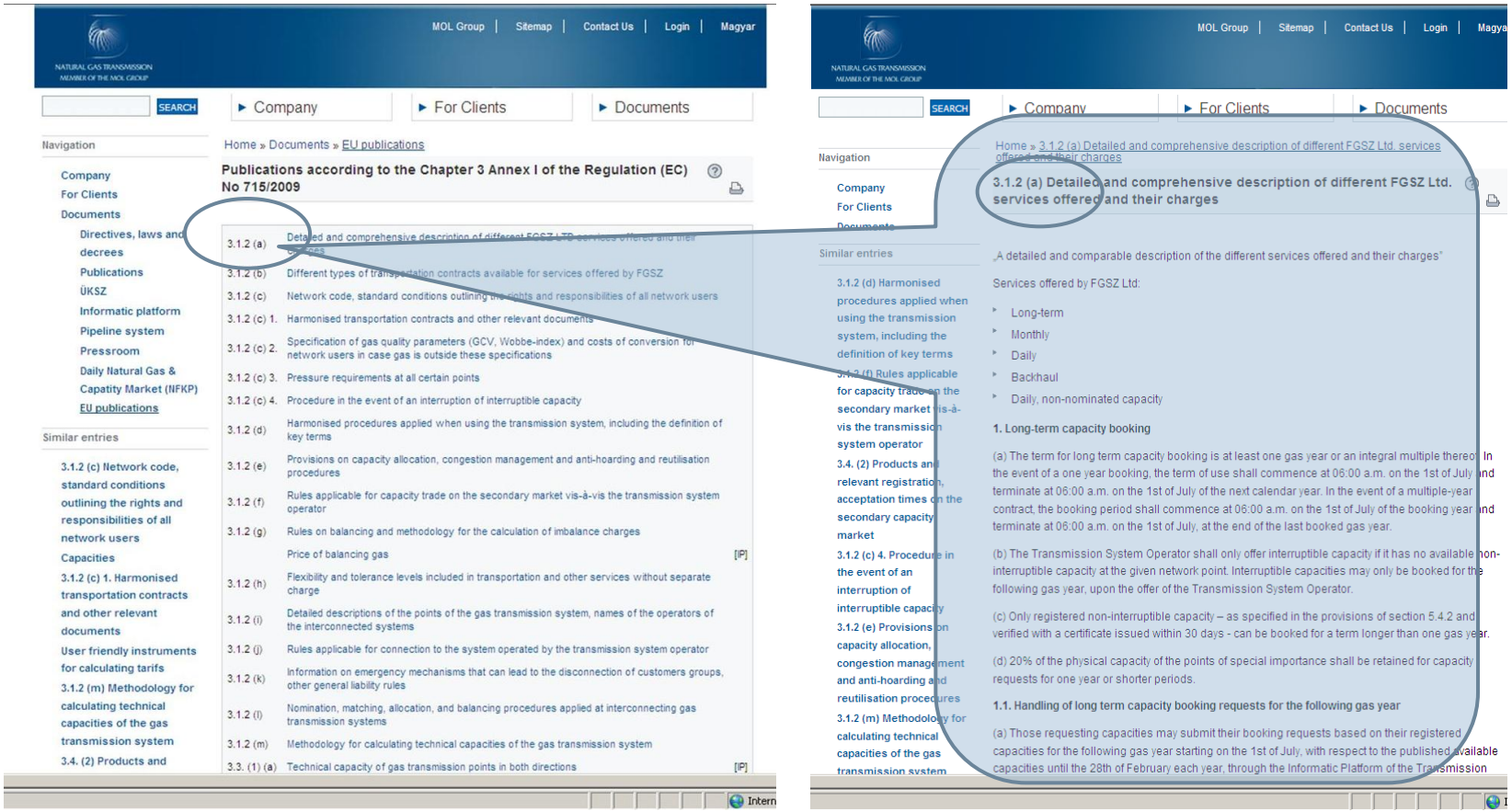
(k) information on emergency mechanisms, as far as it is the responsibility of the Transmission System Operator, such as measures that can lead to the



FGSZ Transparency Project: Implementation III.

Transparency Guidelines (Amendment to Chapter 3 of Annex 1 of the Regulation No 715/2009)

The solution: Detailed descriptions

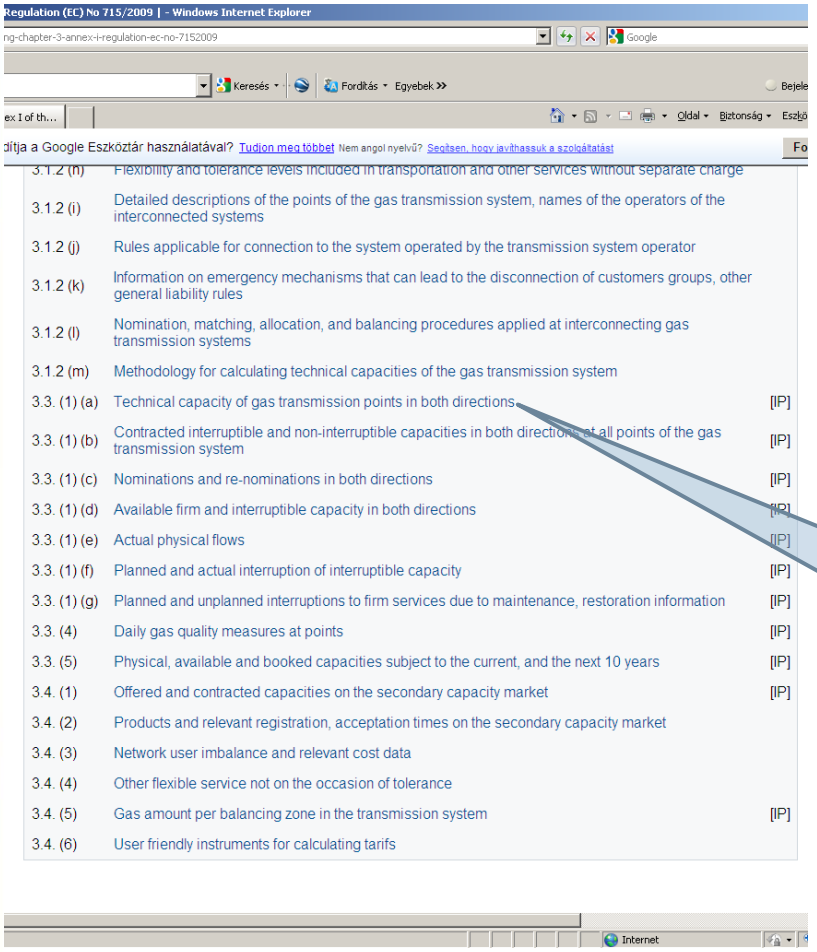


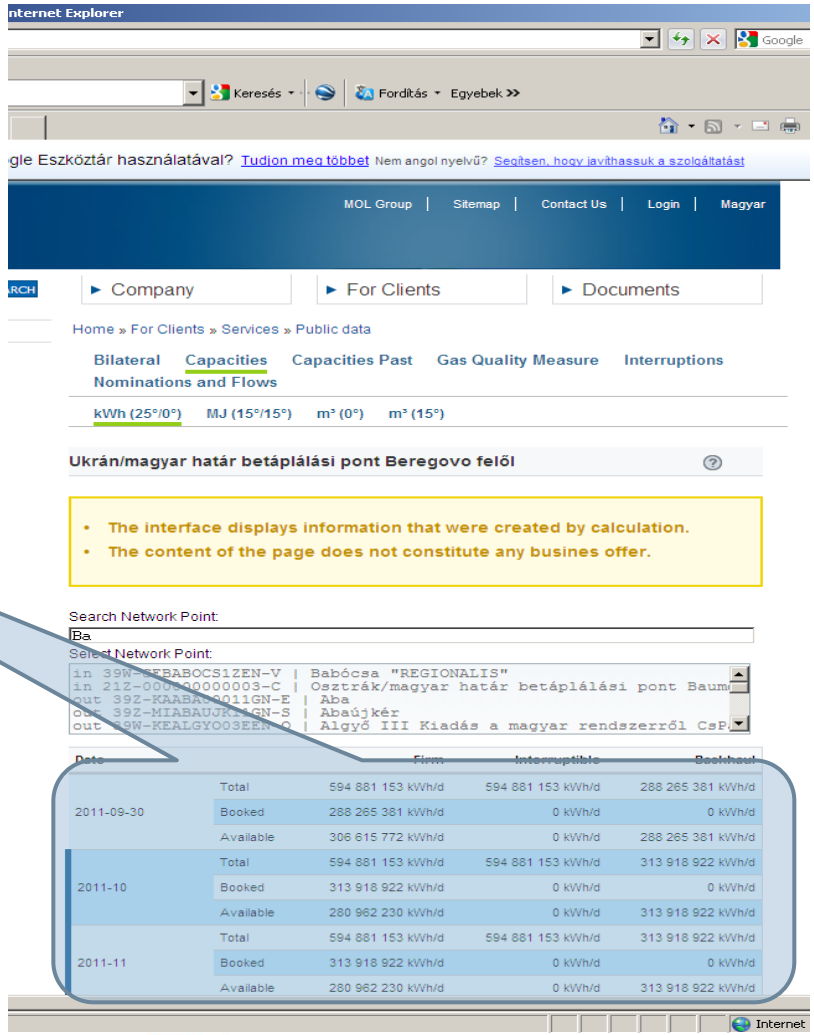
NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

FGSZ Transparency Project: Implementation III.

Transparency Guidelines (Amendment to Chapter 3 of Annex 1 of the Regulation No 715/2009

The solution: Available capacities



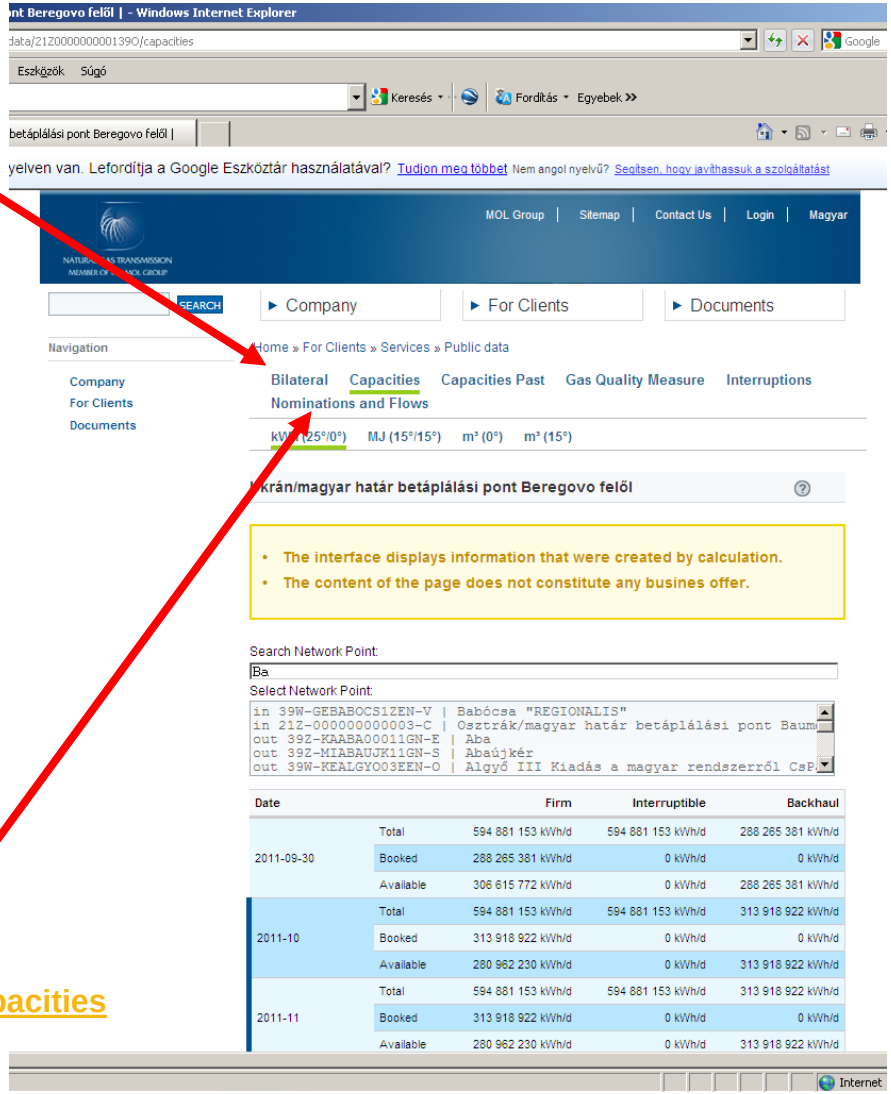


FGSZ Transparency Project: Implementation III.

Main menu points

- Secondary market transaction data
- Capacity data booked and available

  (physical capacity ,firm, interruptible, backhaul)
- Historical data
- Gas Quality Measured parameters (NCV, GCV)
- Interruptions
- Nomination and flows (daily data)

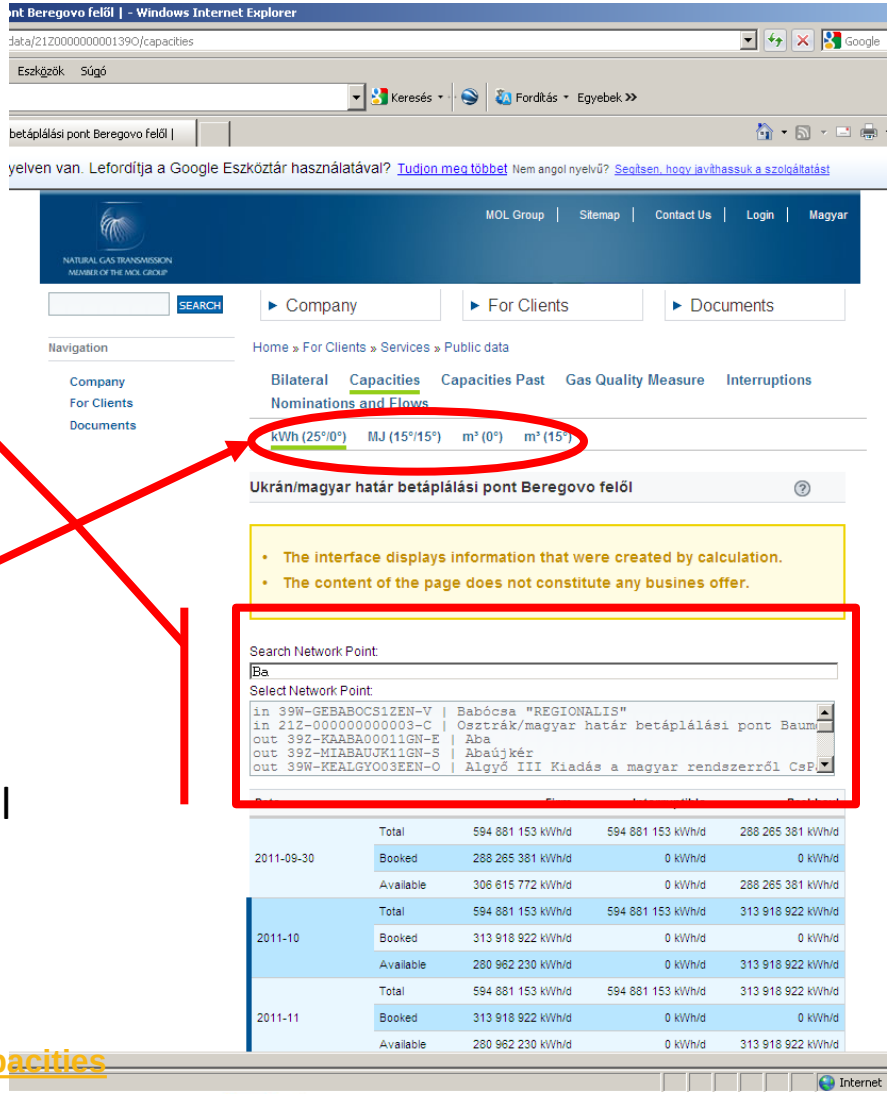


http://fgsz.hu/en/pub_data/21Z000000000139O/capacities

FGSZ Transparency Project: Implementation III.

Main menu points

- Search Network Point
- Languages (Hungarian and English)
- Line pack data hourly update, end of day data → historical data
- Units (kWh; MJ; m3 (0); m3 (15)
  entry daily,
  exit daily and hourly
- The data are downloadable in excel



http://fgsz.hu/en/pub_data/21Z000000000139O/capacities

Best Employer Világgazdaság - Hewitt Study 2010
Best Employer Central Eastern Europe 2009/2010
Best Employer Central Eastern Europe 2010/2011

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

FGSZ Trancparency Project: Improvements

The future plans for improvements:

- Data download – particularly if more than one point needed
  - Download data more than one point in the same time
  - Download data with graph
- Network point selection from map
- To make new user friendly tariff calculator

NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

Thank you for your attention

Károly Jenei
Capacity Management Expert
FGSZ – Hungarian Transmission System Operator Ltd.
Tanácsház utca 5
H-8600 Siófok
T: + 36 84 505 621
M: + 36 209654229
F: + 36 84 505 218
e-mail: kjenei@fgsz.hu
Webpage: www.fgsz.hu