



GAS TRANSPORTATION INFRASTRUCTURE DENSITY IN THE EU: CEE vs NWE

**Andrey A.Konoplyanik – Ekaterina Orlova,
WS2 GAC / Russia-EU Informal Consultations
on EU Regulatory Topics (3rd EU Energy Package)**

20th round of Informal Russia-EU Consultations on EU Regulatory Topics &
13th meeting of the EU-Russia Gas Advisory Council's Work Stream on Internal
Market Issues (WS2 GAC),
Vienna, E-Control, 15 July 2014

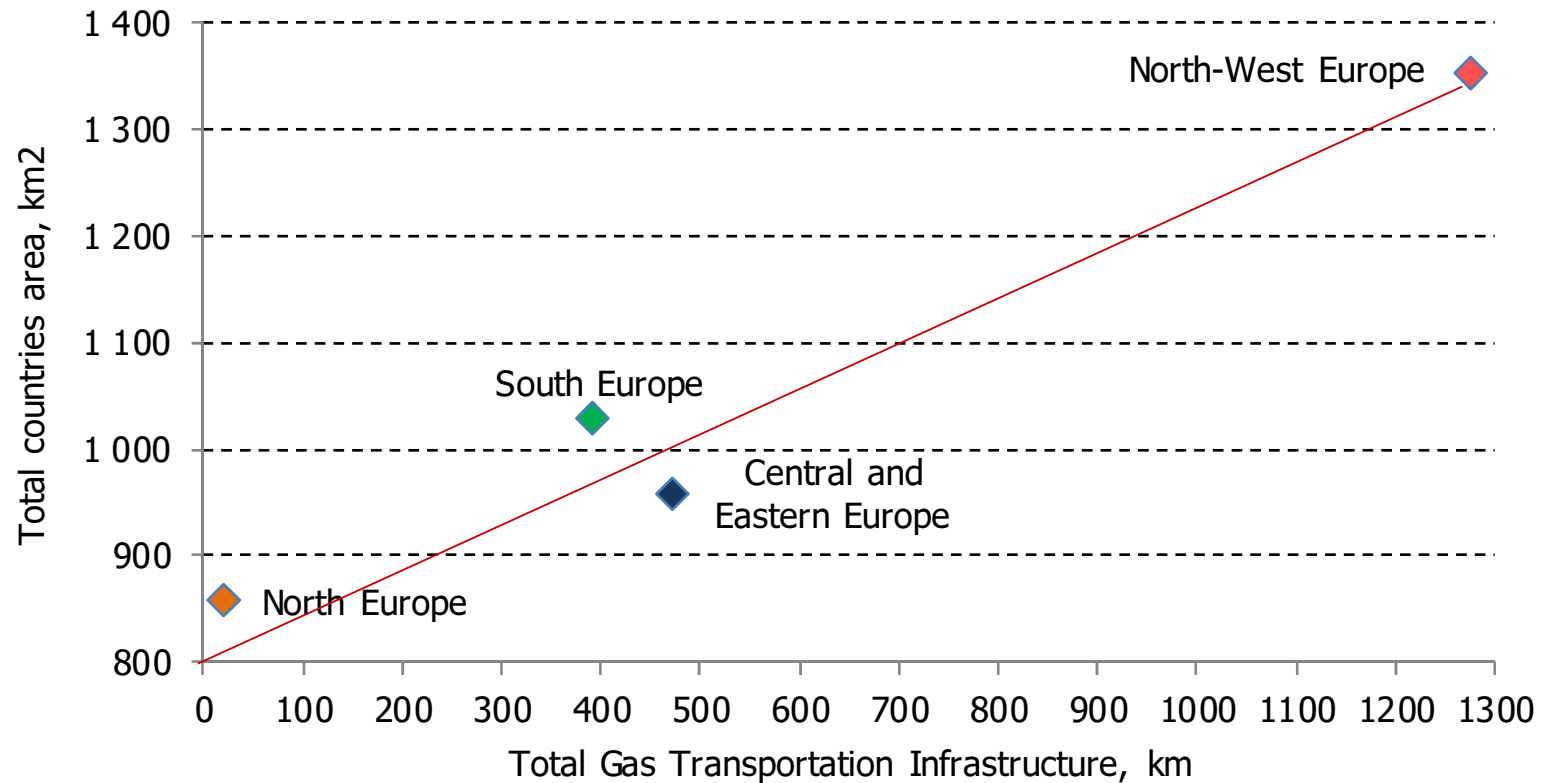


Well functioning markets vs density of infrastructure: CEE vs NWE

- EU internal market is in the making & not homogenous yet
- EU market zones have different level of competitiveness & their marketplaces – of liquidity: f.i. NWE vs CEE
- CEC/DG COMP sees the reason for low CEE markets liquidity & competitiveness in Gazprom's non-market behaviour & thus proposes its “positive discrimination” within existing available infrastructure
- But maybe the explanation is different? Whether necessary fundamentals / prerequisites are in place in CEE to provide adequate market liquidity & competitiveness (like in NWE which marketplaces are considered EU as if already liquid – TTF, NBP, - though business thinks differently – see presentation of A.Wagner)?
- Adequate infrastructure density is (one of) such prerequisites. It provides technical opportunities for diversification, which enables competition, etc.
- What is comparative picture between CEE & NWE?



EU countries areas vs gas transportation infrastructure* - almost linear correlation, BUT...



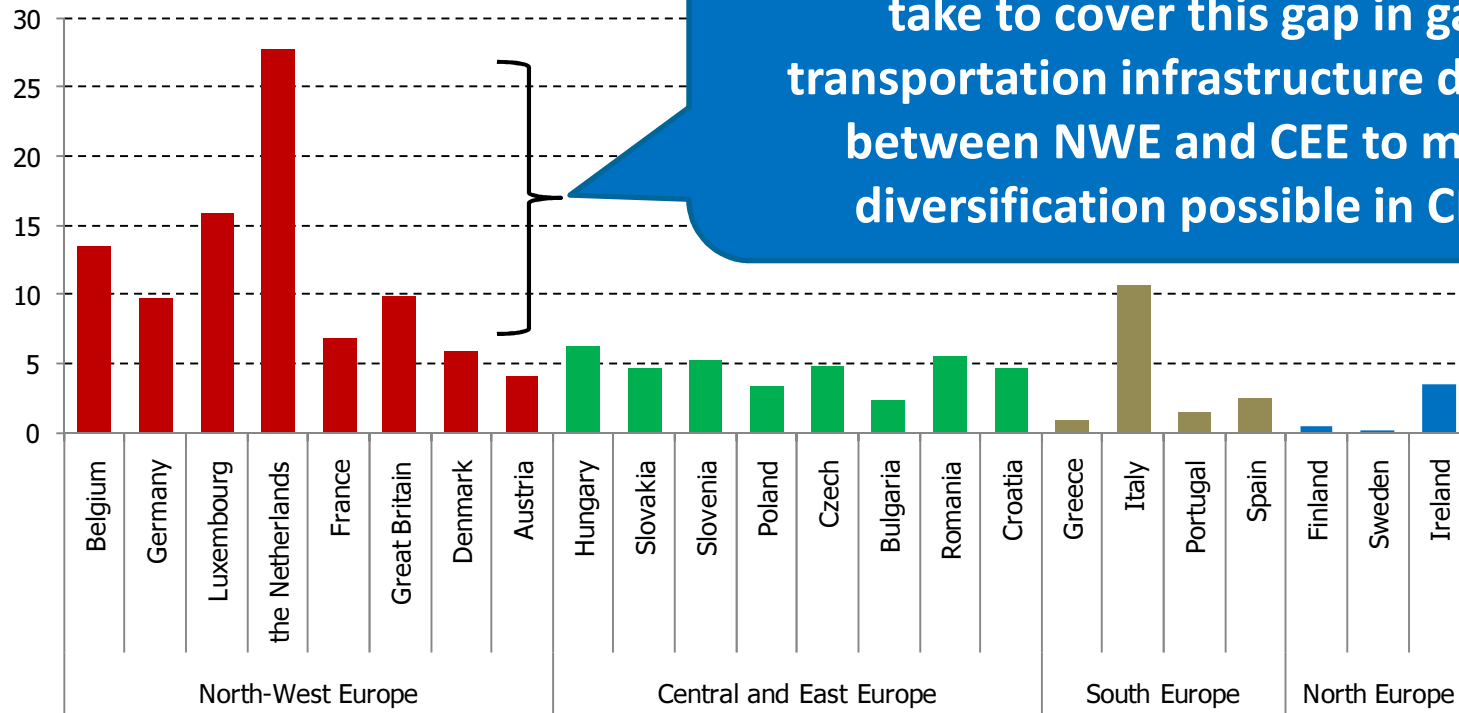
* Gas trunk & distribution lines

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSOG, Eurogas



Gas transportation infrastructure density in the EU* (trunk lines only, km/100 km²)

How much will it cost and how long will it take to cover this gap in gas transportation infrastructure density between NWE and CEE to make diversification possible in CEE?

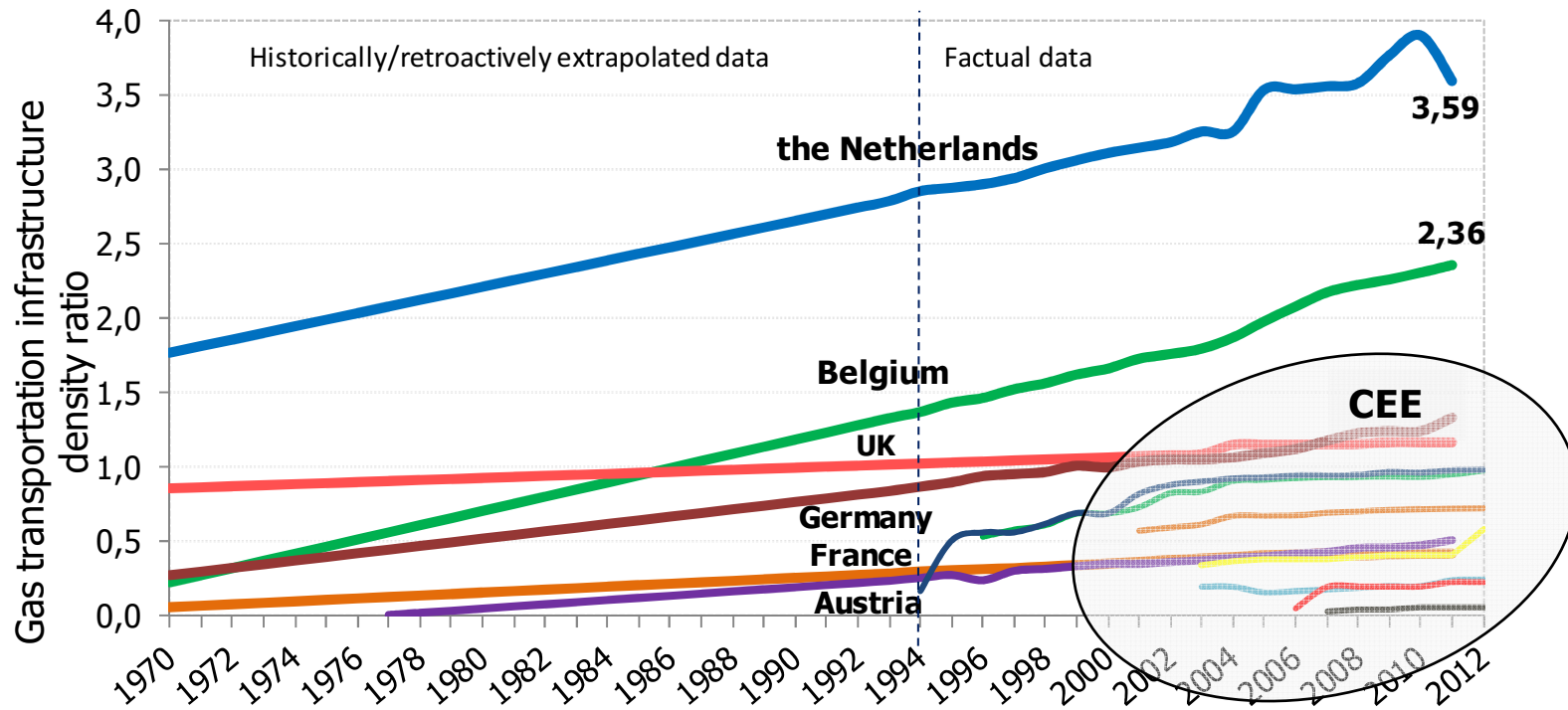


* Preliminary results

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSOG



NWE & CEE gas transportation infrastructure* density ratios by country (km/km²): CEE in lower values

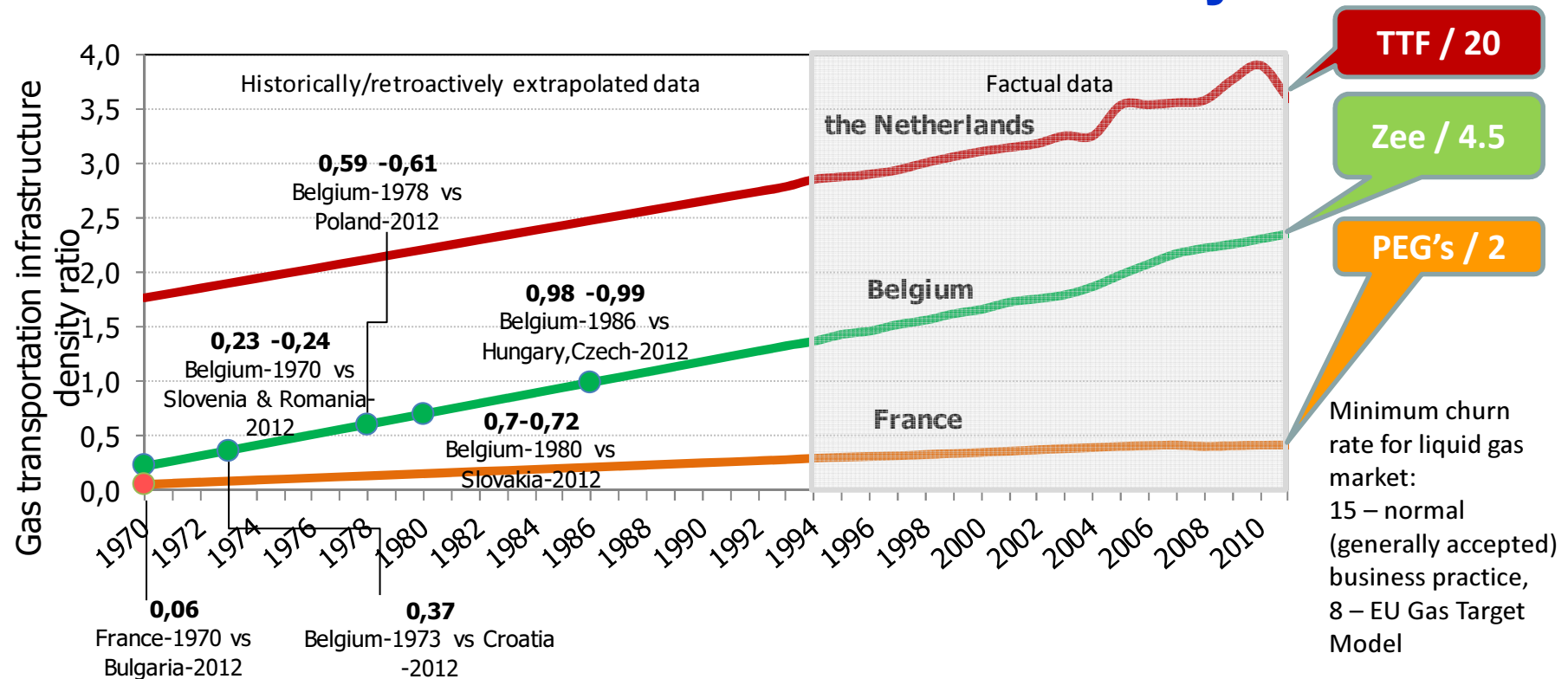


* Gas trunk & distribution lines

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSO, Eurogas



CEE (2012) & corresponding NWE gas transportation infrastructure* density ratios (km/km²): time gap measured by decades



* Gas trunk & distribution lines

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSO, Eurogas; Churn rates: ICIS Heren European Gas Hub Report October 2013



Time gap between NWE & CEE gas transportation infrastructure* density ratios (years, NWE compared with CEE 2012 levels)

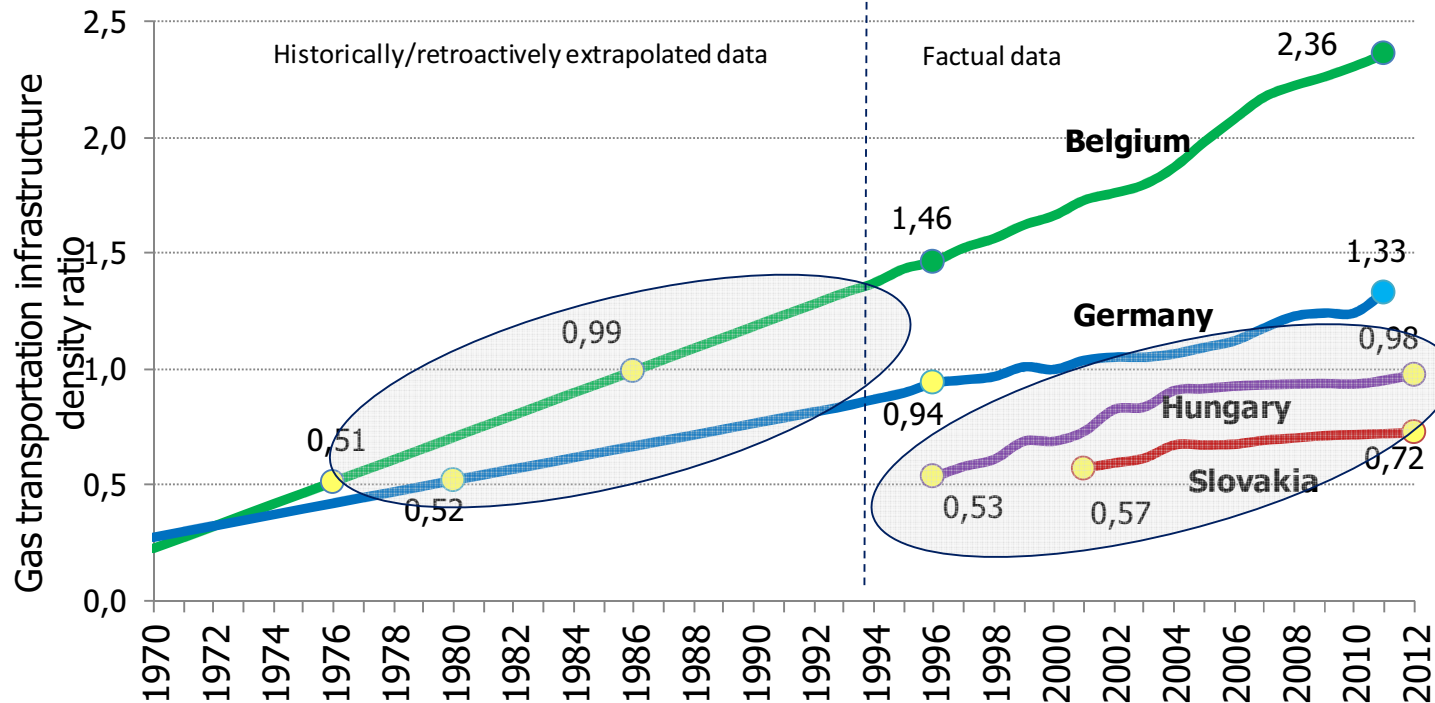
CEE countries (2012)	CEE (2012) vs The Netherlands	CEE (2012) vs Belgium	CEE (2012) vs France
<i>Hungary, Czech</i>	have not reached 1970' level	26	2 times higher
<i>Slovakia</i>	has not reached 1970' level	32	1.5 times higher
<i>Poland</i>	has not reached 1970's level	34	1.5 times higher
<i>Croatia</i>	has not reached 1970's level	39	10
<i>Slovenia, Romania</i>	have not reached 1970's level	42	25
<i>Bulgaria</i>	has not reached 1970's level	has not reached 1970's level	42

* Gas trunk & distribution lines

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSO, Eurogas; Churn rates: ICIS Heren European Gas Hub Report October 2013



CEE vs NWE gas transportation infrastructure* density ratios comparison (km/km²): the gap seems to increase... (1)



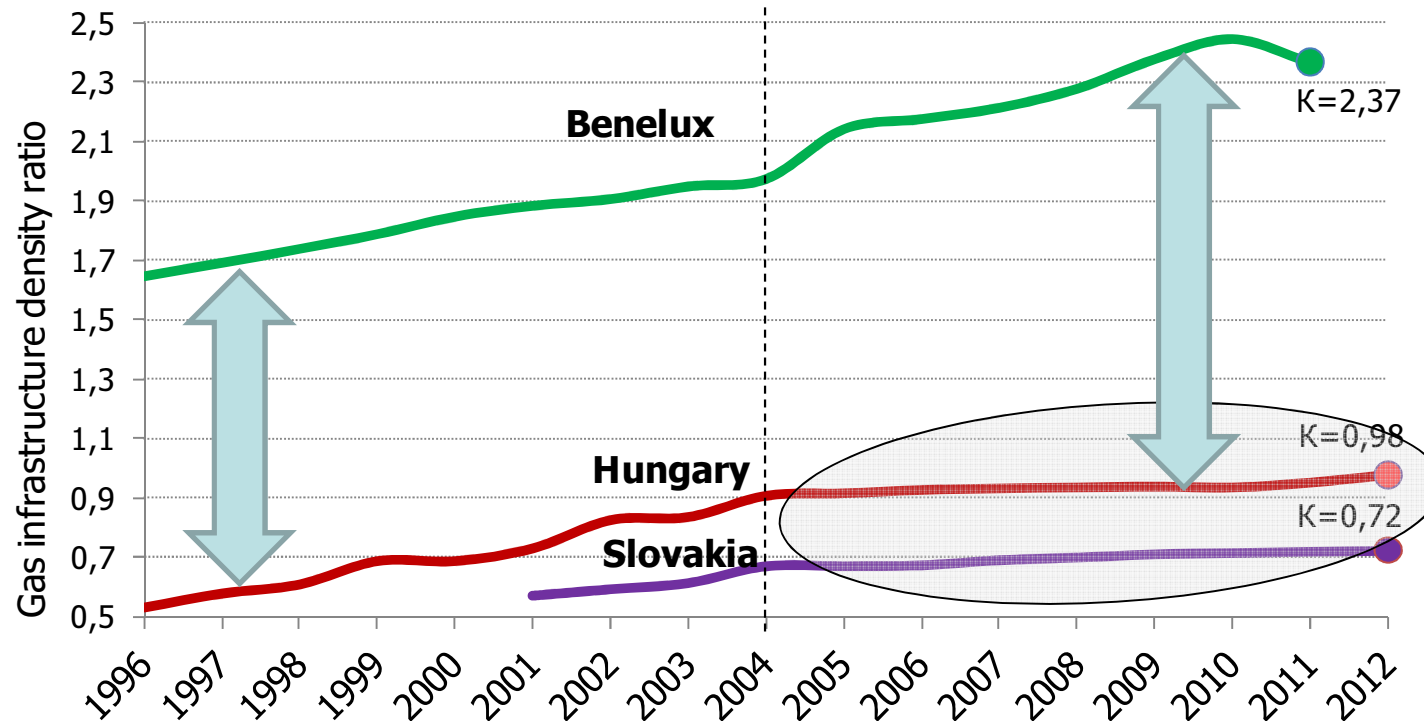
* Gas trunk & distribution lines

Ovals show the periods when the historical density ratios of transport infrastructure in NWE (Belgium, Germany) correspond to the more recent levels of this ratio in CEE (Hungary, Slovakia).

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSOE, Eurogas



CEE vs NWE gas transportation infrastructure* density ratios comparison (km/km²): the gap seems to increase... (2)

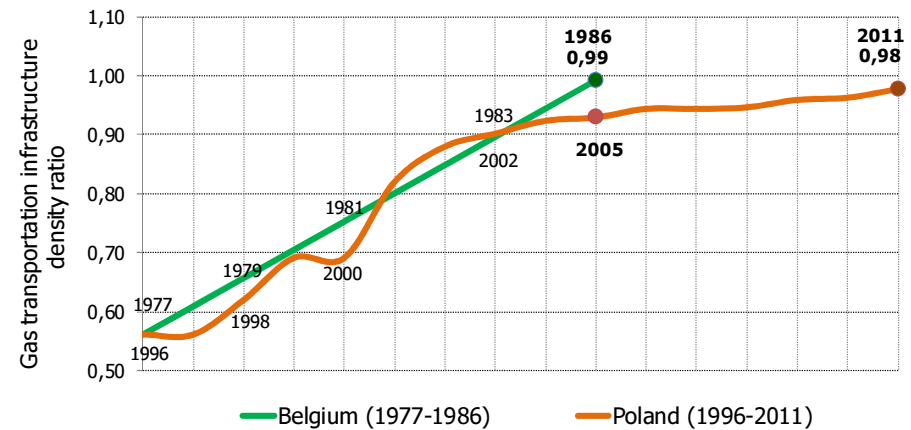
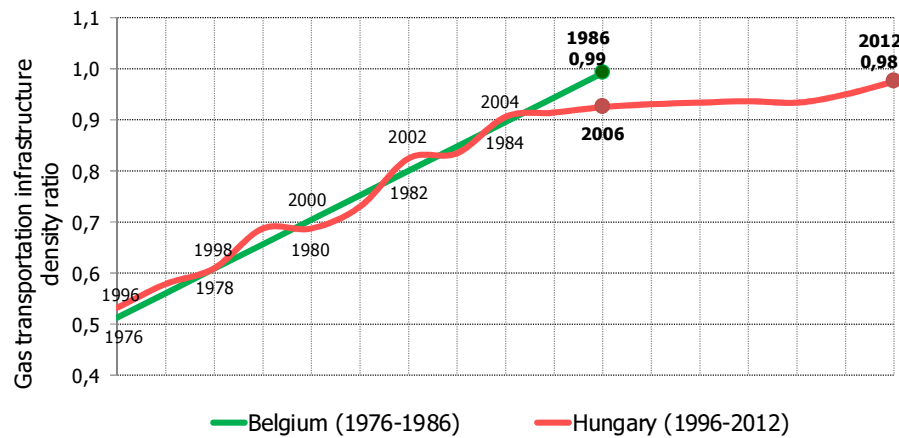


* Gas trunk & distribution lines, preliminary results

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSO, Eurogas



Gas transportation infrastructure* density ratios comparison, (km/km²)



Stagnation of gas transportation infrastructure density ratio in CEE after joining the EU? Is it really so? Why so???

* Gas trunk & distribution lines, preliminary results

Calculations made by E.Orlova, PHD postgraduate student, Chair "International Oil and Gas Business", Russian State University of Oil and Gas, based on the data 2011/2012, kindly provided by ENTSOE, Eurogas



Conclusions

- Infrastructure density is a material background/prerequisite for introducing non-discriminative competition, e.g. without:
 - deficit of infrastructure and
 - “positive discrimination” of incumbents who created existing infrastructure
- How much have it cost for NWE states to reach their today’s levels of infrastructure density (which is considered by EU regulatory authorities as providing adequate liquidity for competitive marketplaces) from today’s CEE levels?
- How much will it cost to CEE states to reach today’s NWE infrastructure density levels to provide material background for competitive markets? Who will pay for this? How long will it take?
- What rules need be created in EU for this? Whether current draft amended CAM NC provides adequate regulatory rules for this?
- We propose to investigate and respond to this questions together within GAC/Consultations framework

Thank you for your attention

Andrey A. Konoplyanik

+ 7 499 503 6006

andrey@konoplyanik.ru

a.konoplyanik@gazpromexport.com

www.konoplyanik.ru

Ekaterina Orlova

+ 7 495 787 7451

e_orlova@fief.ru
