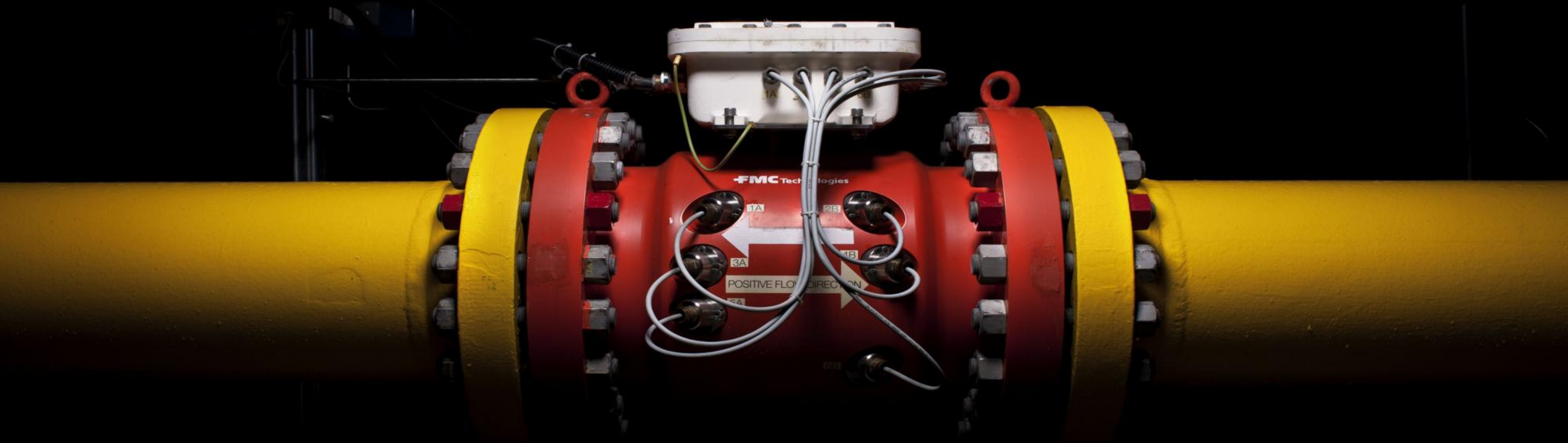
Infrastructure, market and regulatory developments in Poland and CEE



7th Annual Central European Energy Conference
Bratislava, 25 November 2013

Piotr Kuś, Director, Brussels Office
Gas Transmission Operator GAZ-SYSTEM S.A.

GAZ system

the system that connects

Natural gas market in the V4 region

Overview of infrastructure in the region

Transit oriented infrastructure (East-West running pipelines)

2/3 main transit corridors of Russian gas towards the Western Europe

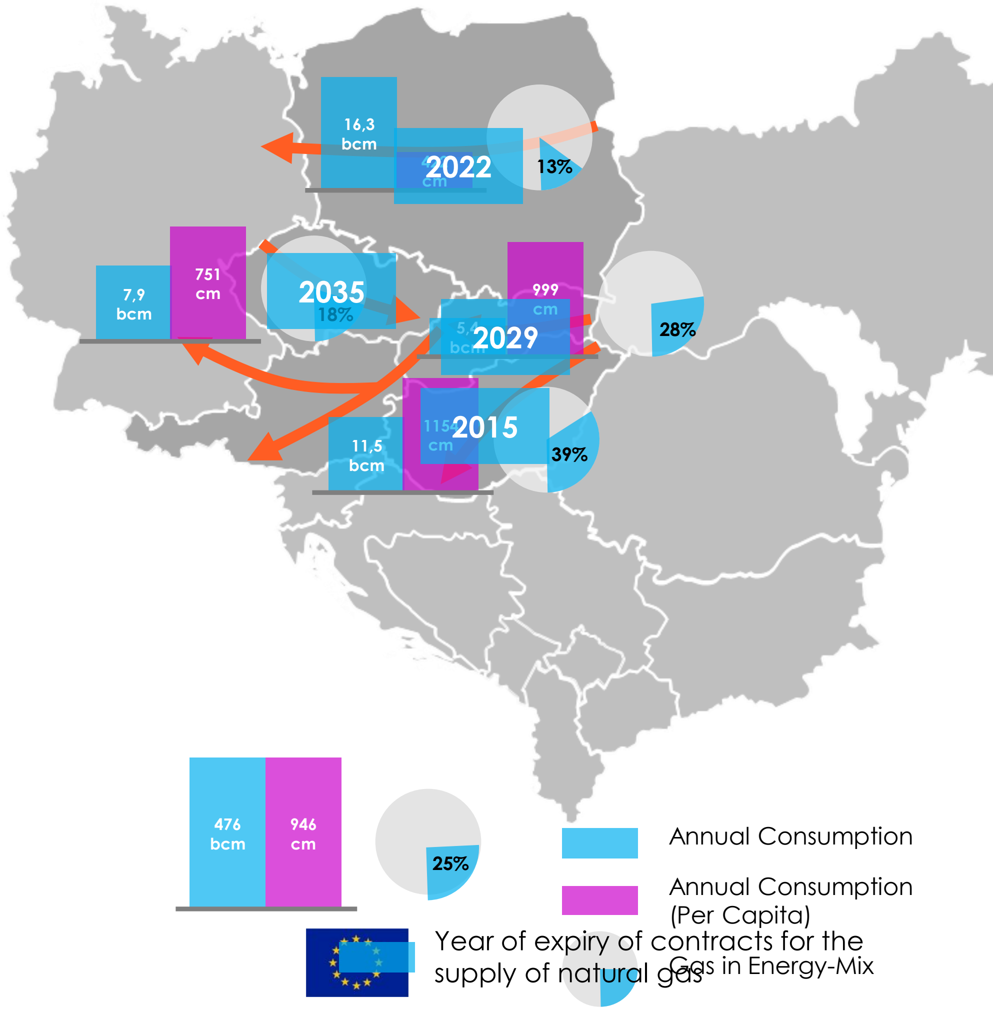
Almost 100% of the current gas import in the Region is sourced (at least physically) from Russia

Relatively small markets with potential to grow (historical constraints, role of indigenous resources incl. coal)

Fragmentation - not attractive for upstream players and traders

Diversification and integration required (competitive and liquid market, increase of security of supply)

Dominant role of the long – term contracts in gas supplies for the region



Natural gas infrastructure in the CEE region

The N-S corridor in the CEE region

Series of pipeline projects and interconnections at various stage of development coordinated to provide regional integration of physical infrastructure

Key role of the Polish transmission system in the region

Connecting the Baltic Sea region with the CEE countries

Setting the stage for the new supply potential

Crucial for delivering EU Infrastructure Policy goals

Diversification of supplies in the region

Increase of Security of Supply (N-1)

Price decrease

Infrastructure leverage

Relatively low costs of new infrastructure provide leverage for lower commodity prices for end-users

Investments facilitate new possibilities for the market

Creating attractive supply-mix for the region

Enhancing economic competitiveness of the region's economies

Creating Supply potential

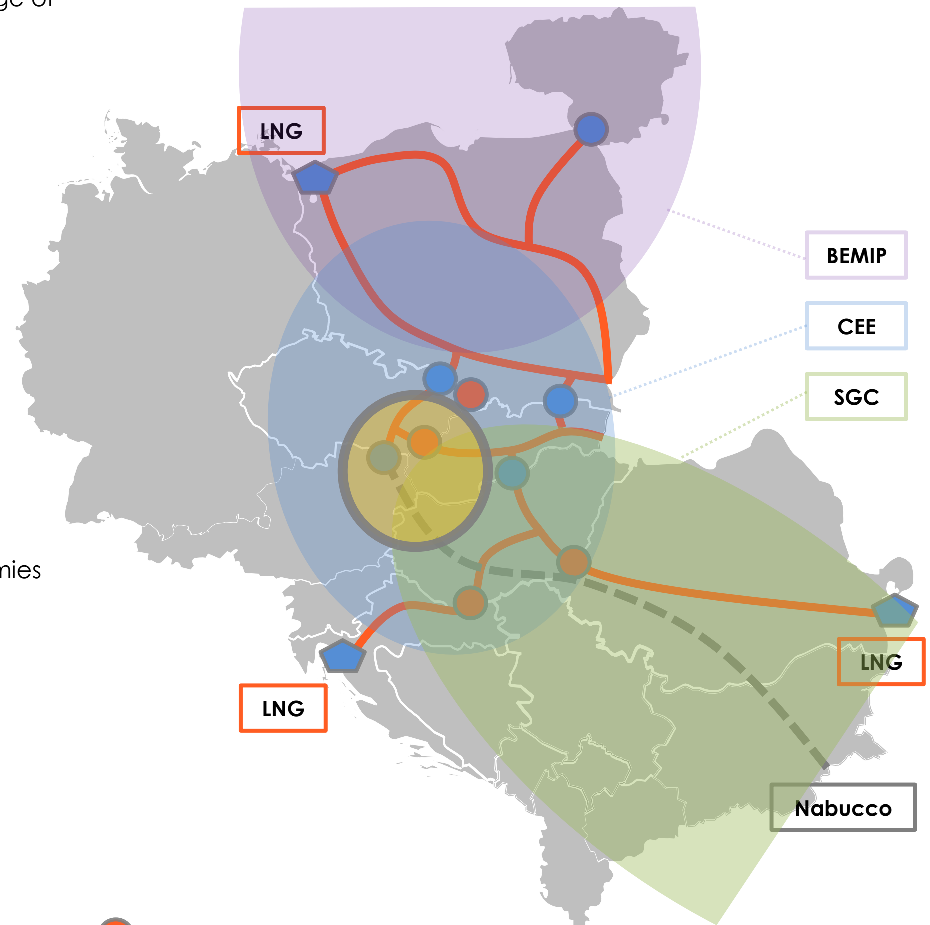
NORTH
LNG/NCS
Shale gas

WEST
European
spot market

EAST
RU gas

SOUTH
LNG
SGC

The LNG terminal in Świnoujście as the only project in the short/mid-term perspective that guarantees physical diversification of supply sources in the CEE region



Existing infrastructure

Planned infrastructure/under construction

Market potential of the V4+UA countries

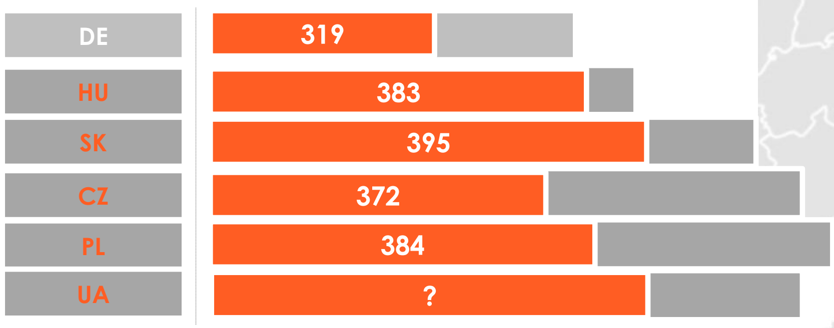
- **Today V4 natural gas market is approx. 41.1 bcm/a with the potential to growth up to about 60 bcm/a. Combined with UA market the potential of approx. 100 bcm/a may be created.**

- Elements influencing the market integration:
  Infrastructure (i.e.. interconnectors)
  Common goals
  New sources (LNG, gas from the south)

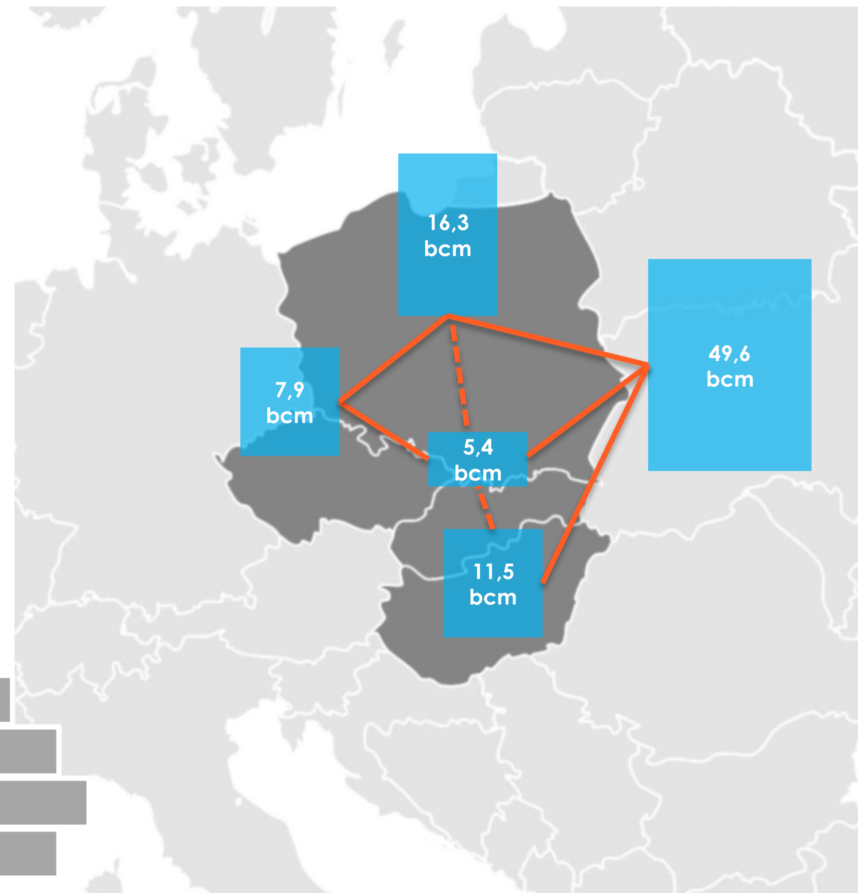
- UA negotiations with the neighbouring countries in the scope of construction of interconnections - in order to reduce the dependence on supplies from the Russian.

- Ukraine is connected with EU through the following interconnections: **PL-UA (bidirectional); HU-UA (bidirectional); SK-UA; RO-UA**

- **Long-term gas prices – 2012/2013**
  (USD/1000cm)



Source: Izvestia/GAZPROM/RIA Novosti



Demand for gas transmission service

Source: Eurostat, ENTSOG, BP Statistical Review 2013

- **Having in regard the demand potential, long term pricing and existing differences - drivers for integrating regional market with EU gas market exist.**

Natural gas market in Poland

MARKET OVERVIEW

Poland as the biggest natural gas market in the region – 16,3 bcm/a

Annual production of natural gas at the level of approx. 4,5 bcm

Limited share of natural gas in the Polish primary energy consumption (approx. 13%)

Decreasing dependence on imports from one direction, national production covers remaining 30%

NETWORK OVERVIEW

Transmission network with a length of 10,033 km

East-West running pipelines

Three existing interconnections with the EU countries:

- **PL-CZ Interconnection (Cieszyn)**

  Project launched in Sep 2011 with capacity of 0,5 bcm

- **PL-DE Interconnection (Lasów)**

  Upgrade of 0,6 bcm (to 1,5 bcm) launched in Jan 2012.

- **Virtual Reverse Flow on the Yamal Pipeline**

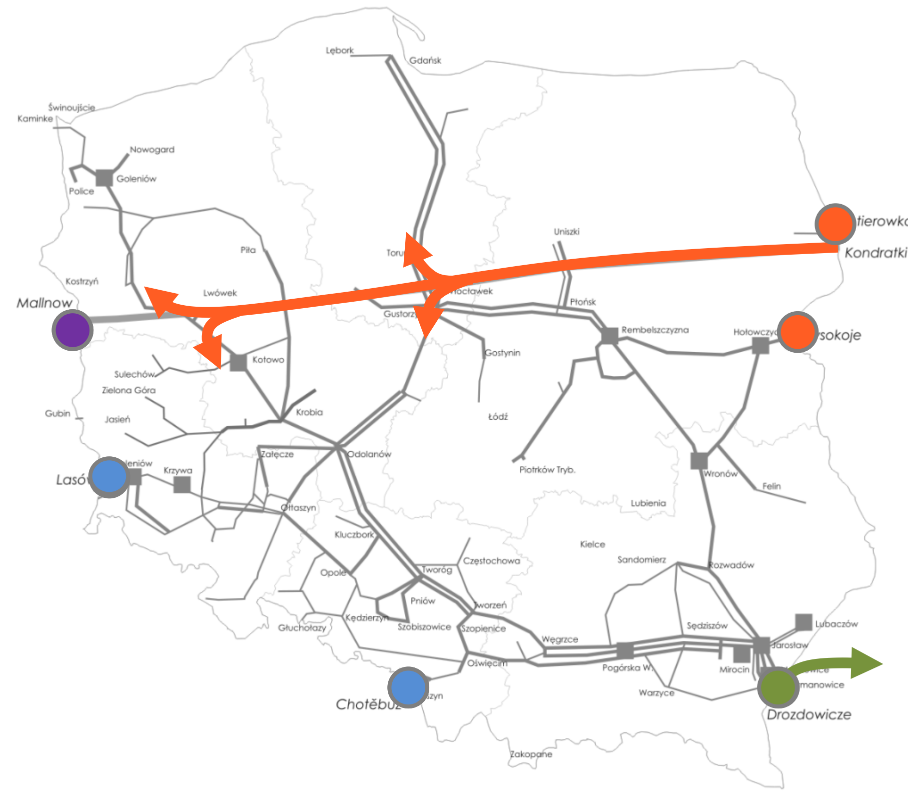
  Services introduced in Nov 2011, additional capacity of 2,3 bcm

These projects increased import capacities to Poland by 30%

New flow in PL-UA direction

Since Nov 2012 GAZ-SYSTEM offers natural gas transport to Ukraine via Hermanowice

The country is short in storage capacities (approx. 2 bcm). Assessment of potential UGS project under way.



On-going and future infrastructure investments in Poland

2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010

Linking the CEE and Baltic regions

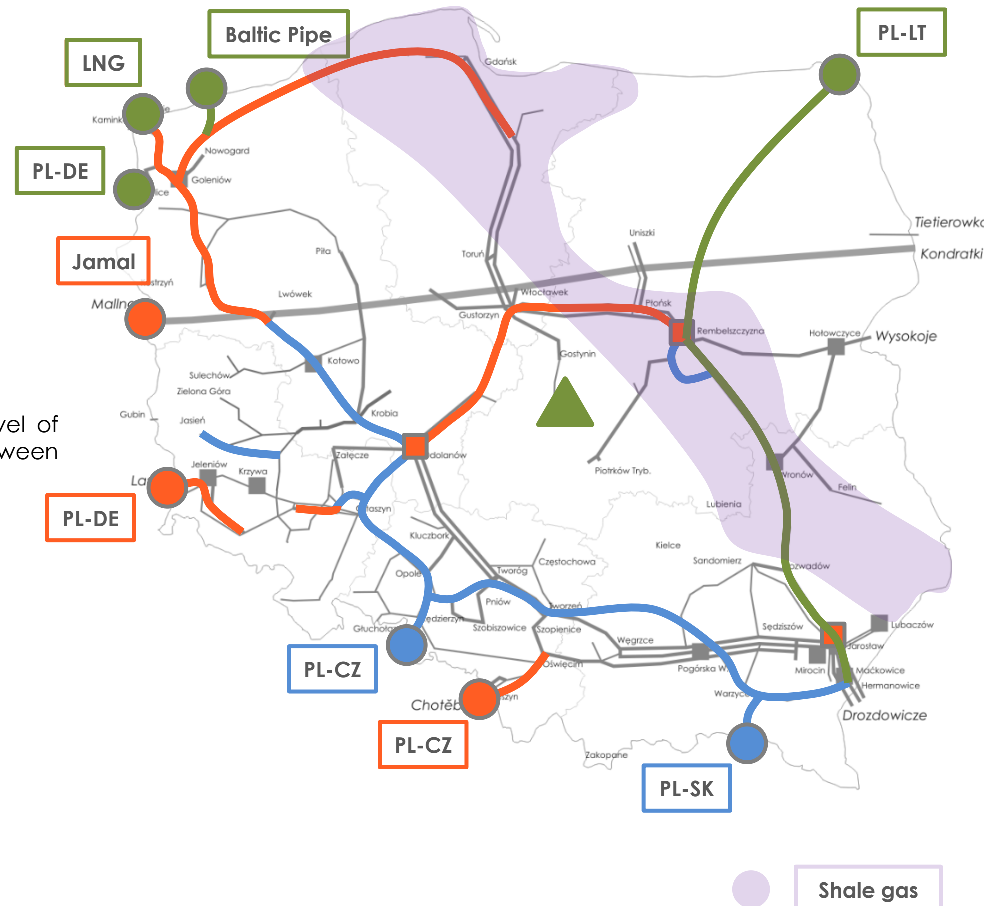
Expansion of LNG terminal in Świnoujście
PL-LT interconnection
Further development of the transmission system
Development of new UGS capacities and commercial development of shale gas business area

Creating the N-S corridor in the CEE region

PL-CZ interconnection in Hat
PL-SK interconnection
Development of internal network to ensure high level of supply reliability and improved interoperability between the CEE systems

Connecting the gas market in Poland

LNG terminal in Świnoujście
Enhancement of the internal grid - more than 1,000 km of new pipelines
PL-CZ interconnection in Cieszyn
Upgrade of PL-DE interconnection in Lasów
Physical reverse flow on the Yamal pipeline



Cross-border interconnections – current status

POLAND – LITHUANIA INTERCONNECTION

The feasibility study completed in May 2013

Planned technical parameters:

- Capacity: 2,3/1 bcm/y (stage I)
- Diameter: 700 mm
- Length: 357 km

The project as optimal measure for the ending up isolation of the Baltic States from the EU gas market

Financial support from EU funds is essential for ensuring financial profitability of the project

POLAND – CZECH REPUBLIC INTERCONNECTION

The feasibility study completed in 2012

Planned technical parameters:

- Capacity: 6,5/5 bcm/y (stage I)
- Diameter: 1000 mm
- Length: 55 km

POLAND – SLOVAKIA INTERCONNECTION

The feasibility study completed in May 2013

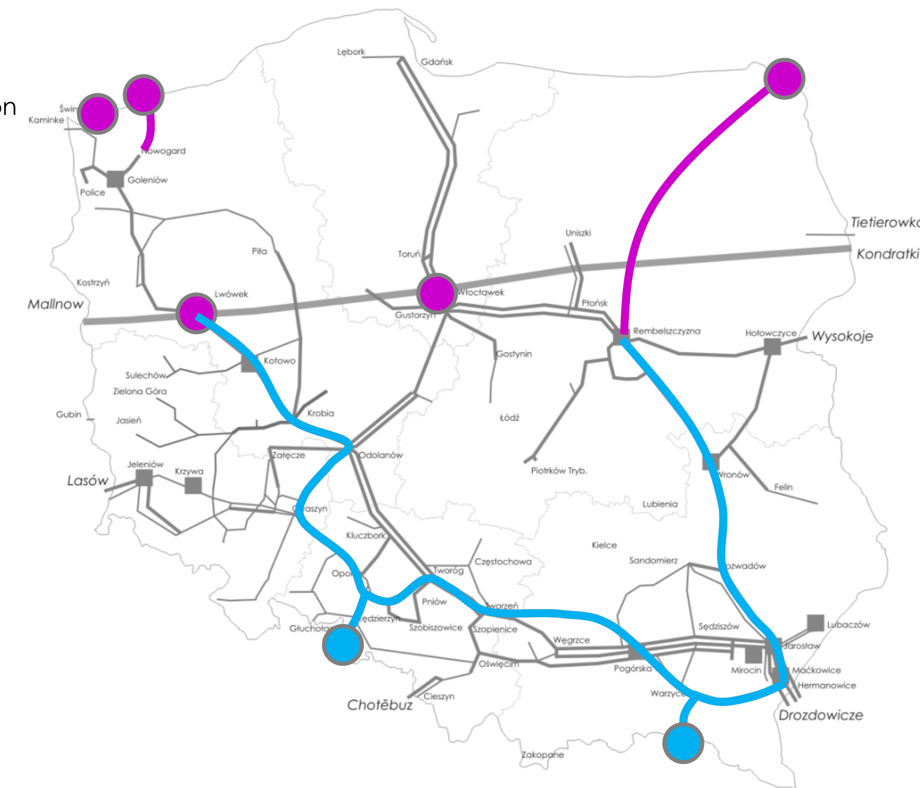
Planned technical parameters:

- Capacity: 5,7/4,7 bcm/y (stage I)
- Diameter: 1000 mm
- Length: 60 km

EASTERN AND WESTERN AXIS OF THE NORTH-SOUTH CORRIDOR IN POLAND

Investments prerequisite for the completion of the North-South corridor in the CEE region

Upgrading the internal system to guarantee proper operational functioning of the interconnections with the Czech Republic and Slovakia



PCI status for GAZ-SYSTEM projects granted in the BEMIP and NSI EAST regional groups

Towards a liquid regional market

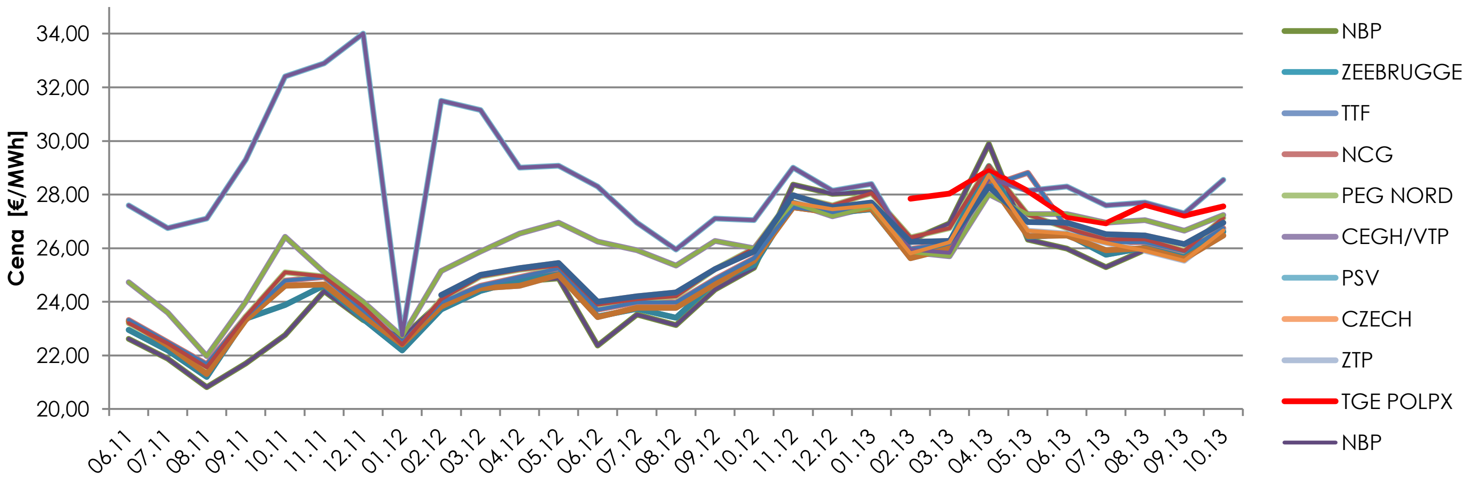
- The objectives of creating the stock exchanges:

  Lower prices? A competitive market? Diversification of supplies? Market Price? Transparency?

- **New gas exchanges in the CEE region as an important step in increasing competition:**

  PolPX – 2012, OTE – 2010, CEEGEX - 2012

- Currently, relatively small importance of the exchange due to the long-term OTC contracts
- However, limited volumes of gas are traded on the exchanges with prices already aligned
- The infrastructure projects planned for implementation in the near future will allow for the trade of significantly higher volumes of gas under competitive conditions
- The need to harmonise regulations and rules



Conclusions

Crucial need for Infrastructure and Regulatory Developments to create a liquid and competitive Natural Gas Market:

- Market integration through implementation of NS Gas Corridor (number of coordinated infrastructure projects, with EU PCI status)
- Building market area with secure and diverse supply portfolio
- Creating regulatory framework with EU Network Codes harmonising the market rules in all countries

Important shift in the Region has already been initiated

- TSOs from the V4 region already laid first foundations by construction of CZ-SK reverse flow and PL-CZ/SK-HU interconnector
- Strong political support from V4 governments

Assessing outlook for natural gas role in the regional energy mix:

- Demand recovery, Sustainability & RES growth strategy, Future shale gas production
- Vs.
- Unclear future role of gas in EU energy strategy, countries' energy mix and its competitiveness towards other fuels

Thank you for your attention