Poland – Germany cooperation in terms of regional gas market development

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Gas Transmission Operator GAZ-SYSTEM S.A.
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GAZ-SYSTEM
Facts & Figures

National gas transmission system operator (TSO)

Established in April 2004 on the basis of the Directive of the European Parliament and the European Council 2003/55/EC

Independent and fully unbundled Company providing equal services to all entities on non-discriminatory basis

Joint-Stock Company, owned by the State Treasury as the only shareholder

Strategic Company responsible for Country's energy security

Assets: approx. EUR 1,5 billion

Equity: approx. EUR 1,3 billion

GAZ-SYSTEM transmission Network:

- Approx. 15 bcm transported in 2011 (excluding transit)
- Approx. 10 000 km of Pipelines
- 680 km of Transit Pipeline (Yamal)
- 1 LNG Terminal (under construction)
- 15 compressor stations
- 56 gas supply nodes
- 970 exit points

GAZ-SYSTEM

ISO on Yamal Pipeline, owner of the Polish LNG

GAZ-SYSTEM – ISO on Yamal pipeline

The President of the Energy Regulatory Office issued a decision on 17 November 2010 appointing GAZ-SYSTEM S.A. as the independent system operator of the Polish section of the Yamal-Europe pipeline. Pursuant to this decision, the company will perform this function until **31 December 2025**

The Transit Gas Pipeline System Yamal-Europe [TGPS] in Poland represents a part of the gas pipeline system measuring an estimated 4000 km, running from Russia through Belarus and Poland to Western Europe.

The Polish TGPS section is owned by Transit Gas Pipeline System EuRoPol GAZ s.a., a company seated in Warsaw and is **operated by Gas Transmission Operator GAZ-SYSTEM S.A.**

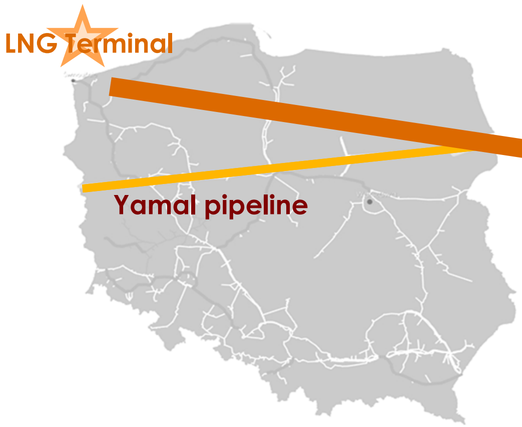
GAZ-SYSTEM - 100% owner of POLSKIE LNG

Polskie LNG was established in 2007 by Polish Gas and Oil Company PGNiG (PGNiG SA).

By virtue of the Resolution of the Council of Ministers of **19 August 2008, Gas Transmission Operator GAZ-SYSTEM S.A. (GAZ-SYSTEM S.A.) became the owner of Polskie LNG sp. z o.o.**, a company owned by the State Treasury responsible for the security of natural gas supplies via transmission networks.

On the 8th of December 2008 GAZ-SYSTEM S.A. acquired 100% of the shares of the Polskie LNG

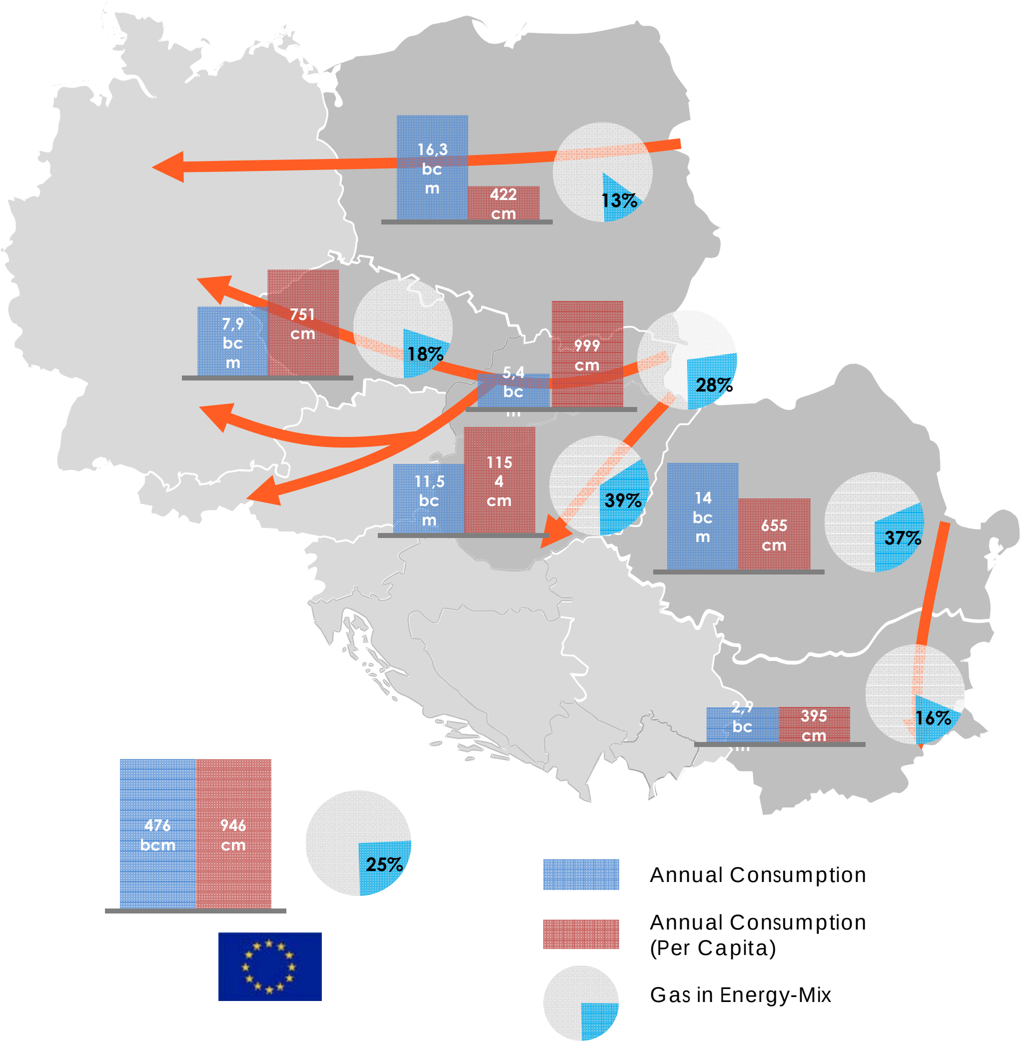
GAZ-SYSTEM S.A. supervises the construction of the LNG terminal which comprises offshore parts (brakewater and jetty) and onshore part (terminal and connecting pipeline). Each of the elements is constructed by separate project participant.



Natural gas transit routes to the CEE countries

Overview of infrastructure in the region

- Transit oriented infrastructure (East-West running pipelines)
- 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, low level of interconnectivity (couple of IPs in the region) – not attractive for upstream players and traders
- Diversification and integration required (competitive and liquid market, increase of security of supply)



Natural gas market in Poland

Key factors

Energy security
SoS Regulation

Growing demand on gas
in power generation sector

Infrastructure development

Internal market development

Increase of indigenous
production
Unconventional gas

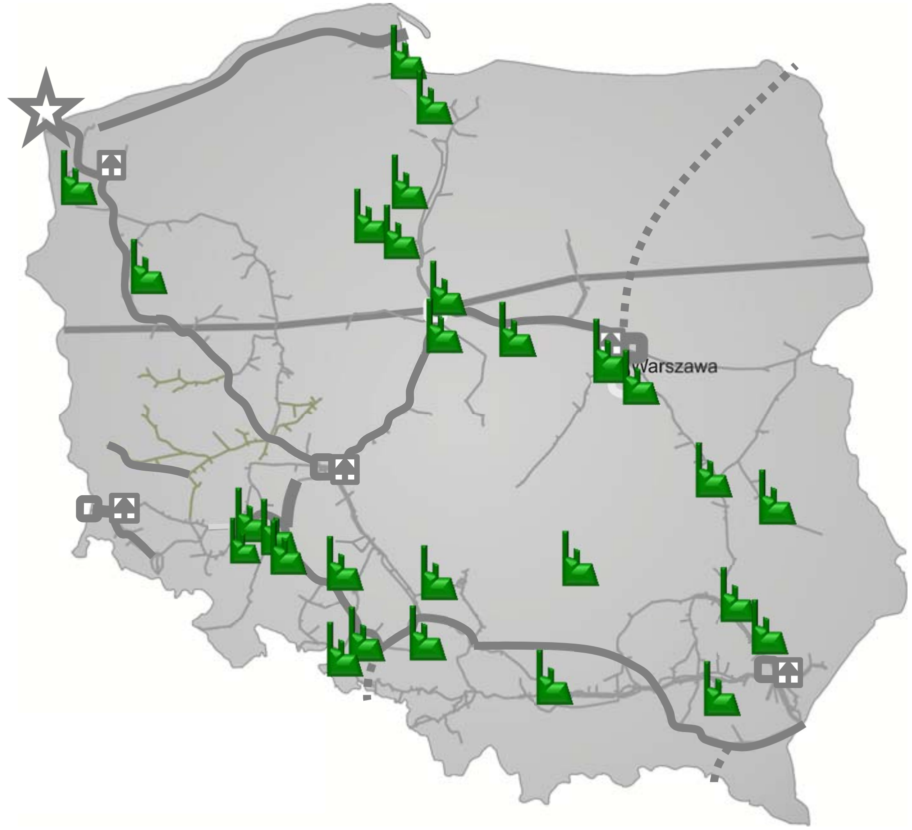
EU market integration
North – South corridor, BEMIP

Natural gas market in Poland

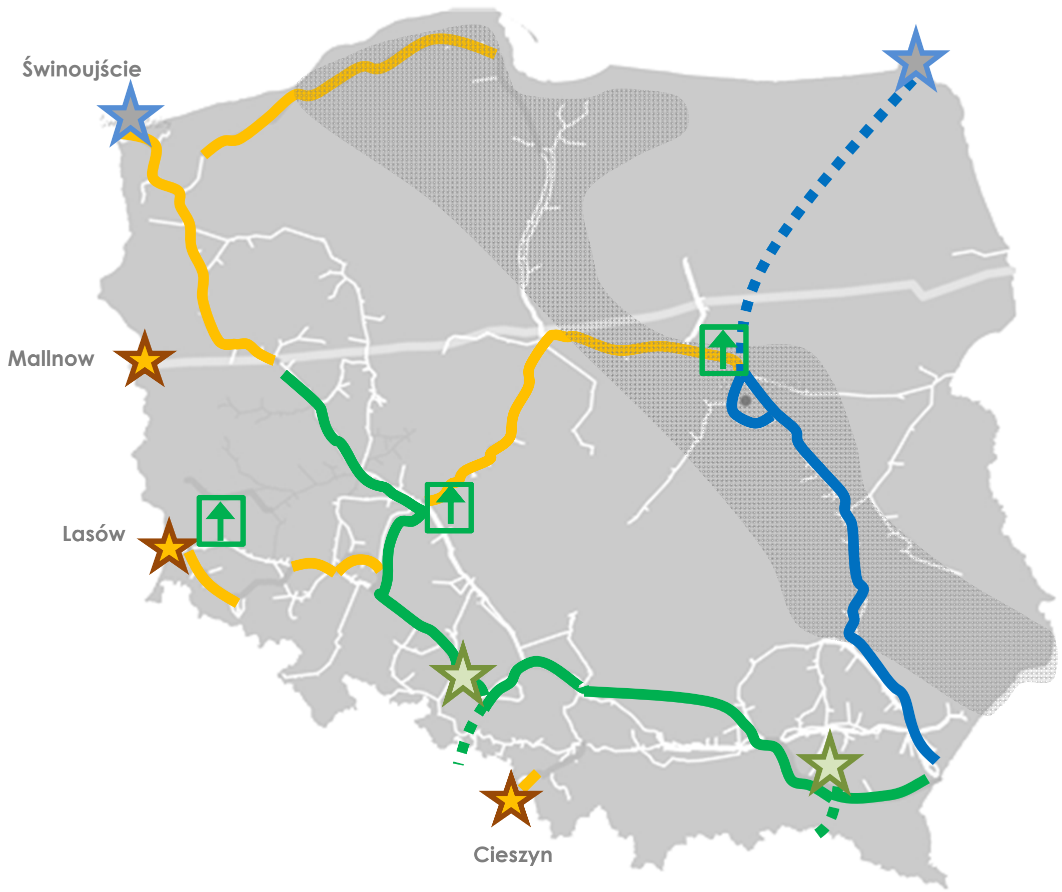
The drivers of growth – power generation sector

Localisation	bln m³/year	mill m³/d
Szczecin	0,36	1,20
Gorzów	0,05	0,69
Wrocław (1)	0,01	0,04
Wrocław (2)	0,08	0,24
Gdańsk	1,67	5,04
Grudziądz	1,58	5,04
Bydgoszcz	0,66	2,30
Toruń	0,29	0,79
Włocławek	1,11	3,79
Płock	0,78	3,70
Warszawa (1)	0,75	3,19
Puławy	1,20	3,89
Lublin	0,75	3,00
Stalowa Wola	0,72	1,97
Warszawa (2)	0,19	0,58
Skawina	0,50	1,92
Kędzierzyn Koźle	0,54	1,88
Blachownia	1,10	3,84
Opole	0,02	0,06
Nowa Sarzyna	0,18	0,67
Wrocław (3)	0,58	1,92
Siechnice	0,19	0,80
Rzeszów	0,19	0,65
Rajkowy	0,85	2,39
Częstochowa	0,02	0,08
Katowice	0,28	0,82
Kielce	0,38	0,55
Ostrów	0,01	0,05
Total	**15,06**	**51,08**

GAZ-SYSTEM considers a number of connection requests from customers in power sector. Locations of potential generation units powered by gas are presented on the map below. Agreements conluded for connection of power generating facilities will result in demand increase at about 5,7 bcm/y.



GAZ-SYSTEM strategy fundamentals
2015, 2018 i 2022 perspective



Pipelines built till 2014/15 will enable the transmission of approx. 5 billion m^3/y of gas received from the LNG Terminal to the Northern and Central Poland. Transport of gas from the unconventional sources located in the Pomerania Region will also be possible.

Pipelines built till 2017/18 will enable the connection of the transmission system with the Czech Republic system (new project) and Slovakia system as a part of the North-South Corridor with the aim to increase the level of integration and liberalization of the gas market in the CEE region.

Pipelines built till 2022/23 will enable the completion of the North-South Corridor on the Polish territory and optimization of the gas transmission in the region of the eastern Poland, including in particular the gas supply of power plants (total potential consumption of about 5-7 billion m^3). Transport of gas from the unconventional sources located in the Lublin Region will also be possible.

GAZ-SYSTEM strategy fundamentals
Interconnections

LNG Terminal in Świnoujście Construction works are ongoing, In operation starting from 2014.

Baltic Pipe Preparatory works are ongoing, construction when market interest confirmed.

Interconnections in operation

PL-CZ Interconnection (Cieszyn)
Project launched in Sep 2011 with capacity of 0,5 bcm/a.

PL-DE Interconnection (Lasów)
Upgrade of 0,6 bcm (to 1,5 bcm) launched in Jan 2012.

PL-UA interconnection (Hermanowice)
Reverse flow enabled in 2012

Interconnections under analysis

PL-LT Interconnection
Two step approach. GAZ-SYSTEM and Lietuvos Dujos finalised business case analysis. Feasibility study currently is ongoing (results foreseen for Q1/Q2 2013).

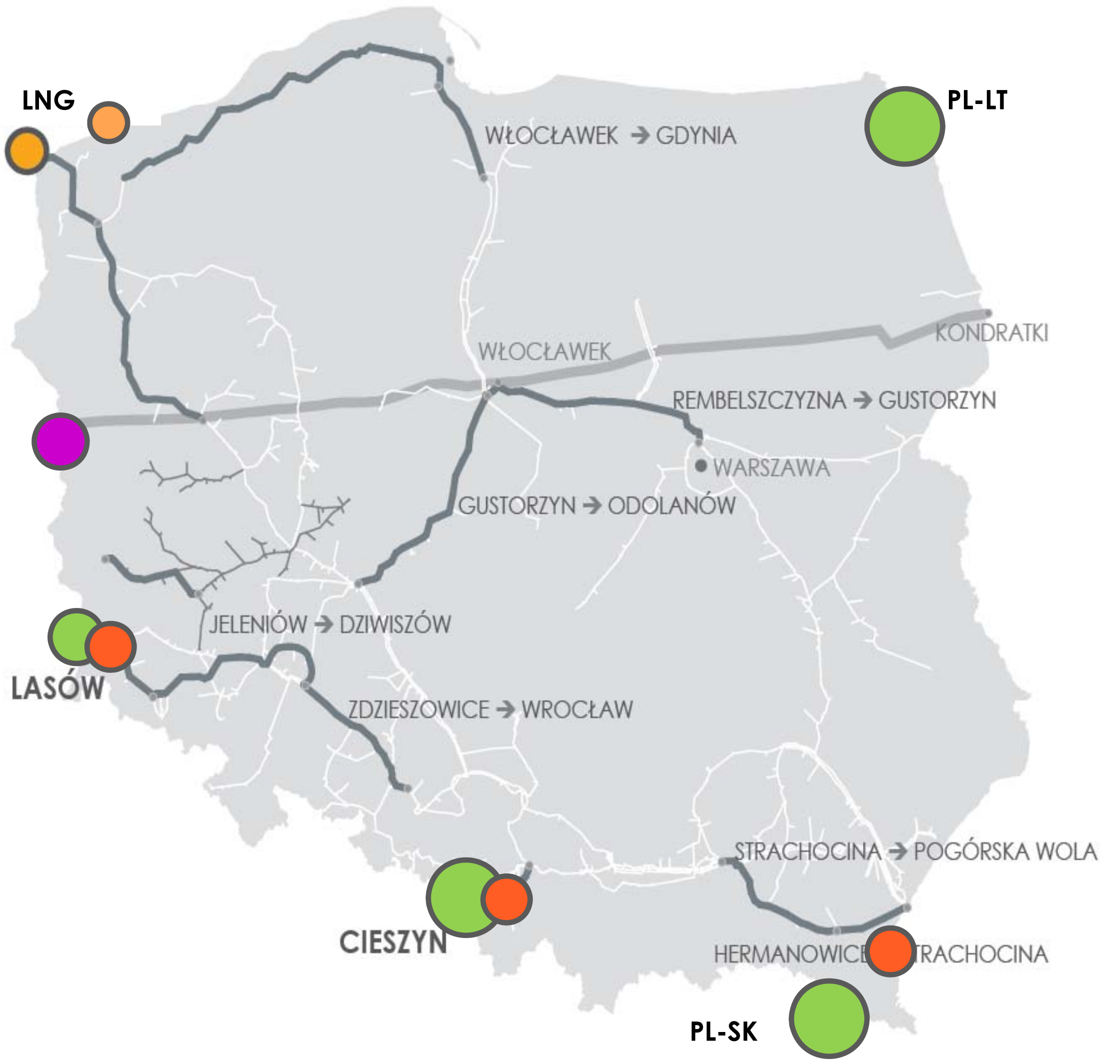
PL-SK Interconnection
Comprehensive analysis, including Feasibility Study under preparation with Eustream (results foreseen for Q1/Q2 2013)

PL-CZ, PL-DE Interconnections
Further development and capacity upgrades are considered, preparatory stage.

Yamal pipeline (physical reverse flow – Mallnow IP)

November 2011
Network Code adopted, TPA granted and virtual reverse flow enabled (agreements with shippers signed).

Physical reverse flow
Works ongoing - project under the Regulation 994/2010 (concerning measures to safeguard security of gas supply).

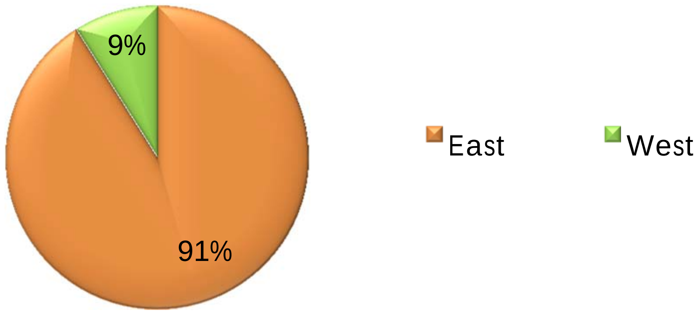


Forecasted increase of the gas import to Poland

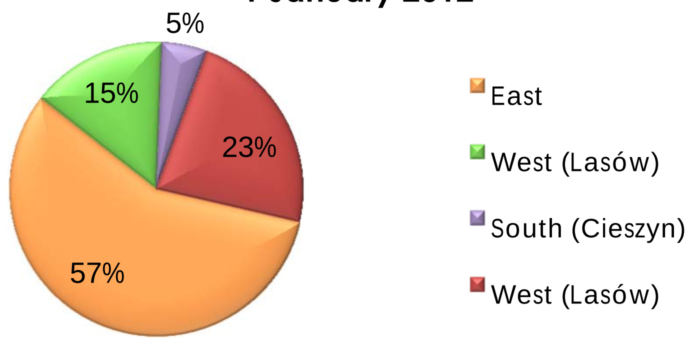
2011, 2012, 2015 i 2018 perspective

In 2011 the capabilities of import natural gas from the other direction than Eastern were at around 9%. Currently, up to 43% of gas imports in total, may by transported from the Western and Southern direction.

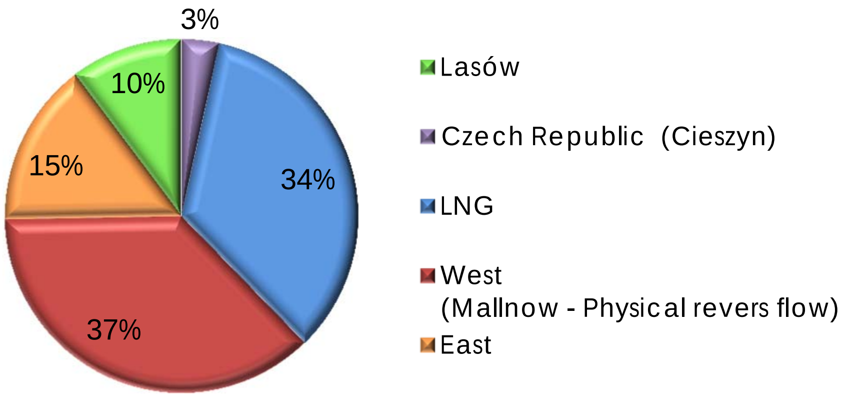
1 January 2011



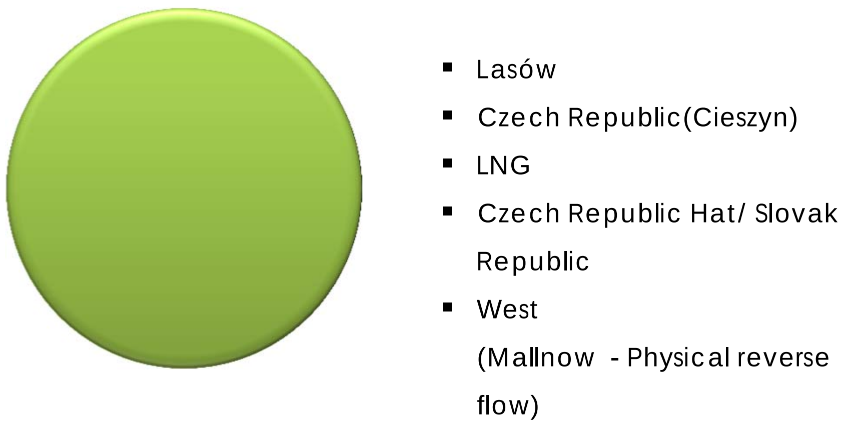
1 January 2012



1 January 2015

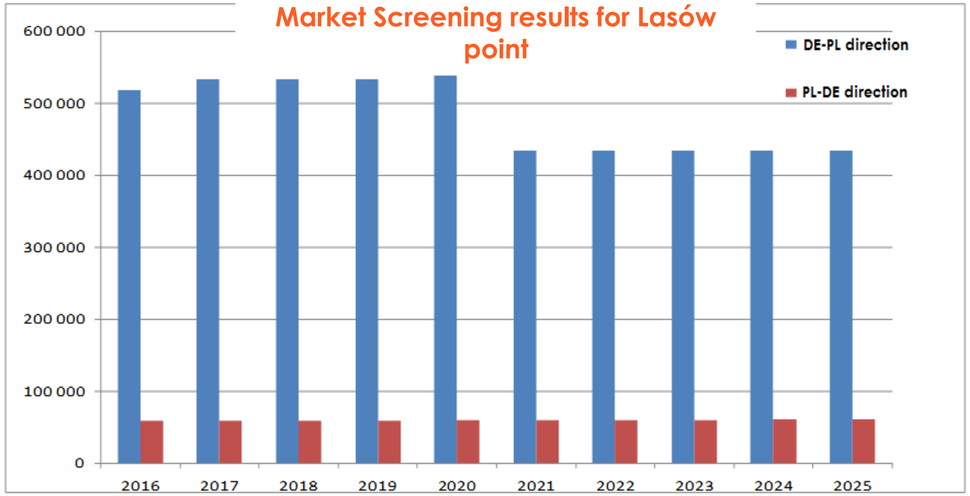


1 January 2018

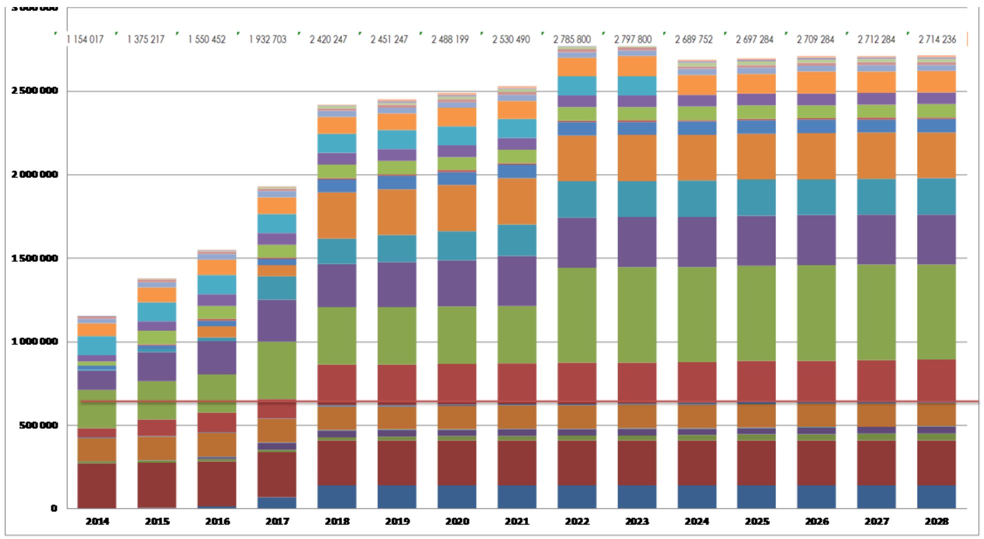


The interest of the market participants in the import from DE

Market Screening 2011 and 2012



Market Screening results for SGT Mallnow – physical reverse

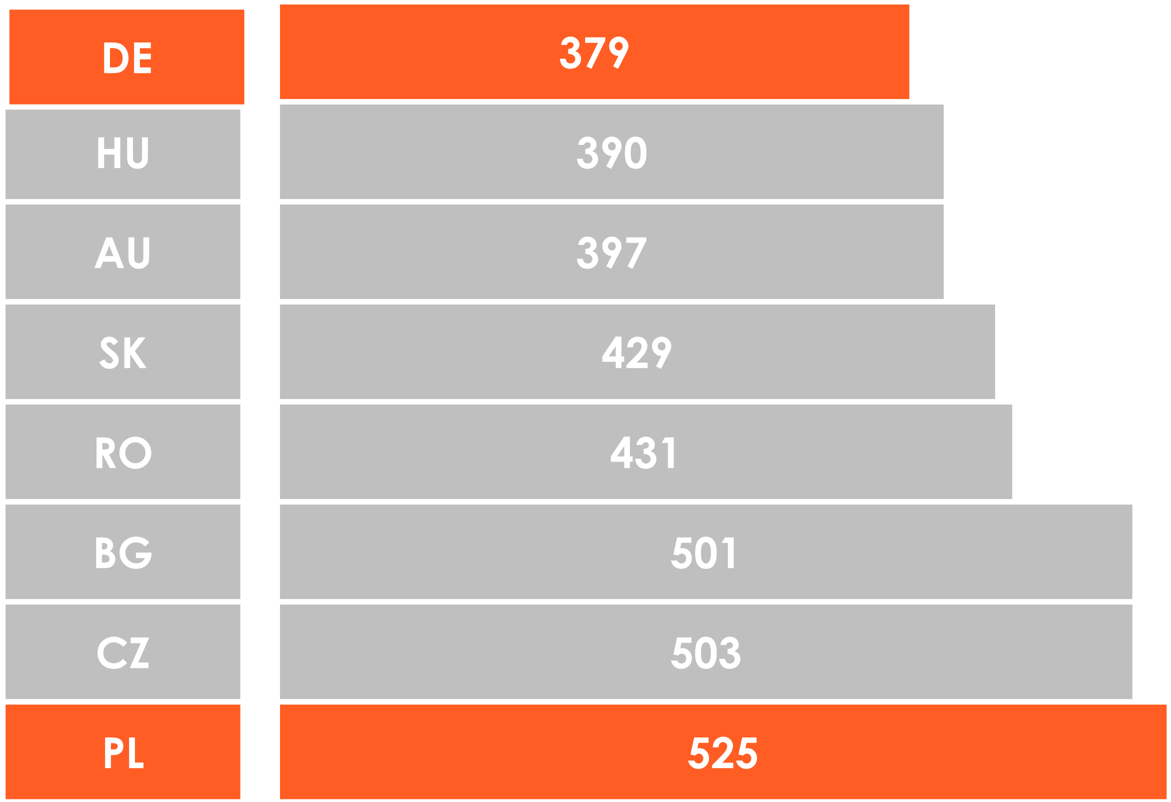


German gas market is very attractive due to the possibility of gaining access to one of the most liquid markets in Europe and the possibility of purchasing gas at spot prices

Natural gas market prices in the CEE region

Regional gas prices in 2012 (USD per 1000cm)

Source: Izvestia



Development of IP Mallnow

Introduction of the physical reverse flow

In operation from 2014

November 2011 – After Network Code adopted, TPA granted and virtual reverse flow enabled (agreements with shippers signed).

Physical reverse flow – Ongoing project under the **European Union Regulation 994/2010** concerning measures to safeguard security of gas supply.

Agreement between the GAZ-SYSTEM and GASCADE signed on November 2012.

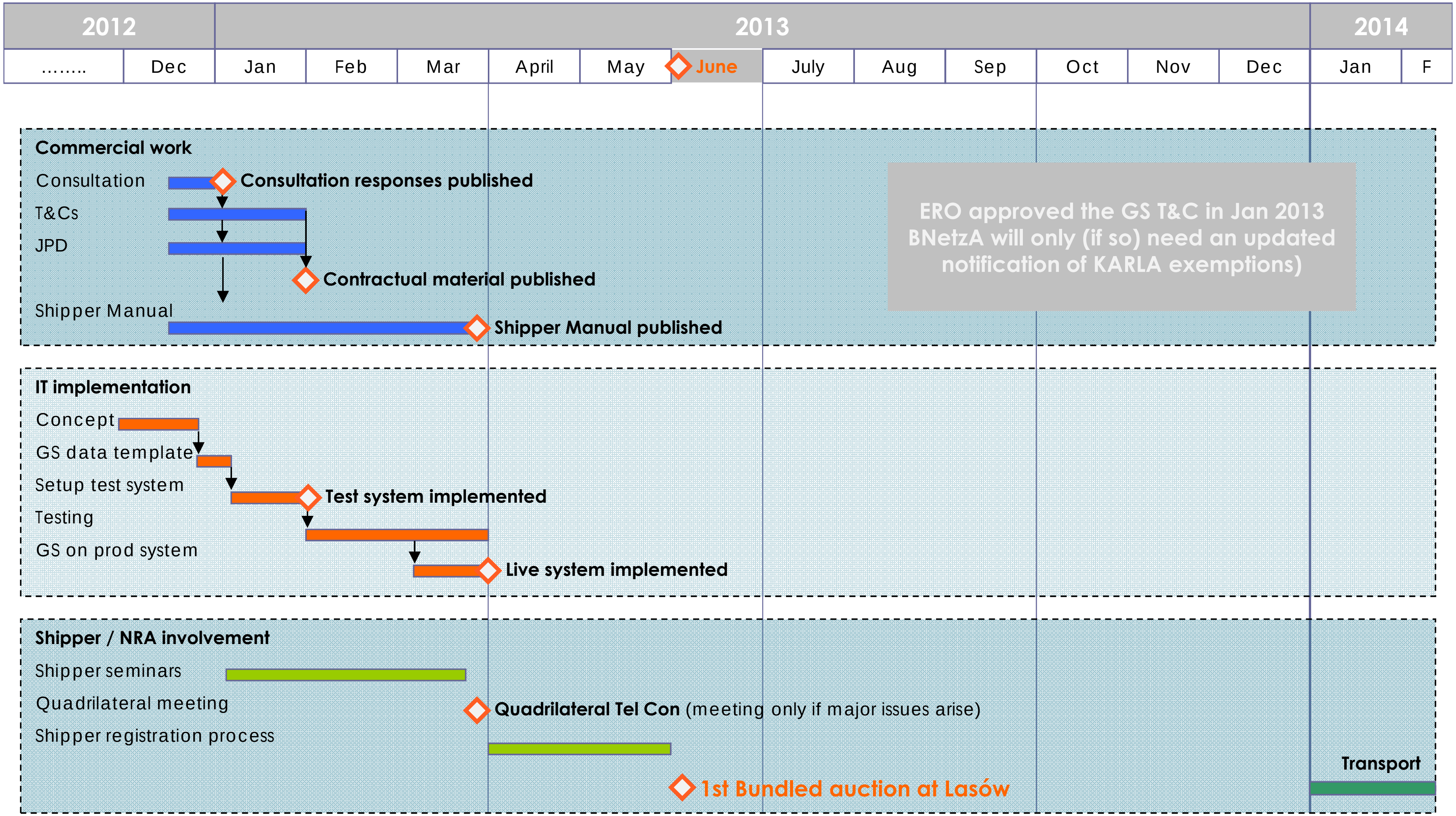
The expansion of the Mallnow metering station to allow **the physical reverse flow on the Yamal pipeline in the Poland direction** will enhance safety, reliability and interoperability of the interconnected gas networks and will contribute to establishing a well-functioning internal gas market, particularly by enabling a physical reverse flow.

Development of the metering station will provide the possibilities for reverse capacities and thus improve functionality, as well as interoperability of the interconnected networks.

Thanks to upgrading of this metering station it will be possible to change the gas flow from current interruptible to the firm, on level of 620 000 m3/h

Bundled product with ONTRAS

Early implementation of CAM NC



Summary

The development of power generation sector and market opening requires the development of the transmission system to meet the future demand

GAZ-SYSTEM maintains an open dialogue with the market participants in the field of infrastructure needs and with the adjacent TSOs.

So far, the analyzes and forecasts indicated that it is necessary to comply the additional interconnections and investments:

- ✓ The LNG terminal in Swinoujscie
- ✓ Physical reverse flow on the Yamal pipeline
- ✓ Upgrading existing connections between PL-DE
- ✓ Construction of a new connection between PL-CZ
- ✓ Construction of a new connection between PL-SK

Ongoing cooperation with ONTRAS and GASCADE (German TSOs) concerning the border points developments as well as the other TSOs

High market interest in the new entry capacities with the EU countries, especially from Germany (price difference)

EU funds, NRAs policy and legislation are essential in the infrastructure development

Thank you for your attention

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the system, that connects

GAZ system