POLAND'S ENERGY STRATEGY IN THE BALTIC REGION

Tomasz Stępień, CEO, GAZ-SYSTEM S.A.
Washington, DC, 25 September 2018

GAZ-SYSTEM – INTRODUCTORY INFORMATION

GAZ-SYSTEM

Certified gas TSO in PL, certified ISO (Yamal-Europe pipeline in PL)

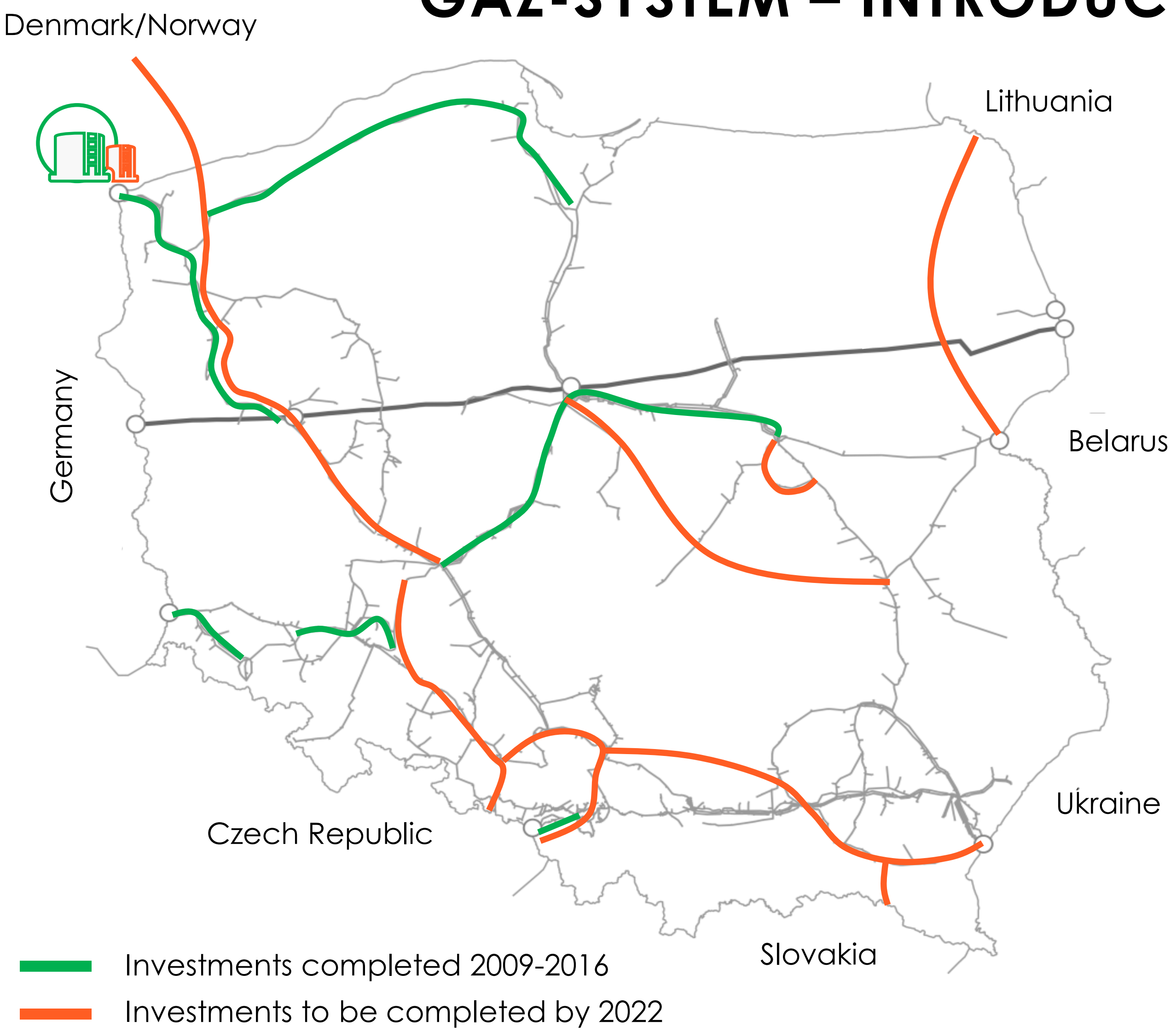
Company with strategic significance for the economy and energy security in PL

Key integrator and facilitator of market development in the CEE and Baltic regions

LNG terminal in Świnoujście operated by its SPV, Polskie LNG

Infrastructure development to enable increased consumption of natural gas as an environmentally-friendly fuel

GAZ-SYSTEM – INTRODUCTORY INFORMATION



11,059 KM
LENGHT OF TRANSMISSION SYSTEM

14 COMPRESSOR STATIONS

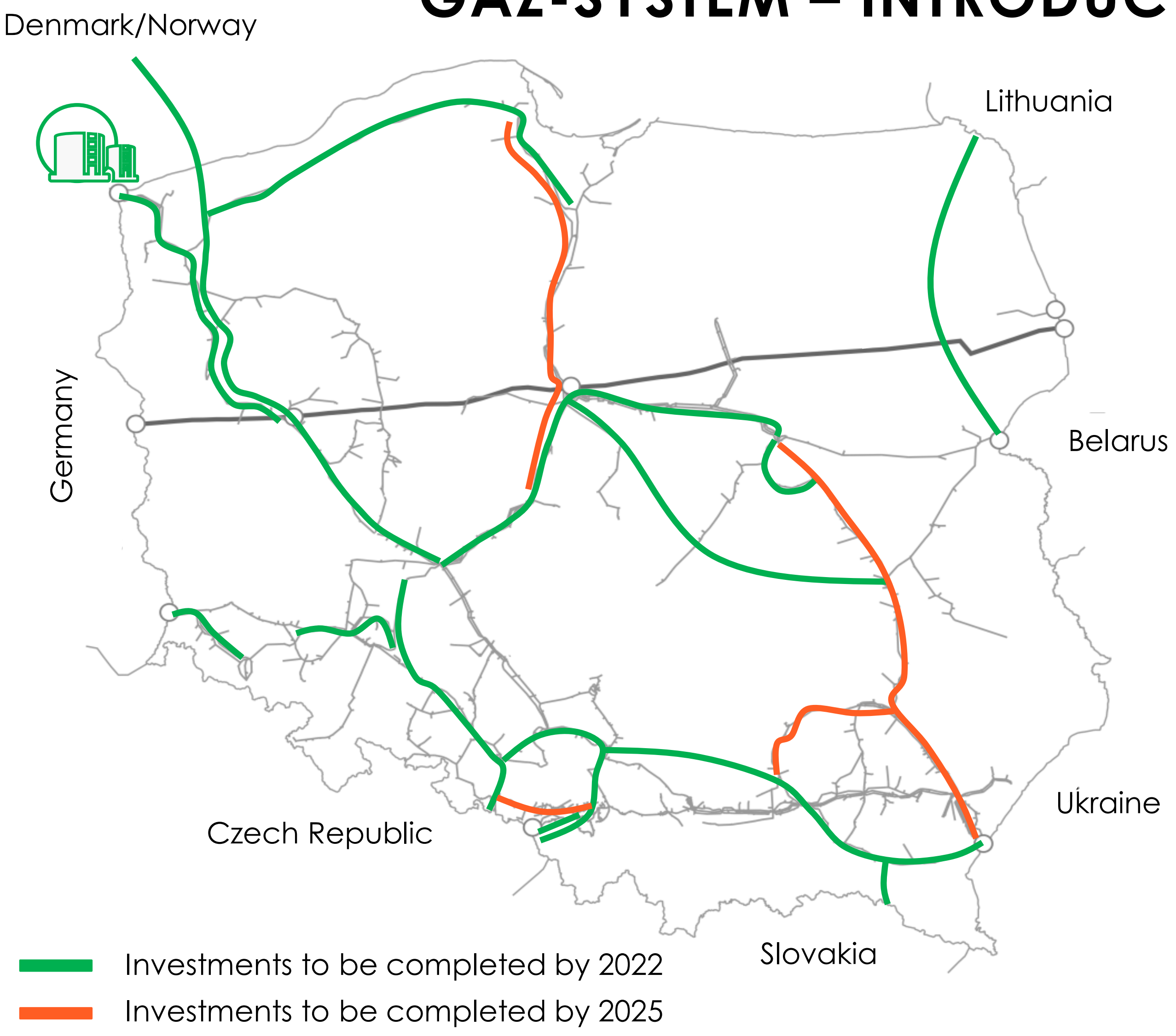
17.6 BCM/Y (641 BCF/Y)
VOLUME OF TRANSPORTED GAS IN 2017

100% SHARES
HELD BY THE STATE TREASURY

TERMINAL LNG IN ŚWINOUJŚCIE

5 BCM/Y (182 BCF/Y)
REGASIFICATION CAPACITY

GAZ-SYSTEM – INTRODUCTORY INFORMATION



12,951 KM
LENGHT OF TRANSMISSION SYSTEM

18 COMPRESSOR STATIONS

21 BCM/Y (765 BCF/Y)
EXPECTED VOLUME OF TRANSPORTED GAS IN 2022

100% SHARES
HELD BY THE STATE TREASURY

TERMINAL LNG IN ŚWINOUJŚCIE

7.5 BCM/Y (273 BCF/Y)
REGASIFICATION CAPACITY IN 2022

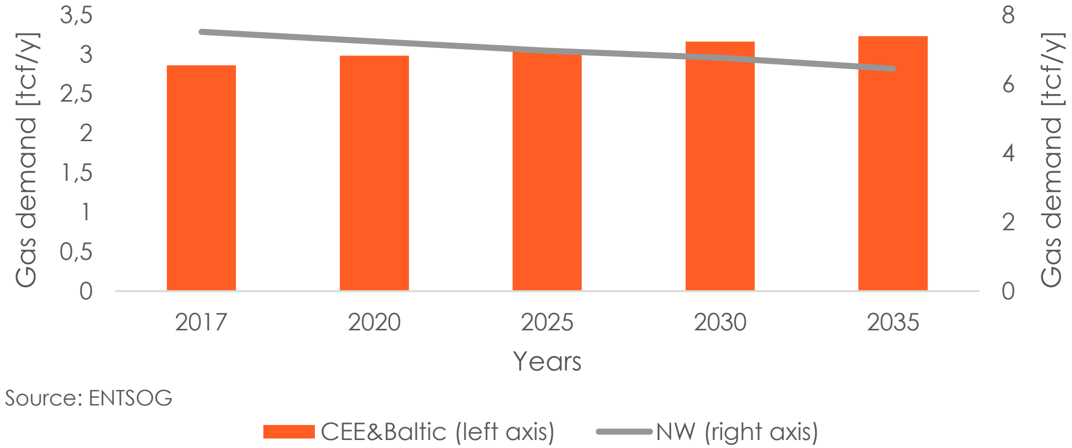
GAS DISRUPTIONS IN EUROPE

- A number of “gas crises” experienced by Poland and other European countries (2004, 2006, 2009 and 2014).
- Grievous malpractices of the Russian supplier that interrupted gas deliveries due to non-technical reasons.
- Dominant position used by Gazprom to impose discriminatory practices.
- The need for diversification of supply sources and routes without political/risk factors.
- Saved costs of avoided gas disruptions in Poland and other countries - approx. 2,734 mUSD until 2042 estimated by reducing the risk of interruptions in gas supplies.

NATURAL GAS MARKET IN THE CEE & BALTIC REGION

DEMAND FORECASTS UNTIL 2035

- Current gas demand in the CEE and Baltic regions amounts for approx. 81 bcm/y (2.86 tcf/y)
- Demand expected to increase up to 91 bcm/y (3.23 tcf/y)

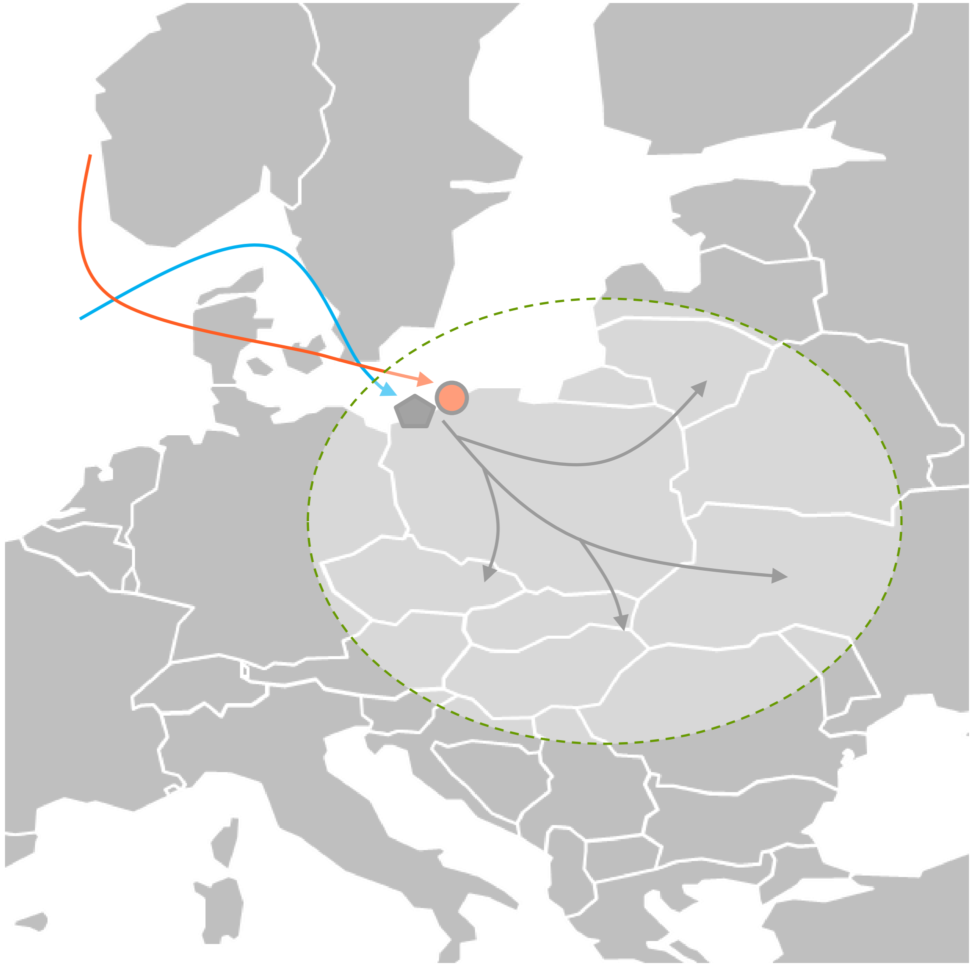


Source: ENTSOG

MAJOR GROWTH FACTORS

- Enhanced competitiveness vis-a-vis other sources in the energy market
- Climate and environmental considerations – switch to lower emitting sources
- Natural gas in the power generation sector
- Transport and shipping sector (LNG as an alternative fuel)

NORTHERN GATEWAY PROJECT



LNG terminal in Świnoujście

Baltic Pipe project

THE ASSUMPTIONS:

- Diversification
- Gas-to-gas competition
- Flexible and efficient gas infrastructure
- Regional gas market

LNG SUPPLIES VIA TERMINAL IN ŚWINOUJŚCIE

NORWEGIAN SUPPLIES BY BALTIC PIPE PROJECT

LNG TERMINAL IN ŚWINOUJŚCIE

Regasification Capacity

5 bcm/y (182 bcf/y) – currently

7.5 bcm/y (273 bcf/y) – following extension

Storage

Two storage tanks with capacity of 160,000 cm each

Possibility for the construction of a third storage tank (space reserved)

Small scale services

Track loading available

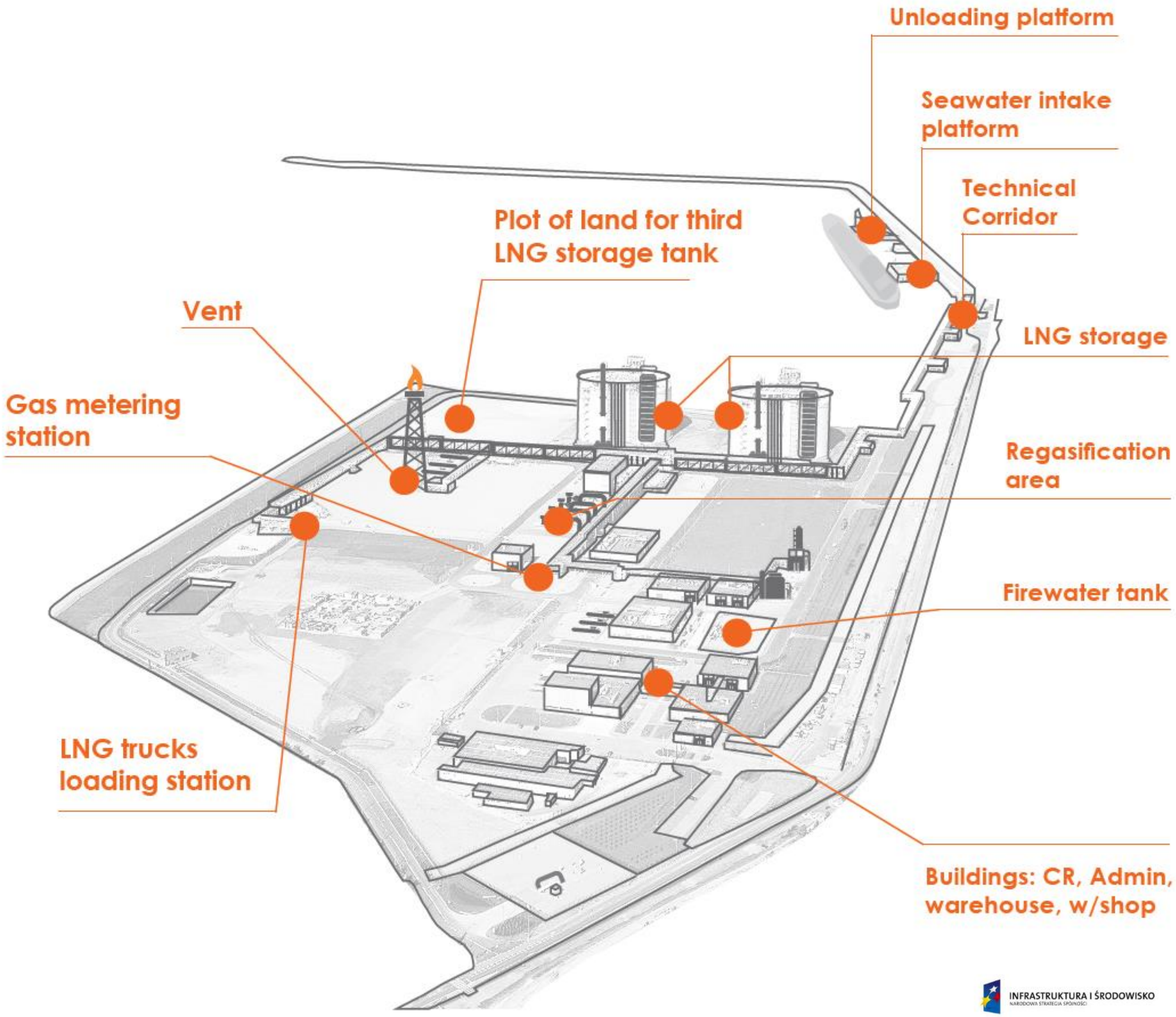
Other services following the extension (bunkering, rail loading, transshipment

Capacity booking

Current capacities booked

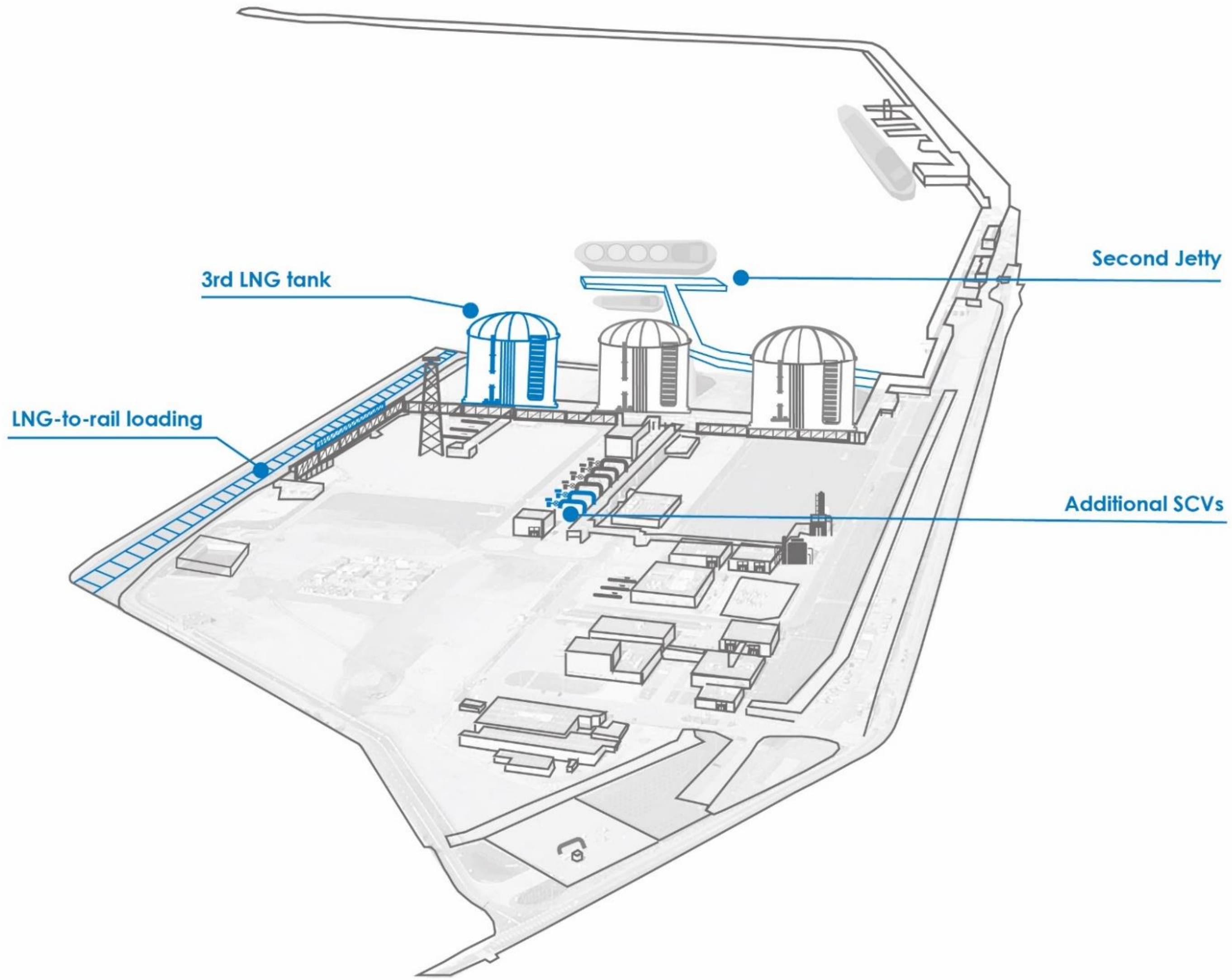
Timetable

Commercial operations since June 2016



LNG TERMINAL IN ŚWINOUJŚCIE

THE ŚWINOUJŚCIE LNG TERMINAL EXPANSION PROJECT



BALTIC PIPE PROJECT – BASIC INFORMATION

- Baltic Pipe as a strategic gas infrastructure project to ensure security of gas supplies and improve competition in the Baltic Sea region and Central-Eastern Europe (CEE).
- The project creates a new supply corridor from Norway via Denmark to Poland.
- Export possibilities from Poland to adjacent systems in the Baltic Sea region and CEE.
- Reverse flow from Poland to Denmark.
- Project promoters: Energinet (Danish TSO) and GAZ-SYSTEM (Polish TSO).
- The project widely recognised as a priority investment in the European Union (the status of Project of Common Interest granted by the European Commission).
- Financial assistance under the EU's Connecting Europe Facility (CEF) for the preparatory and design works.

BALTIC PIPE PROJECT

ENERGINET | GAZ system

Co-financed by the Connecting Europe Facility of the European Union

www.baltic-pipe.eu

BALTIC PIPE – MAJOR COMPONENTS

BALTIC PIPE – KEY FIGURES

1 bidirectional connection
Norway – Denmark - Poland

2 Project Partners
GAZ-SYSTEM and Energinet

364 bcf/y
expected annual transmission volume

2022
start of gas transmission

60.3 mUSD
European Union support
for project works

900 km
estimated total length
of the gas pipeline

4
number of compressor stations

2 years
duration of construction works

6.7 – 12 MPa
operating pressure

50 years
expected operating period

GAZ system

BALTIC PIPE PROJECT

- Diversification of supply sources, routes and counterparts
- Reduction of dependence on a single supply source
- Mitigation of exposure to supply disruptions from the East

- Enhanced competition between suppliers
- Price convergence
- New trading opportunities

- Reduction of gas prices
- Low transmission tariffs

- Promotion of natural gas as a low emission fuel in the economy
- Reduction of CO_2 emissions
- Support for the integration of renewable energy sources

Co-financed by the Connecting Europe Facility of the European Union

CREATING A REGIONAL NATURAL GAS MARKET

POLAND – UKRAINE INTERCONNECTION:

- **Capacity:** 5 bcm/y (182 bcf/y) towards UA and PL
- **Project role:** connection of Poland's and Ukraine's systems to diversify gas supplies for Ukraine and further integrate transmission networks and markets in Eastern Europe

POLAND – CZECH REPUBLIC INTERCONNECTION:

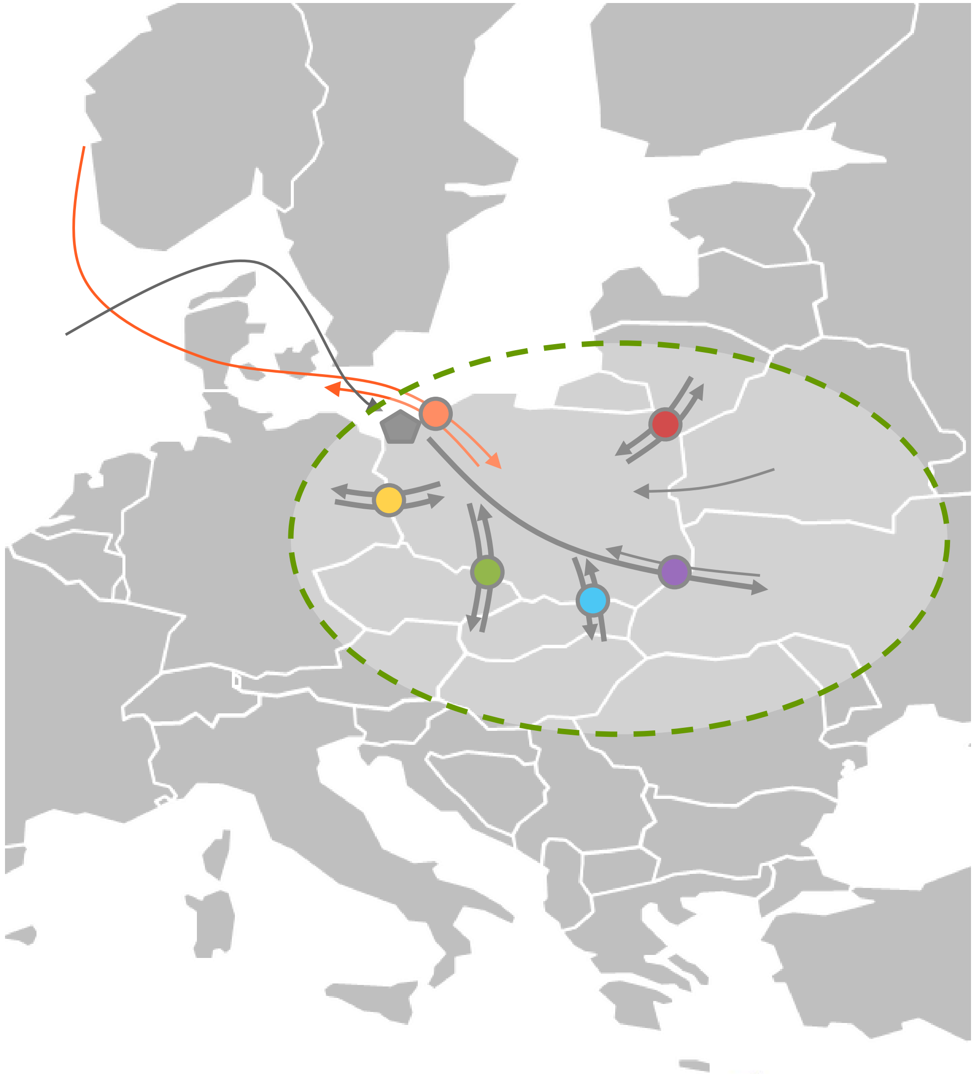
- **Capacity:** 5 bcm/y (182 bcf/y) towards CZ, 6.5 bcm/y (236 bcf/y) towards PL
- **Project role:** integration of the gas markets by creating a large transportation corridor between both countries

POLAND – SLOVAKIA INTERCONNECTION:

- **Capacity:** 4.7 bcm/y (171 bcf/y) towards SK, 5.7 bcm/y (207 bcf/y) towards PL
- **Project role:** integration of the gas markets by creating a large transportation corridor between both countries
- Final investment decision taken in 2018

POLAND – LITHUANIA INTERCONNECTION:

- **Capacity:** 2.4 (87 bcf/y) bcm/y towards LT, 1.9 bcm/y (69 bcf/y) towards PL
- **Project role:** integration of the isolated gas markets in the East Baltic region, diversification of supply
- Final investment decision taken in 2018



Co-financed by the Connecting Europe Facility of the European Union
INFRASTRUKTURA I ŚRODOWISKO
NARODOWA STRATEGIA SPÓJNOŚCI

NATURAL GAS MARKET DEVELOPMENT IN POLAND

2022	Diversified and competetive gas market							
2010 - 2015	Upstream	Import	Trade	SSO	DSO	VTP	Gas exchange	TSO
2005 - 2009	Upstream, Import, Trade, Storage, Distribution							TSO
Until 2004	Vertically integrated company (Upstream, Import, Trade, Storage, Distribution, Transmission)							

STRENGTHENING SECURITY OF SUPPLY AND MARKET INTEGRATION AT THE EU LEVEL

SOS REGULATION

- New Regulation puts more attention to security of supply on a regional level;
- Introduces the „solidarity principle" aimed at ensuring support among Member States;
- Highlights the importance of n-1 rule;
- Focused on building regions based on the main supply corridor;

GAS DIRECTIVE

- EC proposal aimed at including pipelines from third countries into the scope of the Gas Directive; it would ensure level playing field for all players on the EU market;
- The EC proposal is widely supported by a number of EU Member States.
- Ongoing discussion from November 2017;
- The European Parliament already prepared its position. Now it is time for the Council to reach an agreement.
- Austria assumed the Presidency in the Council in July 2018. Austrian companies are directly involved in the Nord Stream 2 project and therefore strongly oppose to the amendment. Therefore, the process has been frozen by the Austrian presidency

CONCLUSIONS

CHALLENGES

- Relatively immature markets compared
  to North-West Europe
- Strongly dominated by RU supplies, largely based on oil-indexed pricing formula
- Fragmented and highly exposed to supply disruptions

REMEDIES

- Enhancing direct access to new supply sources such as LNG and Norwegian gas
- Integration of gas infrastructure between the Baltic and CEE countries
- Exploring new market opportunities for LNG

EXPECTED RESULTS

- Creation of a regional market with secure and diversified supply portfolio
- Fostering competition and liquidity
- Improvement of competitive position of natural gas via-a-vis other sources of energy
- Creation of conditions for further development of the regional gas market

THANK YOU FOR YOUR ATTENTION