



NEW PERSPECTIVES FOR LNG MARKET: NOT ONLY TRANSPORTATION SECTOR

LNG Development Unit



Vilnius, 2018-11-06

POLSKIE LNG

Owner and operator of the LNG Terminal in Świnoujście

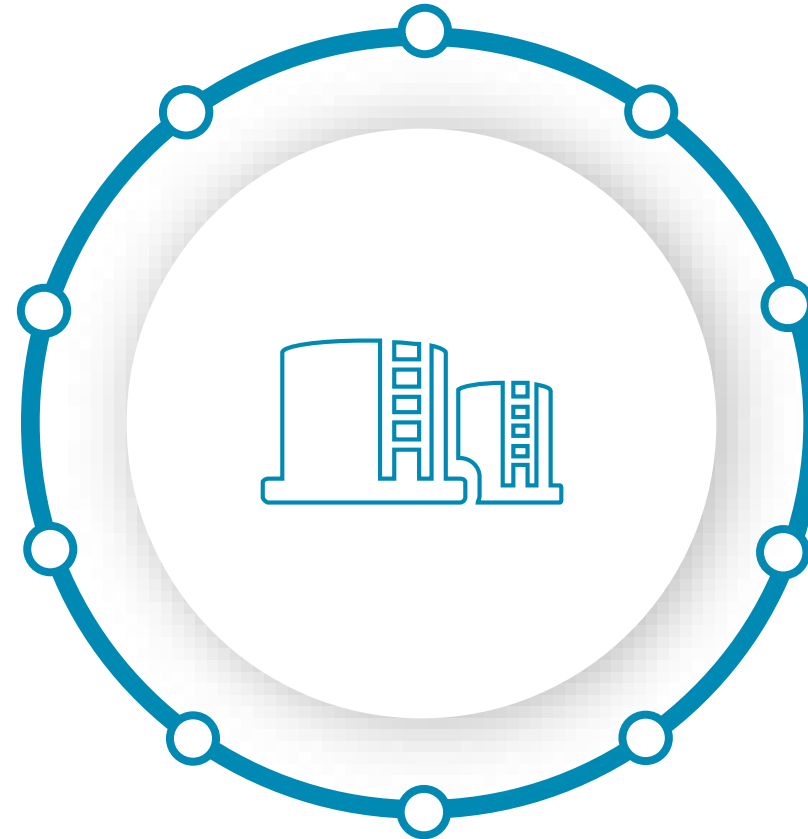
Providing services based on TPA principle

Well-established and reliable business partner

Extensive cooperation with domestic and international Oil&Gas organisations





Tariff – based regulated income

Company asset value - PLN 3 bn



In charge of the construction, operation and expansion of the LNG terminal in Świnoujście

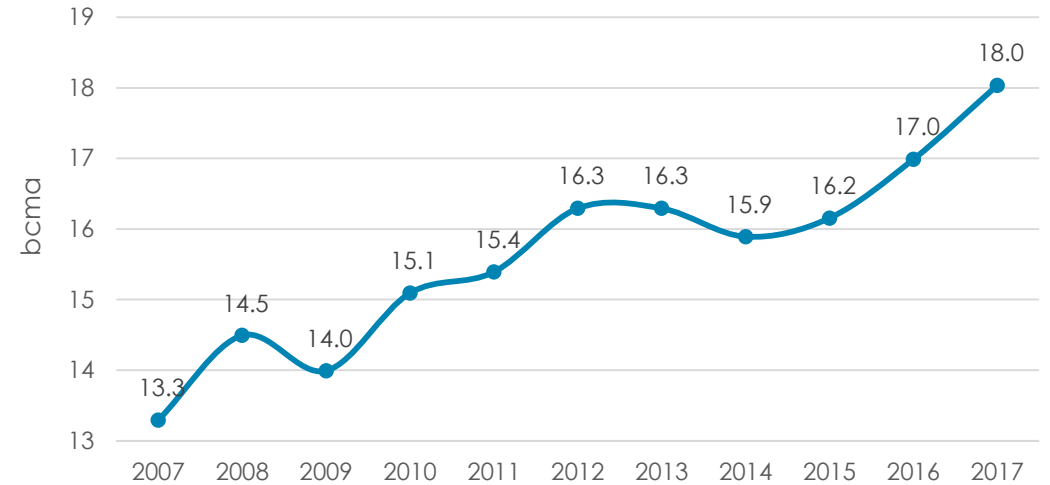
NATURAL GAS CONSUMPTION FORECAST BY 2040

	POLAND TODAY	WORLD 2040
 ▶ Road vehicle fuel	3%	5%
 ▶ Marine & Inland waterway bunker fuel	~0%	10%
 ▶ Electricity & Heat production	5%	25%
 ▶ Increase of natural gas consumption	3% y/y	2% y/y

NATURAL GAS MARKET IN POLAND

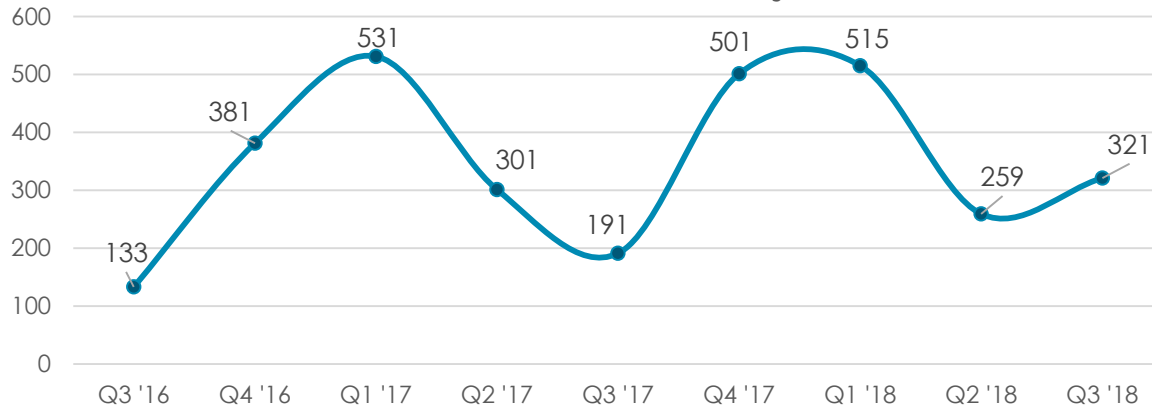
- ▶ Natural gas consumption in Poland in 2017 amounted to 18,0 bcm (growth by 6% YTY)
- ▶ Northern Gateway Project to propel natural gas market development in Poland
- ▶ Stable and incremental growth of natural gas market in Poland
- ▶ Approx. 45% of the territory without gas supply network

Natural gas consumption in Poland



Source: GUS

Number of LNG-to-truck reloading operations at LNG terminal in Świnoujście



- ▶ Fleet of LNG propelled vessels on Baltic sea planned (i.a. Polferries)
- ▶ LNG in public transport (e.g. Warsaw)
- ▶ 49 Small Scale LNG regasification plants
- ▶ 3 LNG refuelling stations currently in operation
- ▶ LNG bunkering ships ordered

KEY DRIVERS FOR LNG MARKET EVOLUTION

➤ Regulatory conditions

MARPOL, The Sulfur Directive

Lowering the level of sulfur in the fuel used in vessels in the SECA area, embracing Baltic Sea up to 0.1%

Alternative fuels Directive

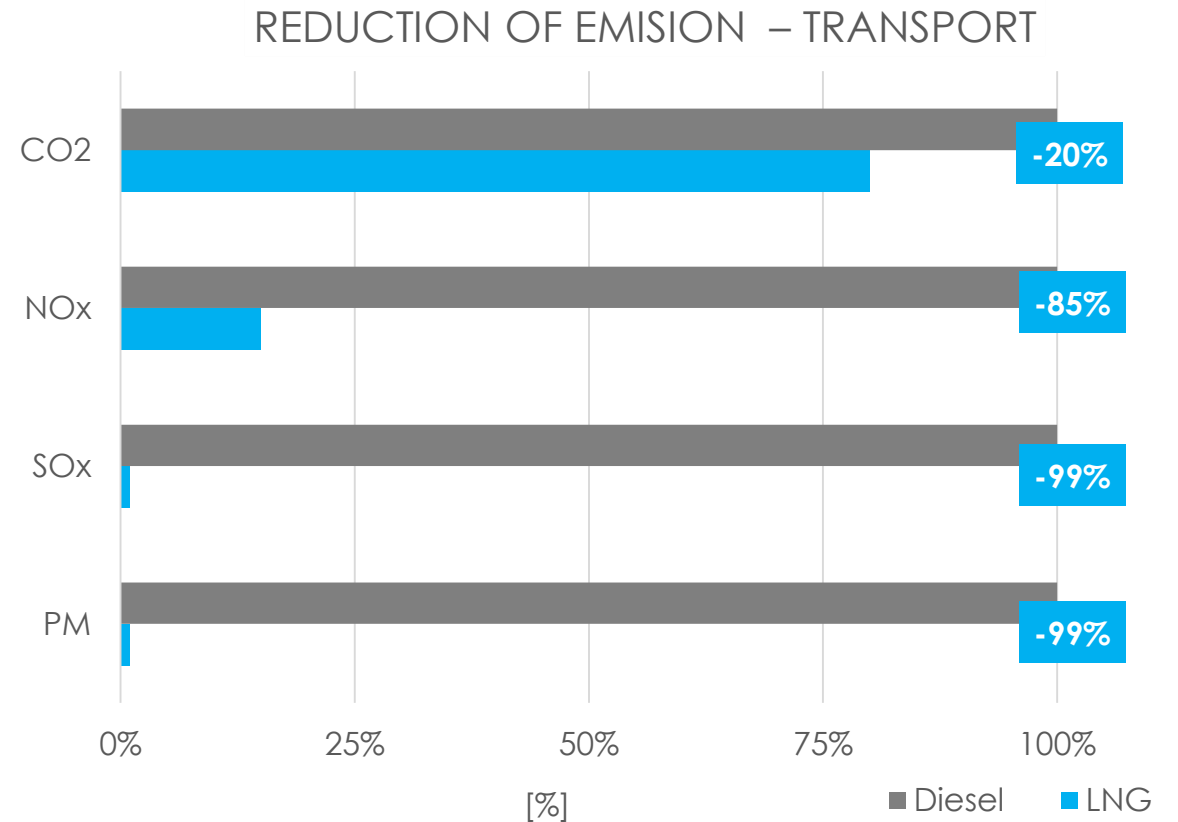
Framework for the development of alternative fuels infrastructure in the EU, as well as minimum requirements for the development of alternative fuels infrastructure, including charging points for electric vehicles and natural gas refueling points (LNG and CNG) as well as hydrogen

➤ Environmental requirements

➤ Increase of price competitiveness of CNG and LNG

PROSPECTIVE AREAS OF LNG UTILISATION

- ▶ LNG as a fuel:
 - Marine sector
 - Road transport
- ▶ Electricity and heat production
- ▶ LNG cold recovery (food industry, storage)
- ▶ Small Scale LNG infrastructure: off-grid & peak shaving
- ▶ Food processing (cryoconcentration, freeze-drying ...)



CASE STUDIES

LNG as environmentally friendly and price competitive solution

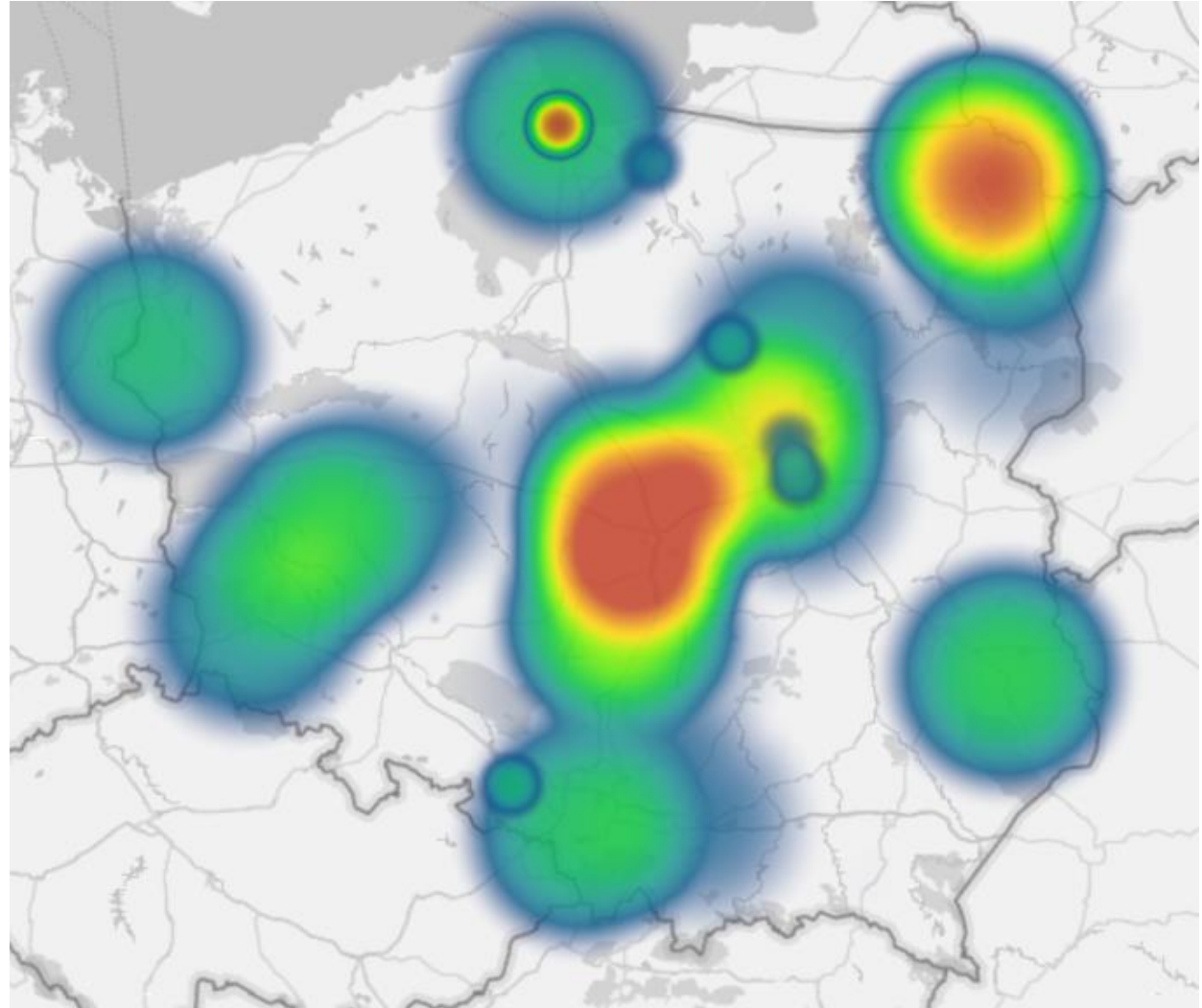
- **Poland: Mlekpól Dairy Production Plant (Kolno, Sokółka)**
The use of LNG for energy production has enabled environmental fees reduction by 95%
- **Poland: The use of cold recovery system from LNG regas plant in fruit and vegetable processing - Kampol-Fruit**
Savings in the production of cold energy by approx. 2.0 MWh / day
- **Estonia, Sweden: The use of LNG as fuel on regular ferry connections: Megastar (Tallink ferry lines), Viking Grace (Viking Line ferry lines)**
Full reduction of Sox and PM emissions on these connections
- **The Netherlands: the supermarket chain Albert Heijn**
The introduction of a fleet of LNG fueled trucks allowed to meet municipal requirements and reduced a noise at night by 50%



OPTIMAL LOCALISATION FOR SMALL SCALE LNG

Created with Excel Power Map tool

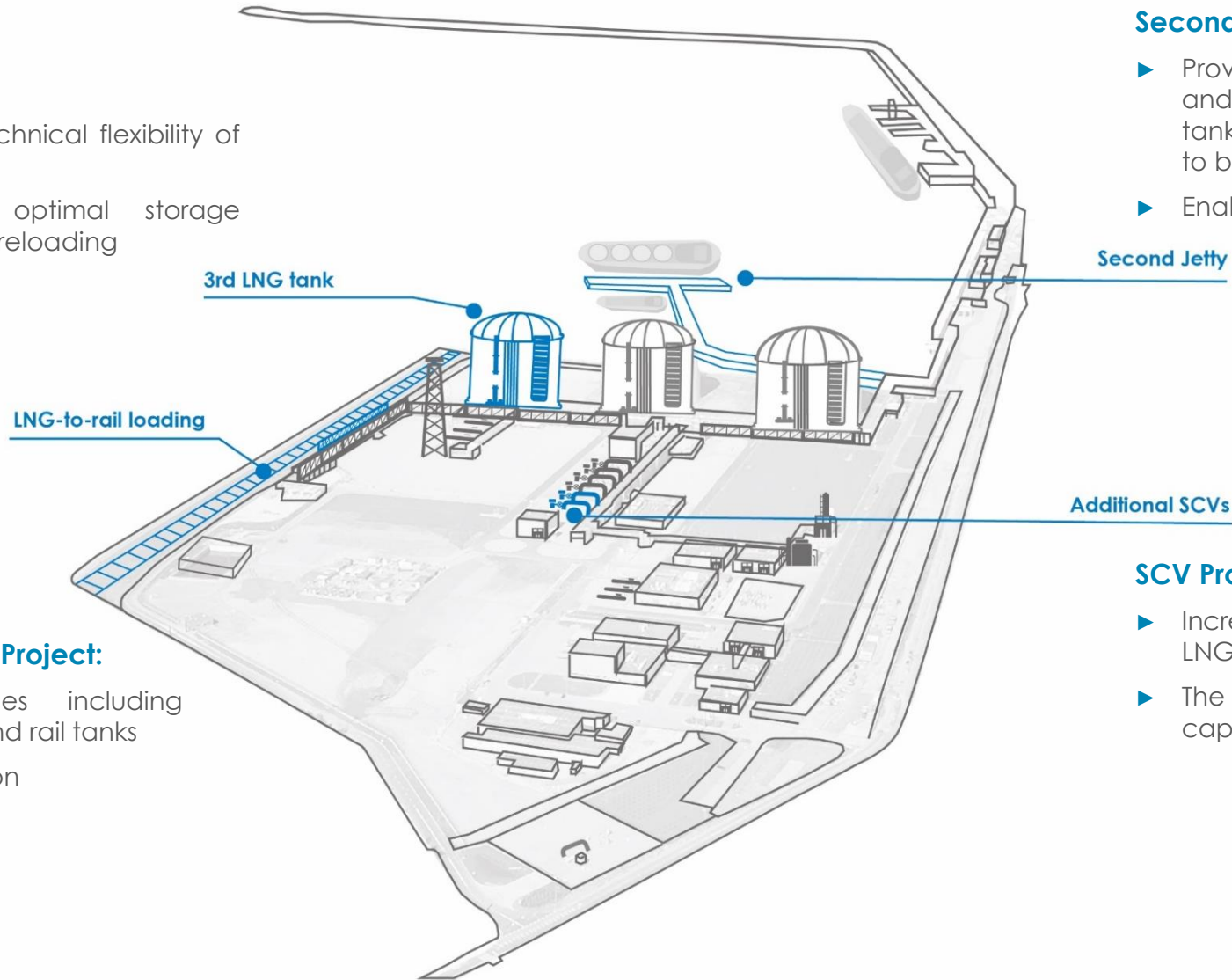
- Insufficient of grid capacity
- New potential customers
- Cold recovery
- Food processing plants
- LNG filling station and bunkering



THE ŚWINOUJŚCIE LNG TERMINAL EXPANSION PROJECT

LNG tank Project:

- ▶ Increasing the technical flexibility of LNG terminal
- ▶ Obtaining the optimal storage capacity for LNG reloading



Second jetty Project

- ▶ Providing new services including loading and unloading small and medium LNG tankers, LNG transshipment, LNG loading to bunkering vessels
- ▶ Enabling the STS bunkering

LNG-to-rail loading facility Project:

- ▶ Providing new services including loading ISO containers and rail tanks
- ▶ *Virtual pipeline* application

Additional SCVs

SCV Project:

- ▶ Increasing the send-out capacity of LNG Terminal up to 7,5 bcma
- ▶ The target maximum regasification capacity of the plant – 984,000 Nm³/h

THANK YOU FOR ATTENTION

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