LNG WAY TO THE FINAL CONSUMER:
LNG SUPPLY TO THE EU’s EASTERN PARTNERS

2nd EaP LNG NETWORK WORKSHOP, May 17, 2019

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Karolis ŠVAIKAUSKAS, Advisor at Oil and Gas Division
Ministry of Energy of the Republic of Lithuania

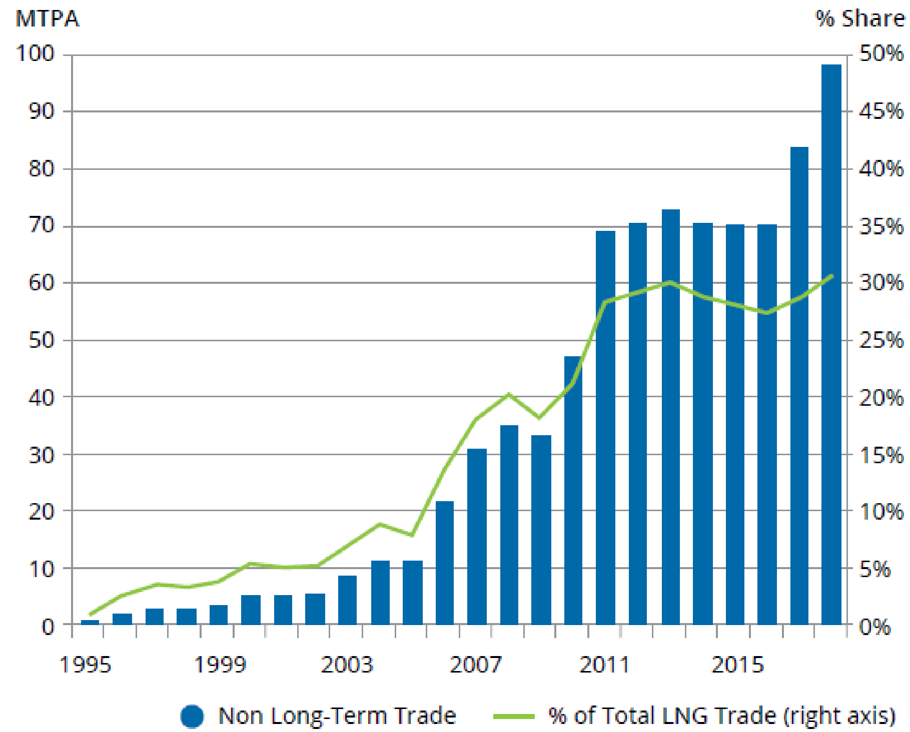
Eastern Partnership
LNG Network

LNG TRADE IN 2018

Global LNG trade continues to grow by 7-10 % each year:

- **LNG trade** reached **430 BCM** (**+9%** year-on-year (YOY) from 2017)
- Total trade value exceeded **$150 bn**
- LNG accounted for **11%** share of in global gas supply
- **Spot & short-term** trade reached **130 BCM** (**+28%** YOY from 2017) and accounted for **32%** of total gross LNG trade
- **Europe** imported **49 bcm** of gas via LNG terminals and accounted for **15.6%** of total LNG consumption

Non Long-Term Volumes, 1995-2018

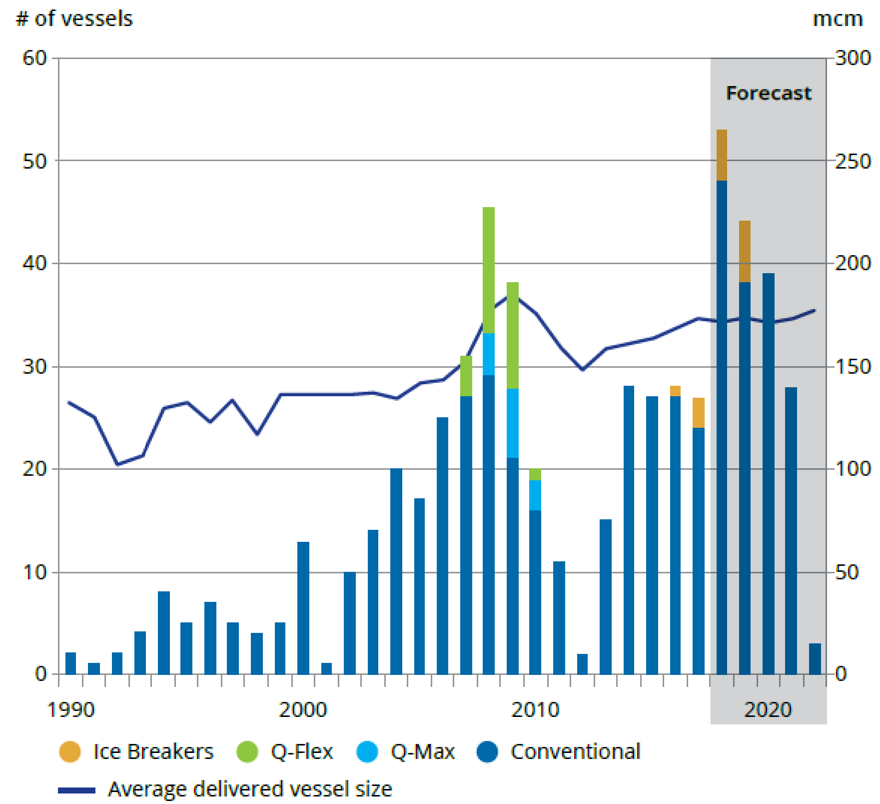


Sources: IHIS Markit, GIIGNL, IGU

LNG SHIPPING FLEET

- The global **LNG shipping fleet** reached **525 vessels** as **53 new LNG carriers** were added to the fleet, including **4 FSRUs**
- **5,119** trade voyages made in 2018
- **118 LNG carriers** are under construction till 2022, **59** of which were **ordered in 2018** (**+195% YOY increase**)

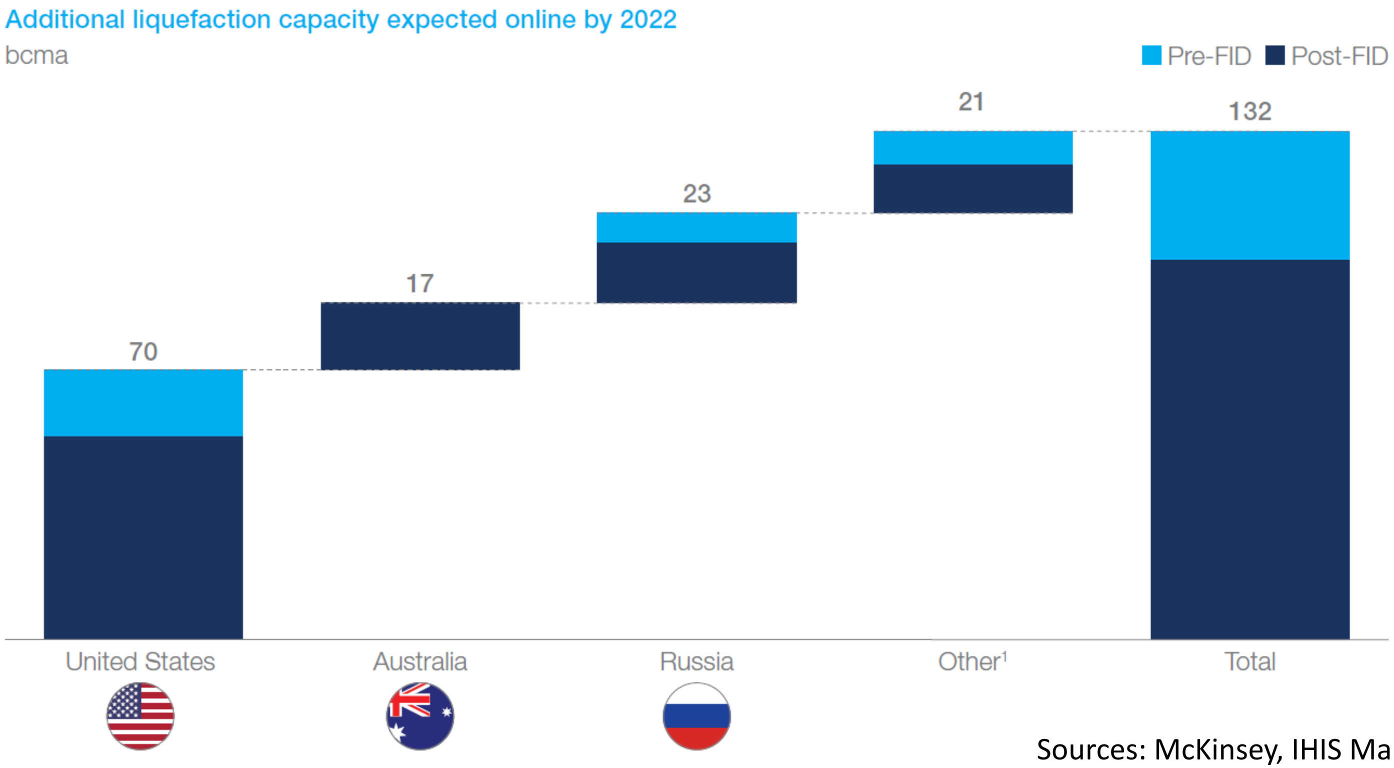
Global LNG fleet by year of delivery VS average vessel
(source: IHS Markit)



Sources: IHIS Markit, GIIGNL, IGU

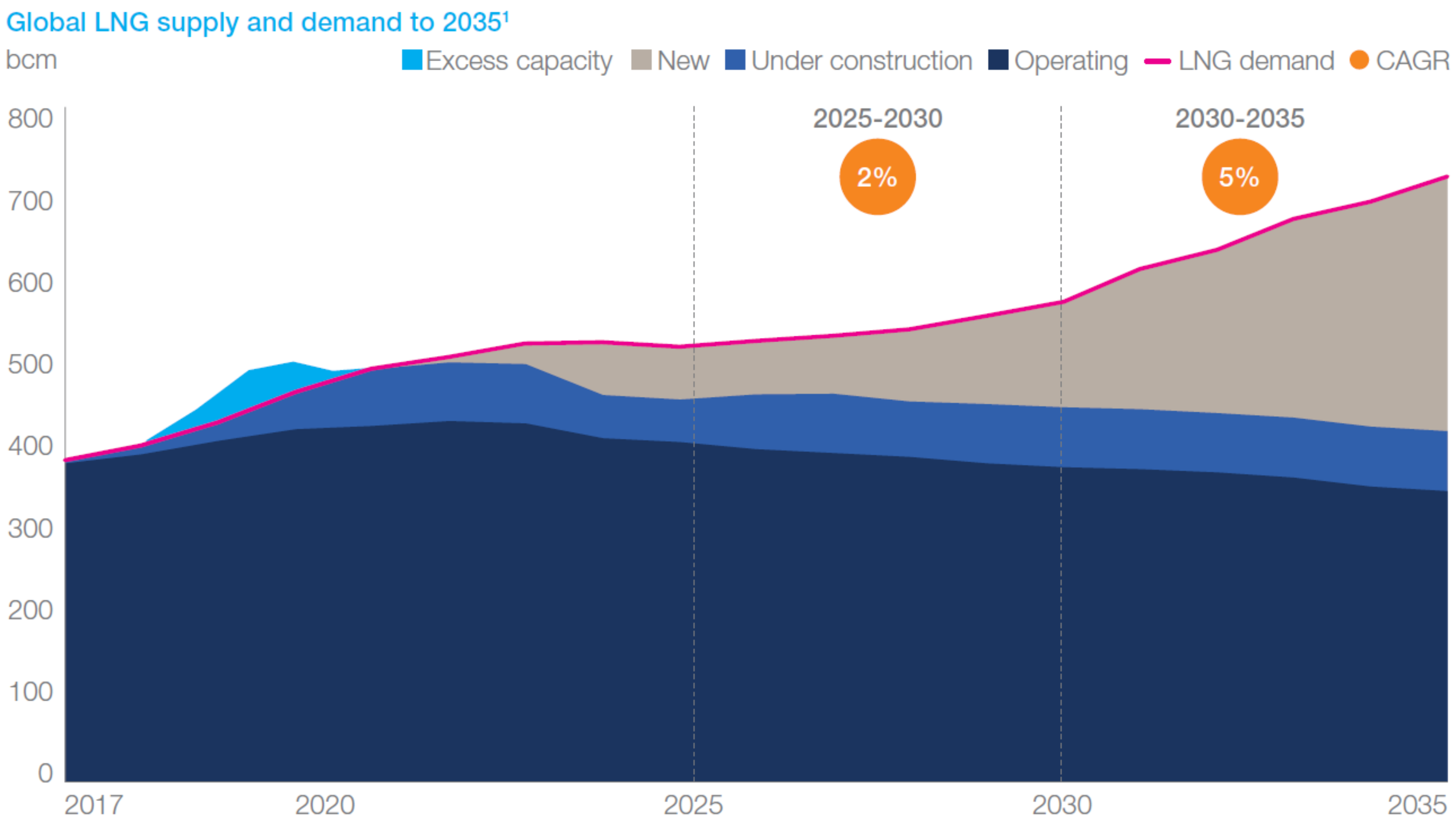
U.S. TO LEAD LNG MARKET GROWTH: 50% OF ALL NEW LIQUEFACTION CAPACITY IN 2019-2024 WILL BE LOCATED IN U.S.

- **Globally LNG export capacities are expected to grow by 22% in 2019-2024**
- **132 BCM** (101.3 MTPA) **liquefaction capacity is under construction** or sanctioned for development, out of which **75% is located in North America**
- U.S. LNG export capacity will reach **90 BCM/Y in 2019** (**+80%** YOY from 2018);



Sources: McKinsey, IHIS Markit, GIIGNL, IGU

SUPPLY AND DEMAND FORECAST



Source: Energy Insights analysis, Energy Insights Gas Intelligence Model, IHS Vantage

5 benefits brought by Klaipeda LNG terminal

1. **End** to six-decades-long Russian gas supply **monopoly** in the Baltic States

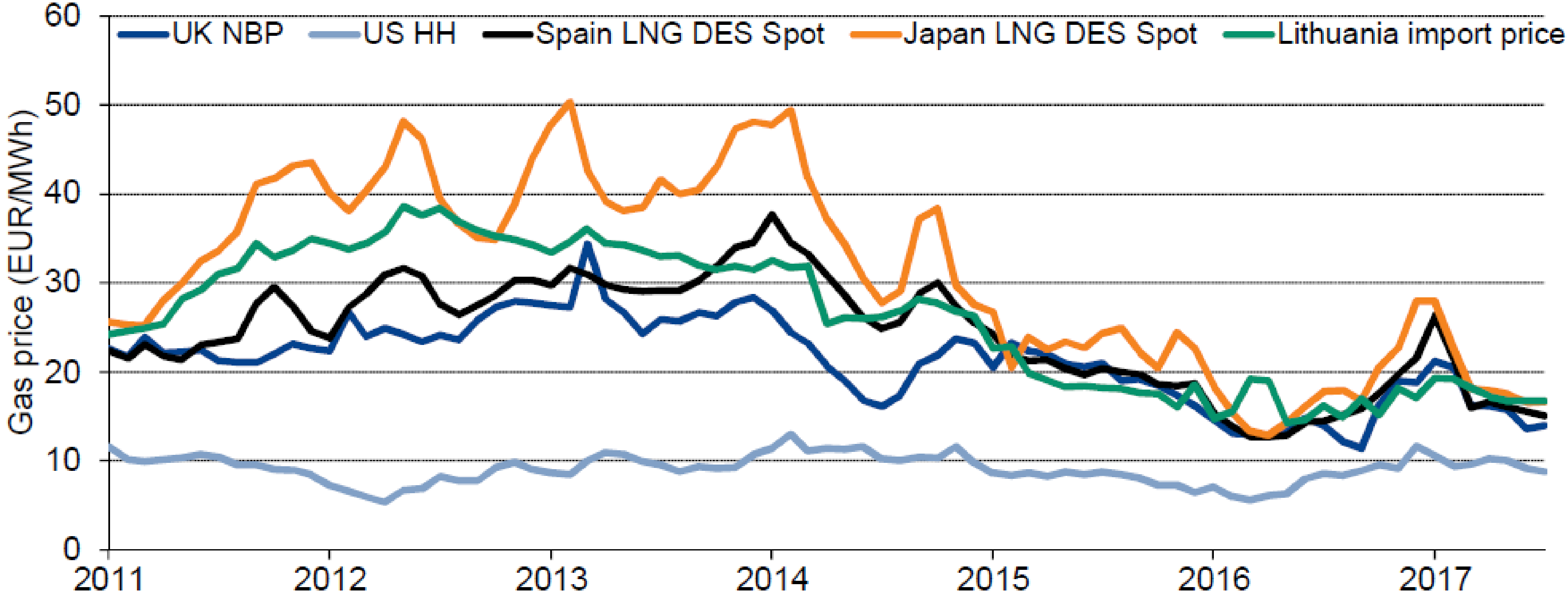
2. Ensuring secure & **diversified natural gas supplies** at competitive prices to the whole region

3. Provided gates for LNG suppliers to the **broader North/East Europe gas markets**

4. **Eliminating gas price differences** between Western European gas hubs and Lithuania **and lowering Russian gas imports by 50%**

5. Promoting **innovative LNG use** in maritime & transport sectors as alternative fuel for ships, trucks, public transport, trains

Historical spot LNG and hub natural gas prices



Source: ICIS Heren, Reuters, NCC

PRICES IN THE BALTICS CONVERGE WITH EUROPEAN HUBS

Council of European Energy Regulators (2017 report):

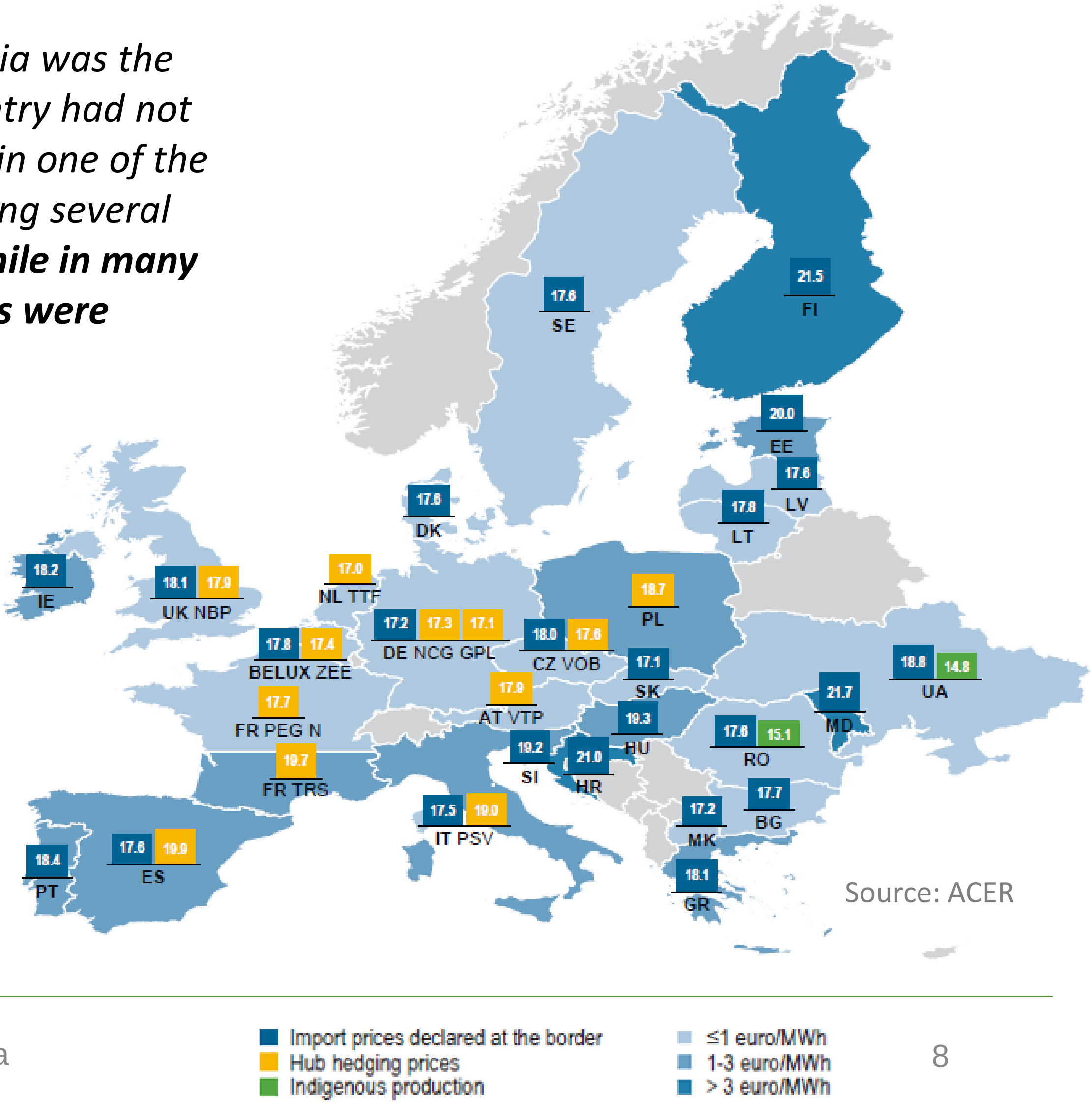
*"Before the existence of this terminal, Russia was the only gas supplier of Lithuania and the country had not any other supply alternative. This resulted in one of the highest wholesale gas prices in the EU during several years (**around 35 €/MWh by end 2014, while in many other European countries wholesale prices were around 23 €/MWh**)."*

Historical price spreads between TTF and average LT import price:

- 2014: 12 €/MWh
- 2015: 2,5 €/MWh
- 2017/18: <1 €/MWh

Overpayment of 12 €/MWh for LT country-wide means extra ~300 mEUR/y

Average gas price spreads between TTF and other markets in 2017:



GIPL PROJECT

- Length: ~508 km (in LT ~165 km)
- CAPEX: ~500 mEUR
- EU (CEF) co-financing: 306 mEUR
- Commissioning: December 2021

Interconnection capacities

PL->LT 27 TWh/year

(2.4 bcm/year)

LT->PL 21 TWh/year

(1.9 bcm/year)

PL->LT 74 GWh/day

(6.6 mcm/day)

LT->PL 58 GWh/day

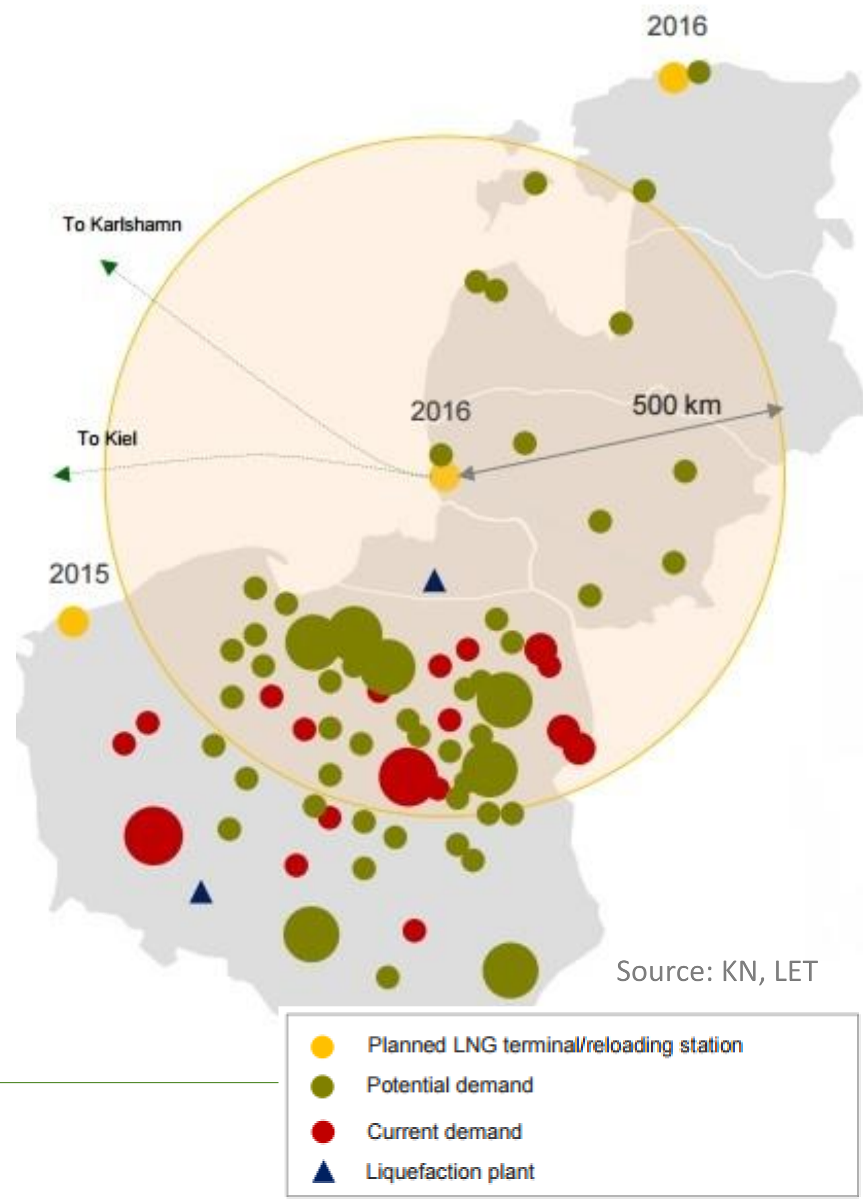
(5.2 mcm/day)

Source: Amber Grid

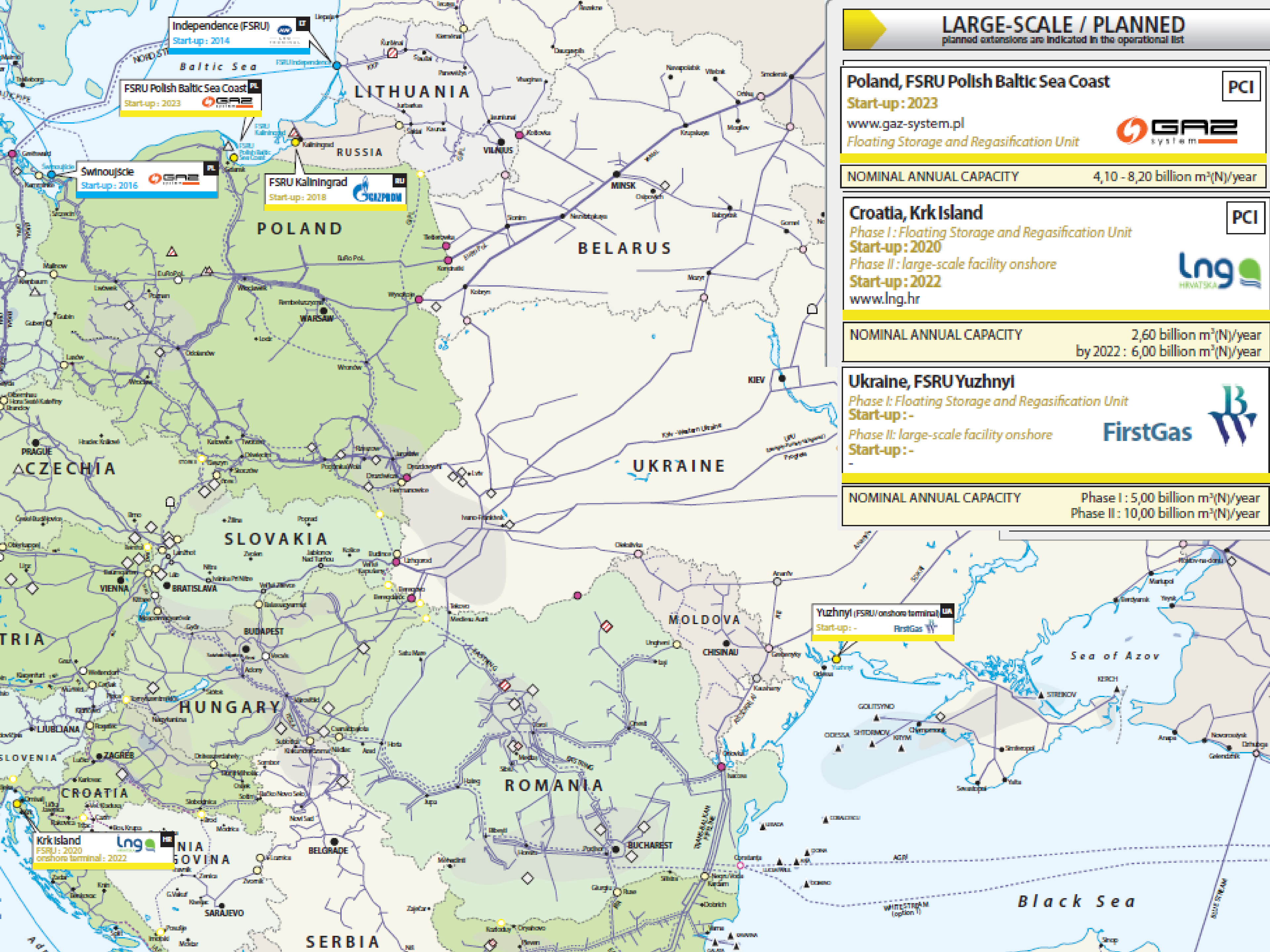
LNG RELOADING STATION IN THE PORT OF KLAIPĖDA

In 2017 *Klaipedos nafta (KN)* opened a small-scale LNG reloading facility in the port of Klaipeda (capacity: 5,000 m3 of LNG)

LNG reloading station is a truck-loading LNG station, LNG-loaded trucks supplies customers in the region which uses LNG as a fuel for ships and heavy vehicles, also supplies LNG to the off-grid regions which are not connected to the main gas transmission systems



Source: KN, LET



LARGE-SCALE / PLANNED

planned extensions are indicated in the operational list

Poland, FSRU Polish Baltic Sea Coast

PCI

Start-up : 2023

www.gaz-system.pl

Floating Storage and Regasification Unit

NOMINAL ANNUAL CAPACITY 4,10 - 8,20 billion m³(N)/year

Croatia, Krk Island

PCI

Phase I : Floating Storage and Regasification Unit

Start-up : 2020

Phase II : large-scale facility onshore

Start-up : 2022

www.lng.hr

NOMINAL ANNUAL CAPACITY 2,60 billion m³(N)/year

by 2022 : 6,00 billion m³(N)/year

Ukraine, FSRU Yuzhnyi

Phase I: Floating Storage and Regasification Unit

Start-up : -

Phase II: large-scale facility onshore

Start-up : -

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NOMINAL ANNUAL CAPACITY Phase I : 5,00 billion m³(N)/year

Phase II : 10,00 billion m³(N)/year

Thank you for your attention

E-mail: karolis.svaikauskas@enmin.lt
ksvaikauskas