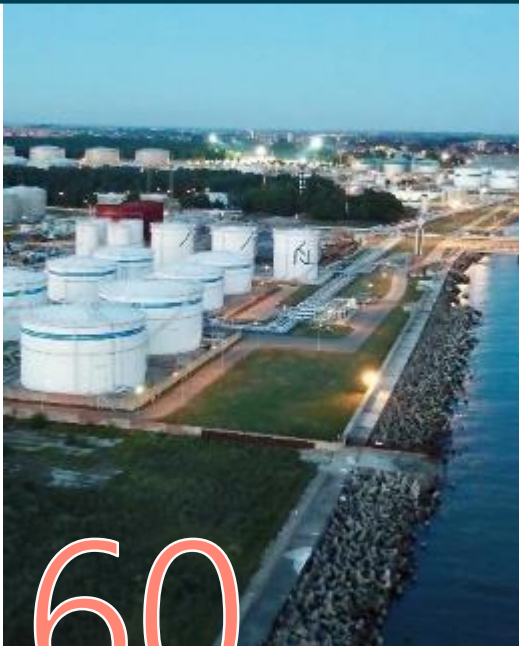


LITHUANIA – EXPANDING LNG VALUE CHAIN AROUND FSRU



Dainius Sivickis

Head of LNG Business Development
Floating LNG Global Summit 2019, Amsterdam



60 years

OIL TERMINALS

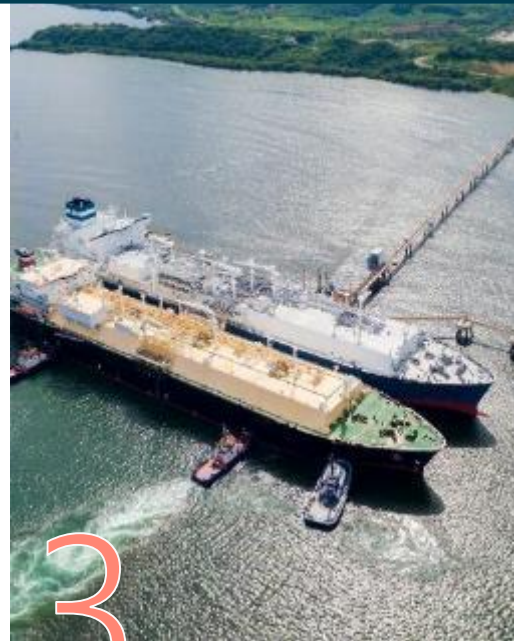
- Klaipėda oil terminal
- Subačius oil terminal



5 years


LNG TERMINALS

- Klaipėda LNG terminal
- LNG reloading station
- LNG bunkering vessel Kairos



3 years

INTERNATIONAL LNG BUSINESS DEVELOPMENT ACTIVITIES



FSRU
INDEPENDENCE

Lietuvos jūrų muziejus

Smiltynė

LNG RELOADING
STATION

Klaipėda

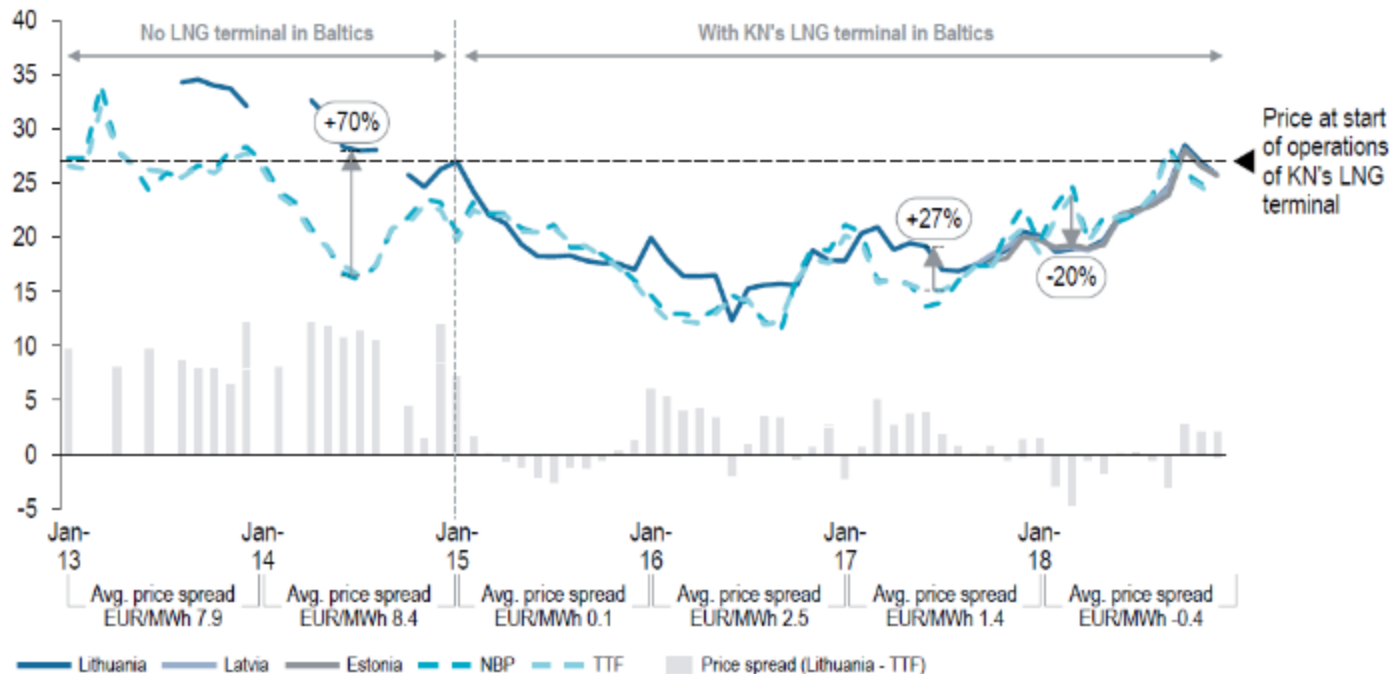


KLAIPEDA LNG TERMINAL

- KN is developer and operator
- Terminal based on FSRU Independence
- Storage – 170.000m³
- Regas ~4bcm
- Energy security measure for the Baltic States
- Gas diversification
- Full Third-Party-Access
- LNG break-bulking terminal for the Baltic Sea

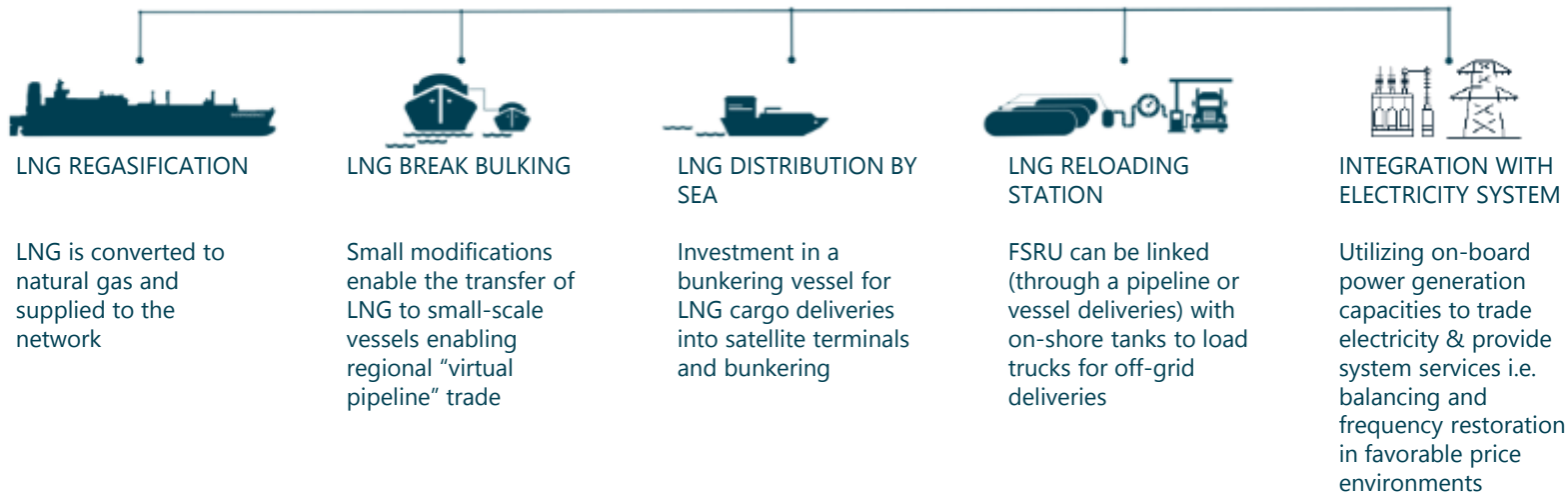
KN LNG TERMINAL PROVIDES SECURITY OF SUPPLY AND LOWERS GAS PRICES

Gas prices [EUR/MWh]¹⁾



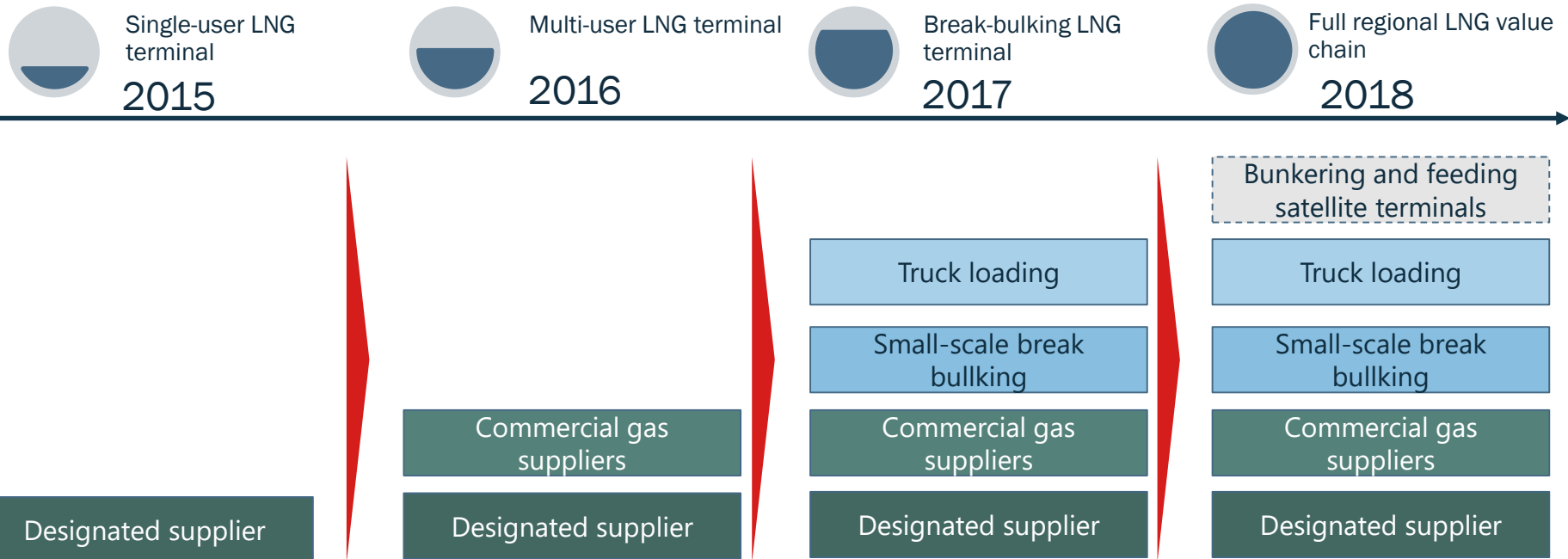
1) Average monthly natural gas price in UAB "GET Baltic" natural gas exchange

ADDITIONAL INVESTMENTS IN THE VALUE CHAIN TO EXPAND SERVICES AND CAPTURE NEW USERS





FSRU TERMINAL ENABLED SMALL SCALE MARKET OPPORTUNITIES TO DEVELOP





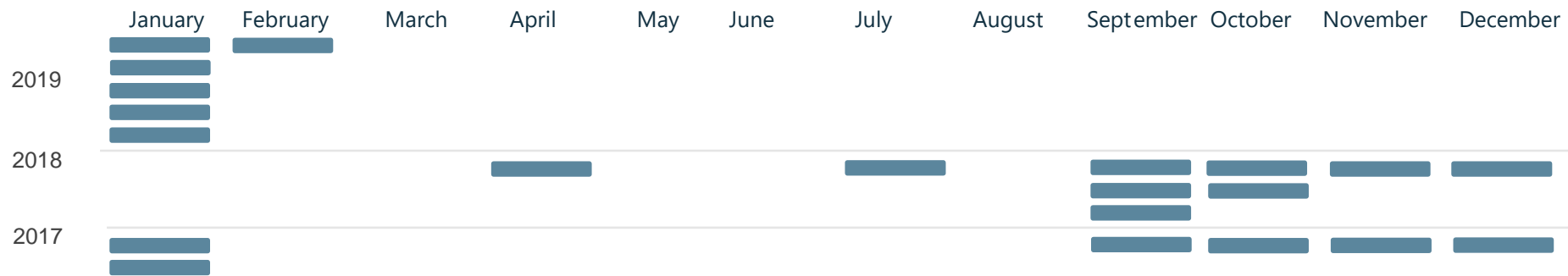
BREAK BULKING

Small modifications enable the transfer of LNG to small-scale vessels enabling regional “virtual pipeline” trade

- Continuous reloading operations since 2017
- Exports to 3 different countries (Norway, Sweden, Finland)
- Supplying the truck loading and bunkering station



BREAK BULKING



Reload operation from FSRU



TRUCK LOADING AND BUNKERING

FSRU can be linked (through a pipeline or vessel deliveries) with on-shore tanks to load trucks for off-grid deliveries

- Flexible multi-service small scale terminal
- Third party access
- LNG swap model
- No BOG allocation to users
- 5000 m3 capacity



Volume of LNG storage tanks	5 x 1.000m ³
Maximal LNG filling level	90%
Annual technological capacity	250.000m ³

Number of truck loading bays	2 bays
Maximal number of LNG loaded trucks per day	24 trucks
LNG truck loading rate	up to 100 m ³ /h



DELIVERIES

January February March April May June July August September October November December

2019



2018



2017



 Reload operation to SSLNG terminal



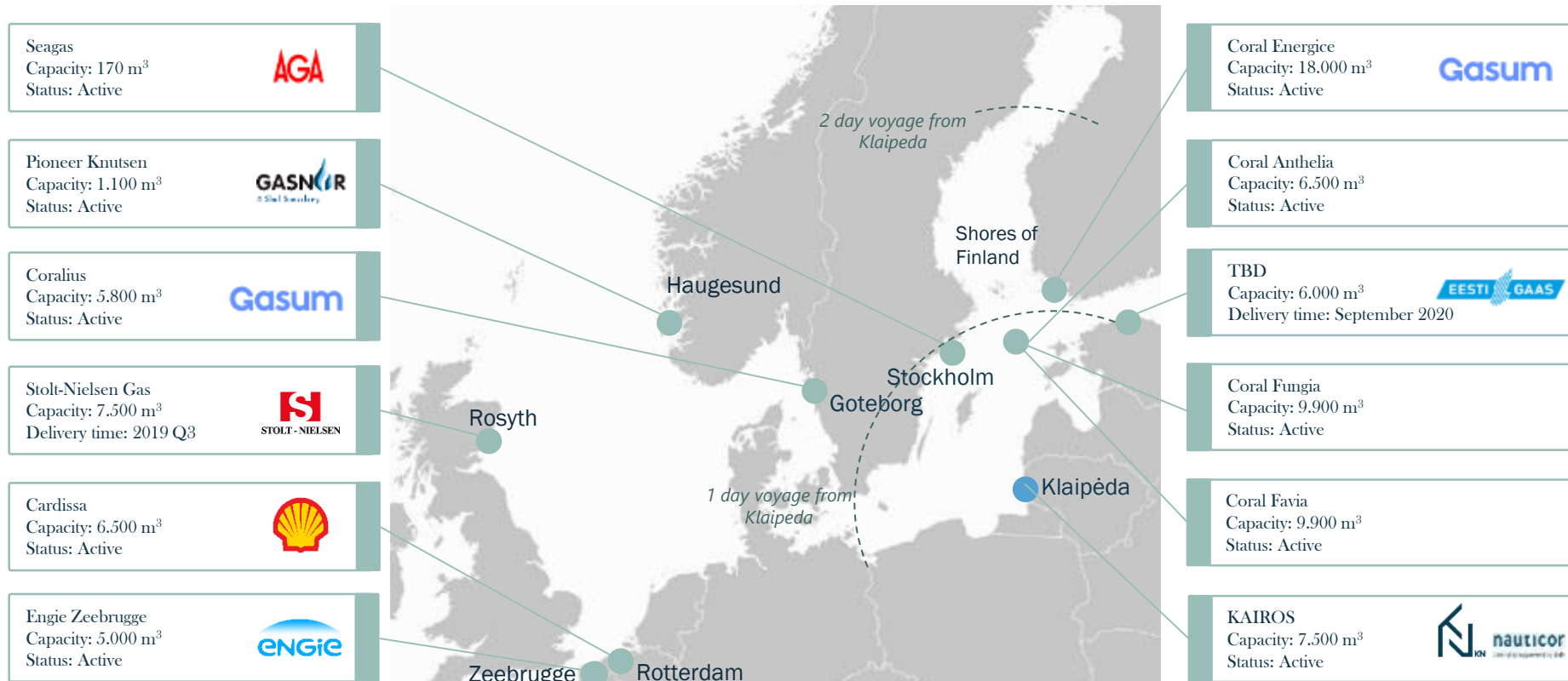
TRANSPORTATION & BUNKERING VESSEL KAIROS

- Under joint venture* with Nauticor
- Constructed in Hyundai Mipo;
- COD – December 2018
- Storage arrangement: 7.500m³, two tanks

- 
- LNG bunkering
 - LNG shipping to Klaipeda LNG reloading station
 - LNG shipping to other satellite terminals

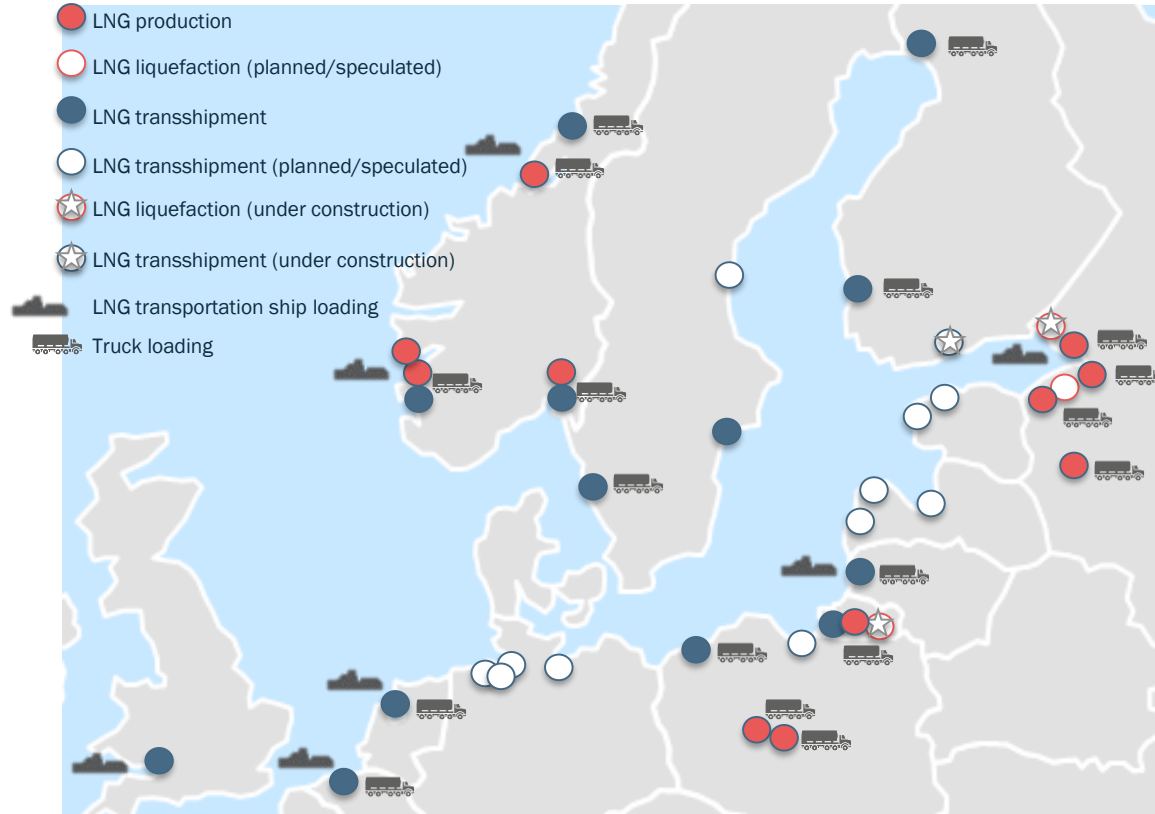
* Undergoing sales process of KN shares in JV

INCREASING AMOUNT OF LNG SUPPLY VESSELS (SMALL SCALE SHIPS)



7,500 m³ Coral Methane relocated to Spain, meanwhile 15,600 m³ Coral Energy operates in Gulf of Mexico and Caribbean Sea

INCREASING NUMBER OF SMALL SCALE LNG SOURCES OF SUPPLY



REGIONAL BENEFITS OF SMALL SCALE LNG DELIVERY

- LNG delivery by road to off grid customers
Supplying existing demand in northern Poland and Baltic States
- Bunkering from trucks in Baltic sea ports
All major ports in Baltic states within 600 km radius
- Enabling new infrastructure developments
Druskininkai off-grid distribution network

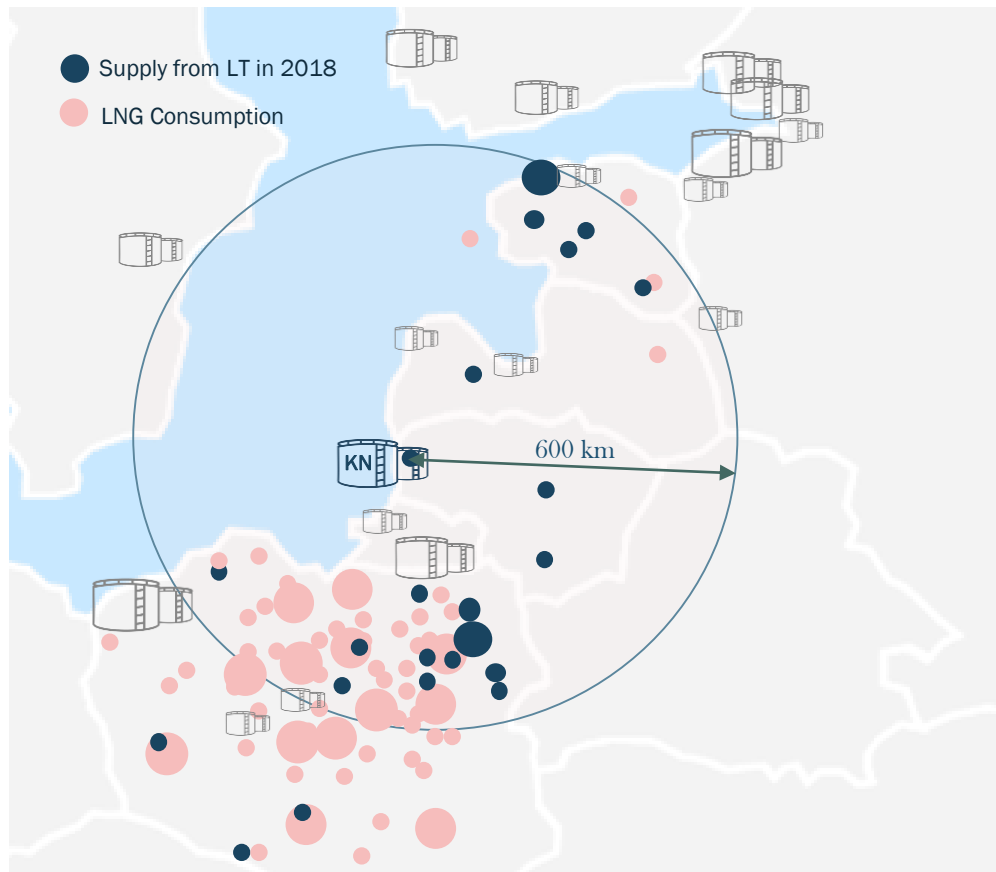
Main potential for ssLNG market – fuel for transport:



LNG as ship fuel



LNG as fuel for heavy duty transport





REGIONAL REGAS MARKET POTENTIAL

1

With Baltic Connector coming online at the end of 2019 Finish gas grid opens up for alternative sources of gas deliveries.

2

Delivery of gas pipeline between Lithuania and Poland (GIPL) project in 2021 will provide an access to Poland and other CEE gas markets and increase regional competition between gas traders.

3

Upcoming synchronization of the Baltic States electricity grids with Western Europe in 2025 raises question whether local electricity generation capacities are sufficient.





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