

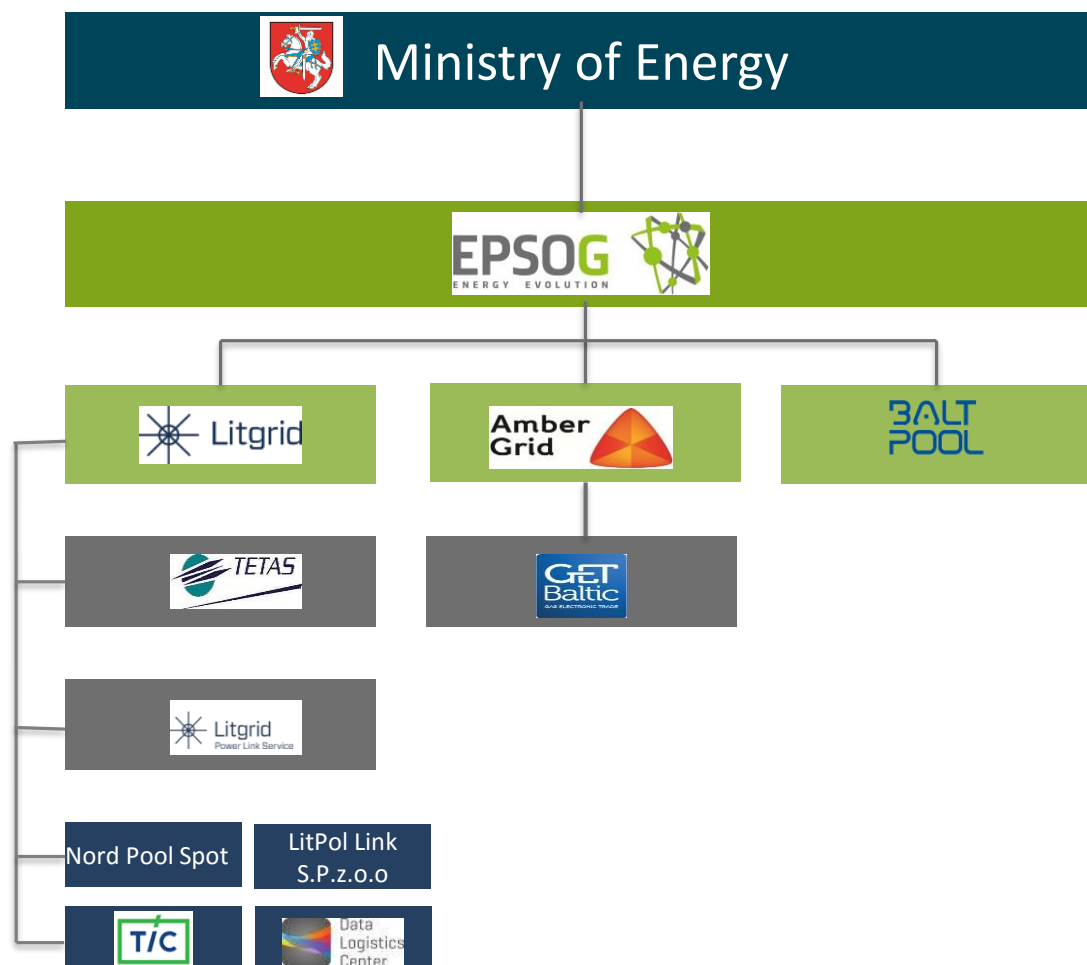


Infrastructure Projects in the Energy Sector: the Case of Lithuania

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2016-06-02

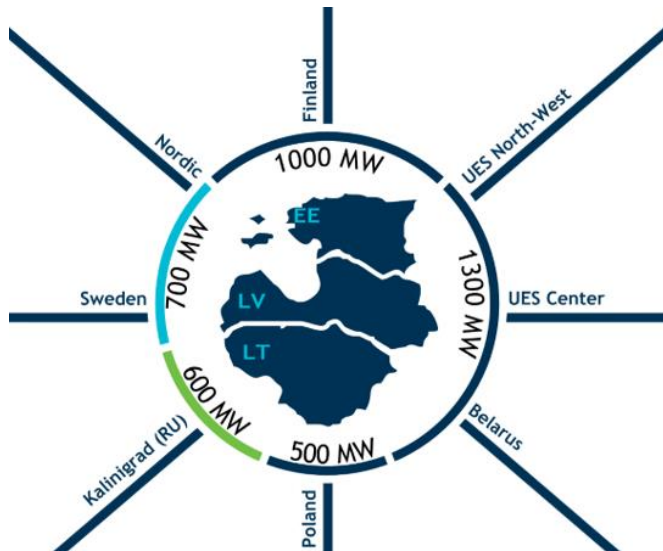
Structure of EPSO-G Group



Performance indicators	2015	2016 1 st Q
Income (mEUR)	156,8	62,2
EBITDA (mEUR)	56,5	27,8
Profit (mEUR)	12,6	12,8
Assets (mEUR)	1.152,1	1.158,7
Number of Employees	1030	1061

Strategic Task: from Energy Island to Regional Hub

Electricity sector



Source: LITGRID

Milestones:

LitPol Link

NordBalt

Extension of LitPol Link

Synchronization with
Continental European
Network

Gas sector



Source: Amber Grid

Milestones:

Klaipėda-Kuršėnai
pipeline

GIPL

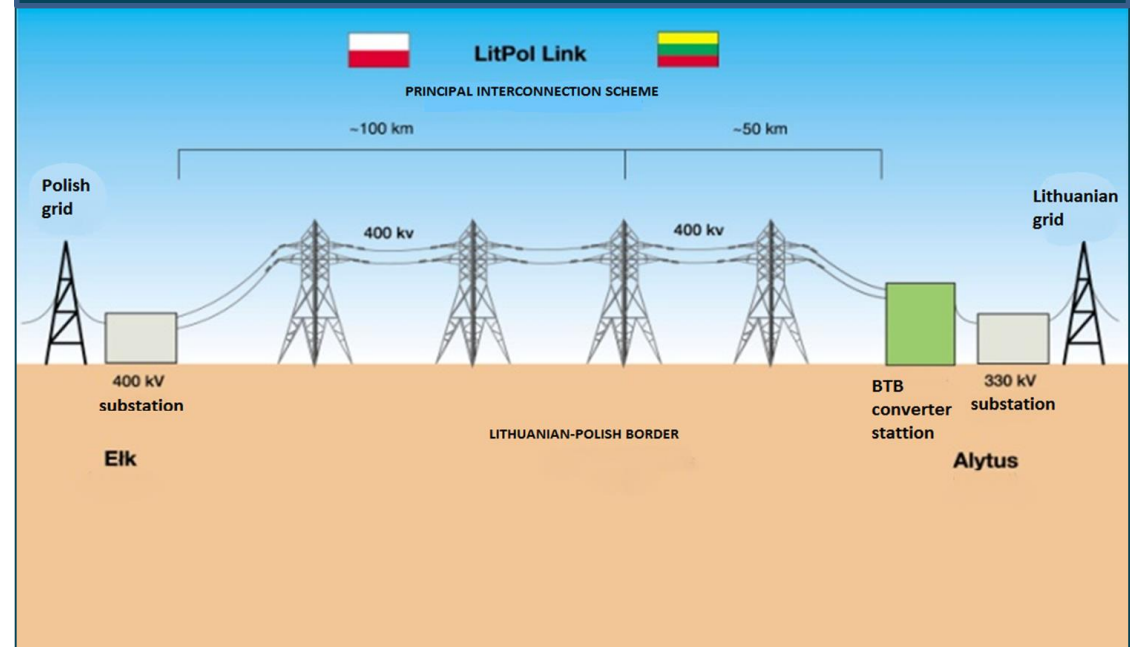
Gas market integration
in the region

LitPol Link: Completion of First LT-PL Power Link

● Goals and Importance of the Project:

- Connecting power system of the Baltic States to the power system of Western Europe
- Connecting the ring of power transmission systems of the countries of the Baltic sea region
- Strengthening energy independence of both countries as well as countries in the region
- Expansion of opportunities of electricity supply and strengthening countries' self-sufficiency
- Safety and reliability of electricity supply

- 163 km transmission line Alytus-Elk
- 500 MW HVDC converter station
- Project value – **580 mln. EUR**



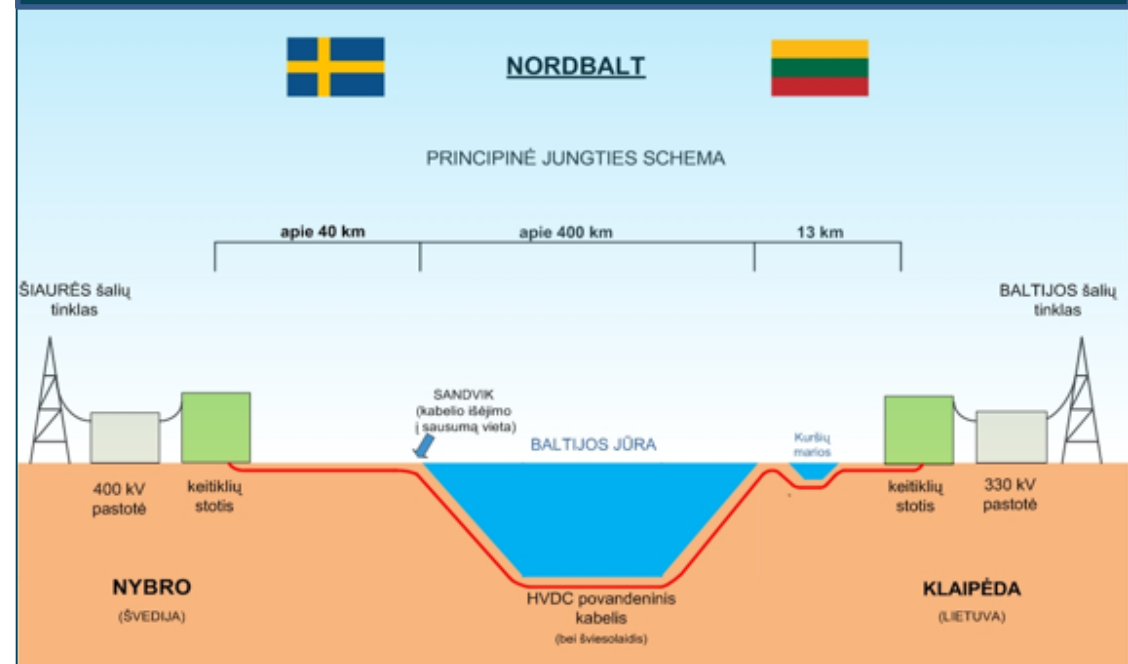
Source: LITGRID

NordBalt: First Power Bridge Between LT and SE

● Goals and Importance of the Project:

- Ensures diversification of energy sources
- Is an essential condition for the creation of a common electricity market of the Baltic states and the Nordic countries
- Alternative import and export channel
- Market price drop in the Lithuanian/Latvian price area

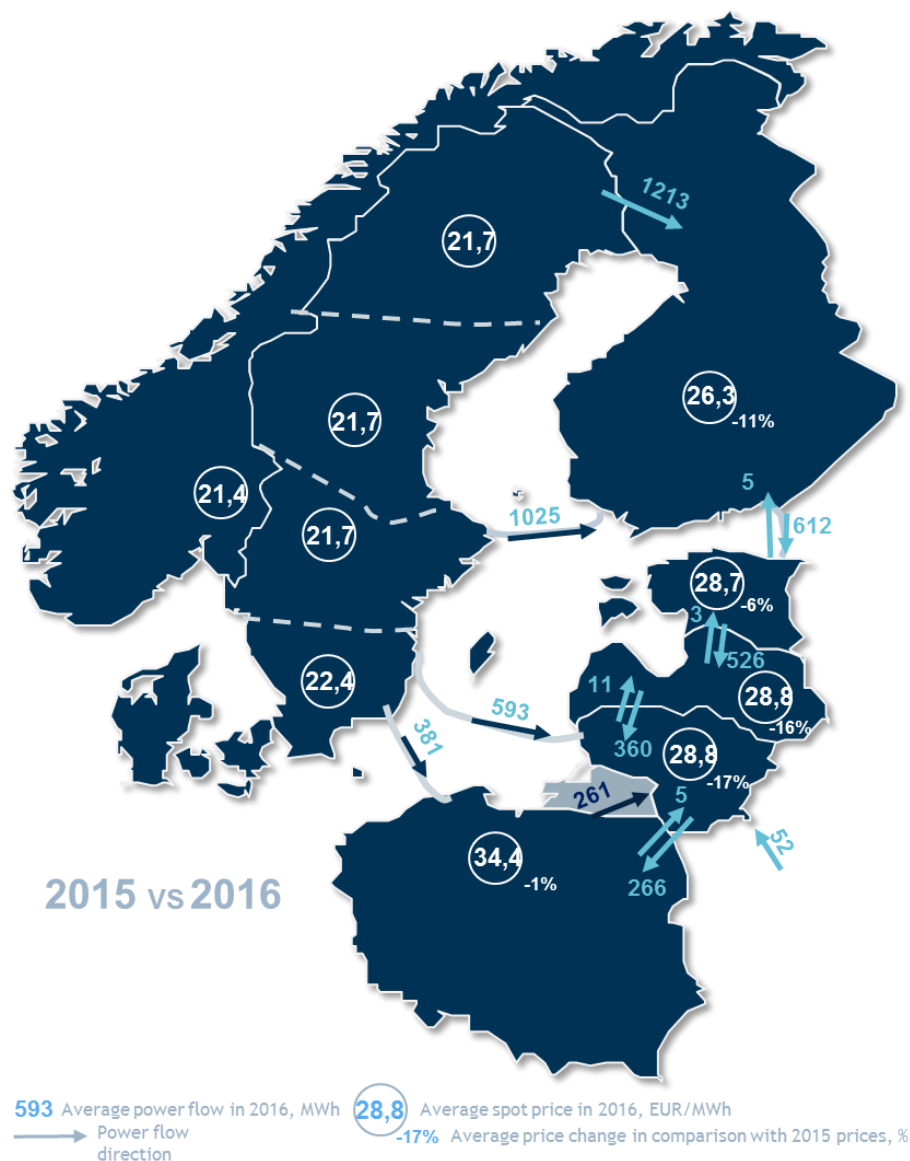
- 453 km HVDC cable (400 subsea and 53 land cable) with converters in Klaipėda and Nybro
- 700 MW capacity
- Project value – 552 mln. EUR



Source: LITGRID

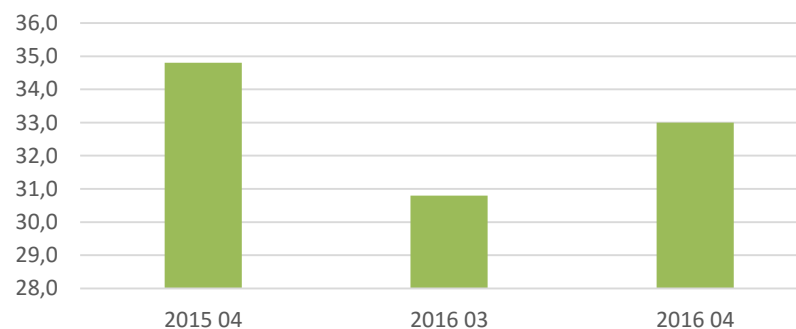
Impact of the New Power Links

- Positive impact on consumer prices
- The Baltic, the Nordic and CEE become an integral power market
- Swedish, Finnish and Polish markets will dominate market situation in the Baltic
- Nordic and Polish electricity strategies will impact Baltic countries' energy sector



Picture represents situation when Nord Balt cable is operating

Average market price in the Lithuanian zone, EUR/MWh



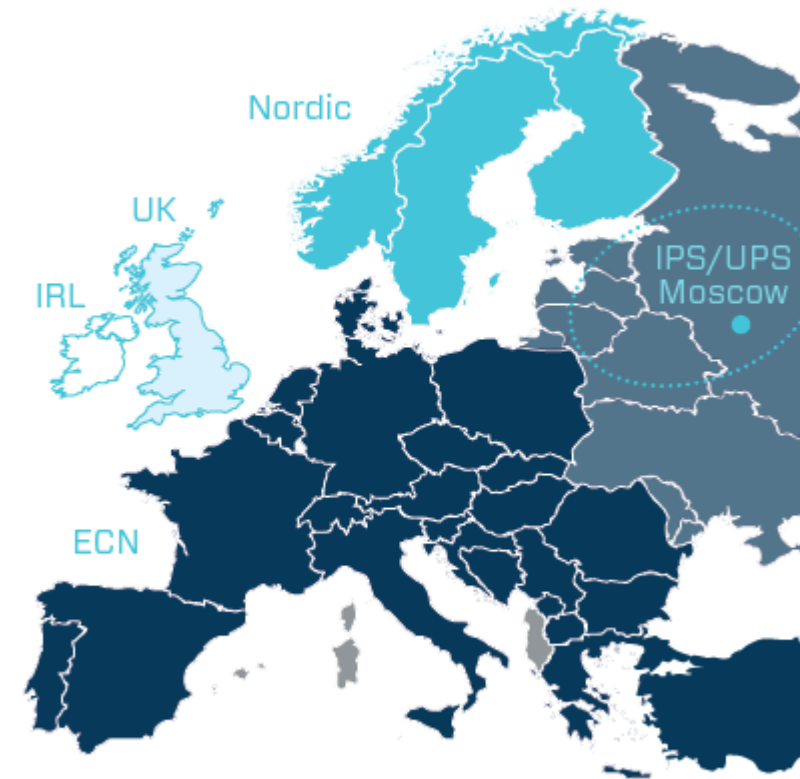
Next Major Milestone – Synchronization with European Grid

By synchronizing with the European Continental Network, the Baltic States seek to:

- Connect to decentralized European electricity system
- Take over essential rights and obligations of system dispatching from Moscow

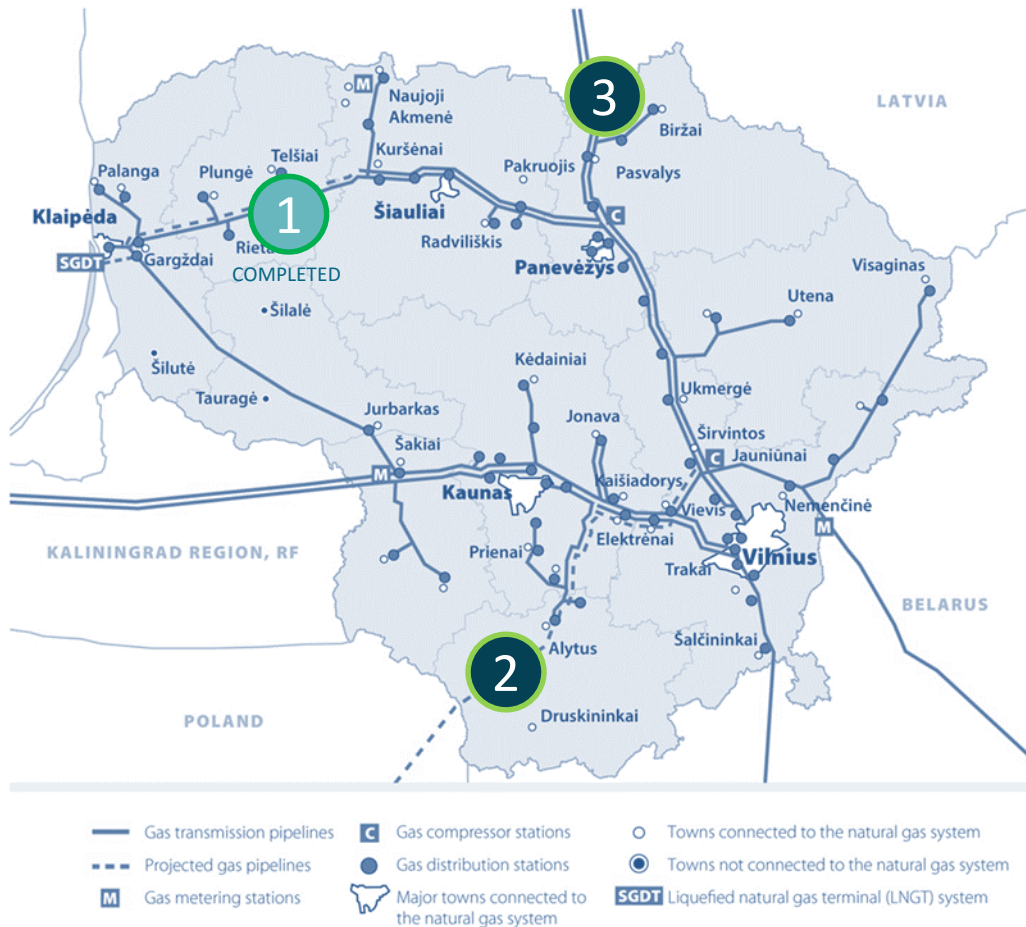
● Goals and Importance of the Project:

- Reliable operation of energy systems and safe transmission
- Coordinated actions of equipment maintenance
- Common rules of energy systems management – Grid codes
- Guaranteed availability of electricity from Western European systems



Source: LITGRID

Strategic Infrastructure Projects in the Gas Sector (1)



1

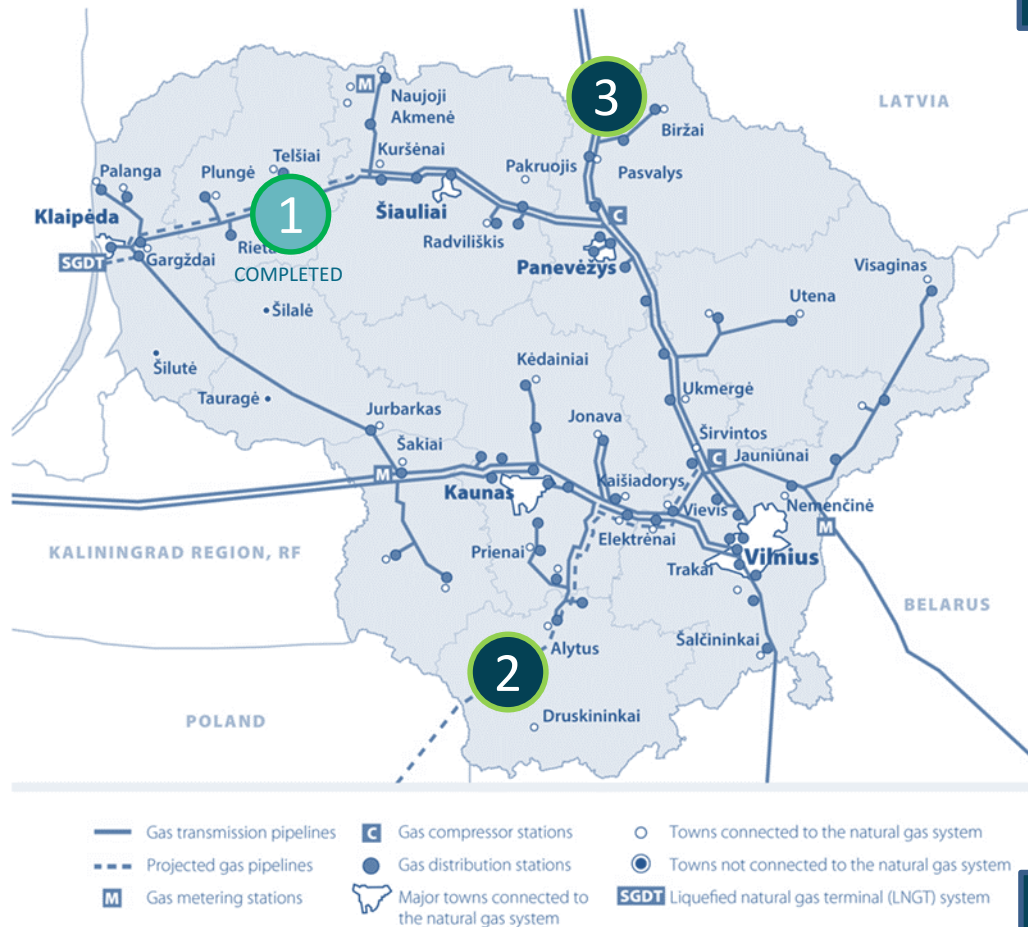
Enhancement of Klaipėda-Kiemėnai pipeline

- 110 km pipeline project was implemented within particularly short period – 27 months
- Project investments comprise 57,9 mln EUR

Goals and Importance of the Project:

- Enables diversification of gas supply sources for the Baltic countries' market participants
- Increases Baltic countries' gas market competitiveness
- Enables full utilization of capacities of the LNG terminal in Klaipėda
- Increases reliability of the transmission system

Strategic Infrastructure Projects in the Gas Sector (2)



2 Gas Interconnection Poland-Lithuania (GIPL)

- 534 km length (including 177 km in the LT territory)
- Planned start of operations 2019
- Project value: 558 mln EUR

Goals and Importance of the Project:

- Will allow transporting about 27 TWh (2,4 bcm m³) of gas per year to the Baltic states; reverse flow to Poland could comprise up to 19 TWh per year
- Integration of isolated Baltic states' gas markets into common EU market
- Diversification of supply sources
- Access to various gas supply markets - German, Czech, Polish, Slovakian
- Framework for competitive regional gas market

3 Enhancing capacity of LV-LT interconnection

- Amber Grid CAPEX 3 mln EUR
- Capacity increase up to 12 mcm/day
- Commissioning in 2020

Next Major Milestone – Common Regional Gas Market

Necessary conditions for the establishment of Regional market

- Harmonized legislative and regulatory framework
- Sufficient gas infrastructure
- Commercial and operational adaptation between the regional TSOs

Benefits

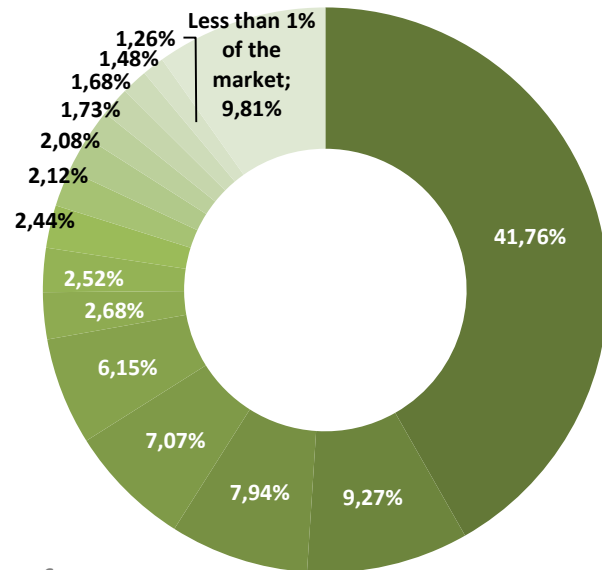
- Increased liquidity of the market
- Increased competition
- More efficient use of regional gas infrastructure
- New opportunities for market participants

Action plan currently being prepared to reach the goal by 2020



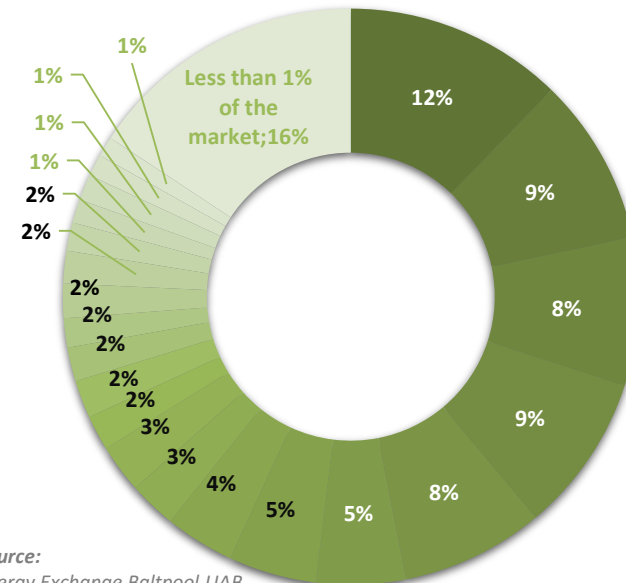
Game Changer in the Biomass Market – Energy Exchange Baltpool

High concentration in CHPs' biomass supply side in Lithuania (2012-2013)



Source:
National Control Commission For Prices And Energy
2012-2013 heating season biomass suppliers' market share
according delivered biomass quantities to regulated CHP's

Low concentration in biomass supply side in Biomass Exchange (Y2015)



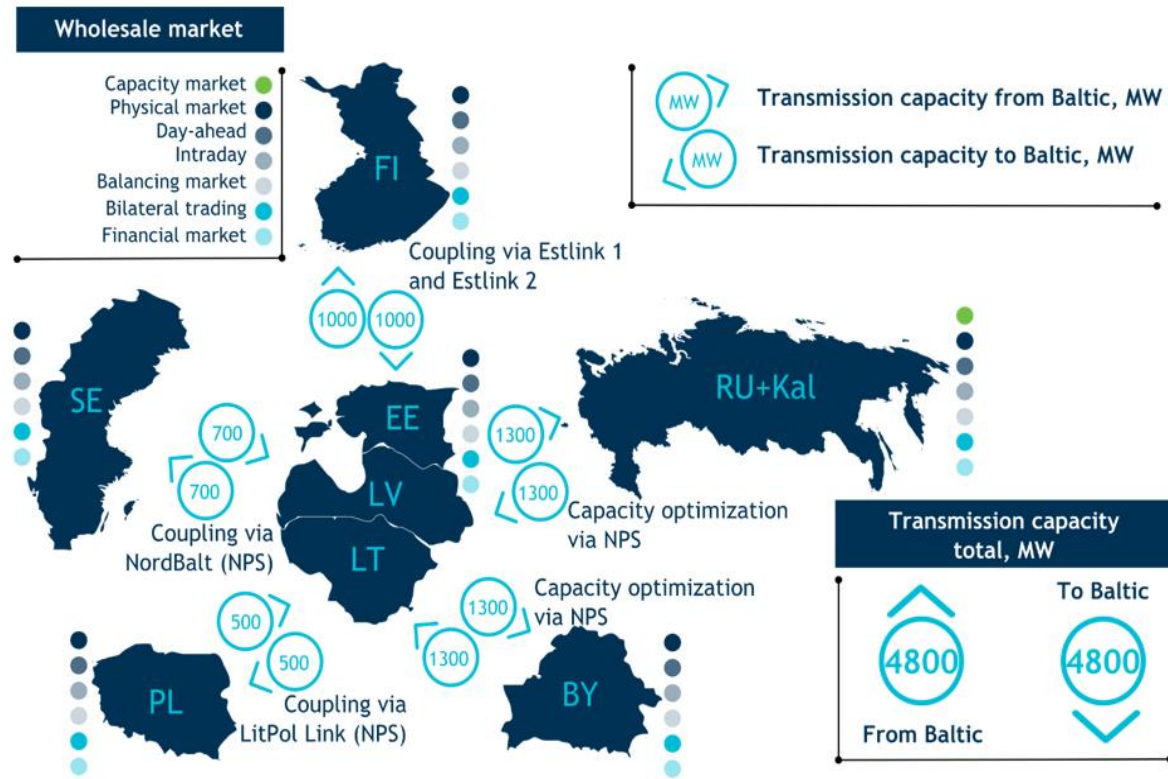
Source:
Energy Exchange Baltpool UAB
Biomass suppliers' market share in Biomass Exchange according
delivered biomass quantities (Y2015)

Impact on Prices:

- **2012-2013 heating season:** Price differences between regulated CHPs in neighboring districts very significant: from 160-180 EUR/toe to over 220 EUR/toe
- **2015-2016 heating season:** biomass prices fell by 20-39 per cent

Strategic Task completed – Baltic Region Energy Hub

Electricity sector



Crossroads of Electricity Power Flows

Gas sector



Regional Gas Market