Lithuania – the region's energy competence centre

Litgrid 2015 Activity Report for Shareholders and the Public
27 April 2016, Vilnius

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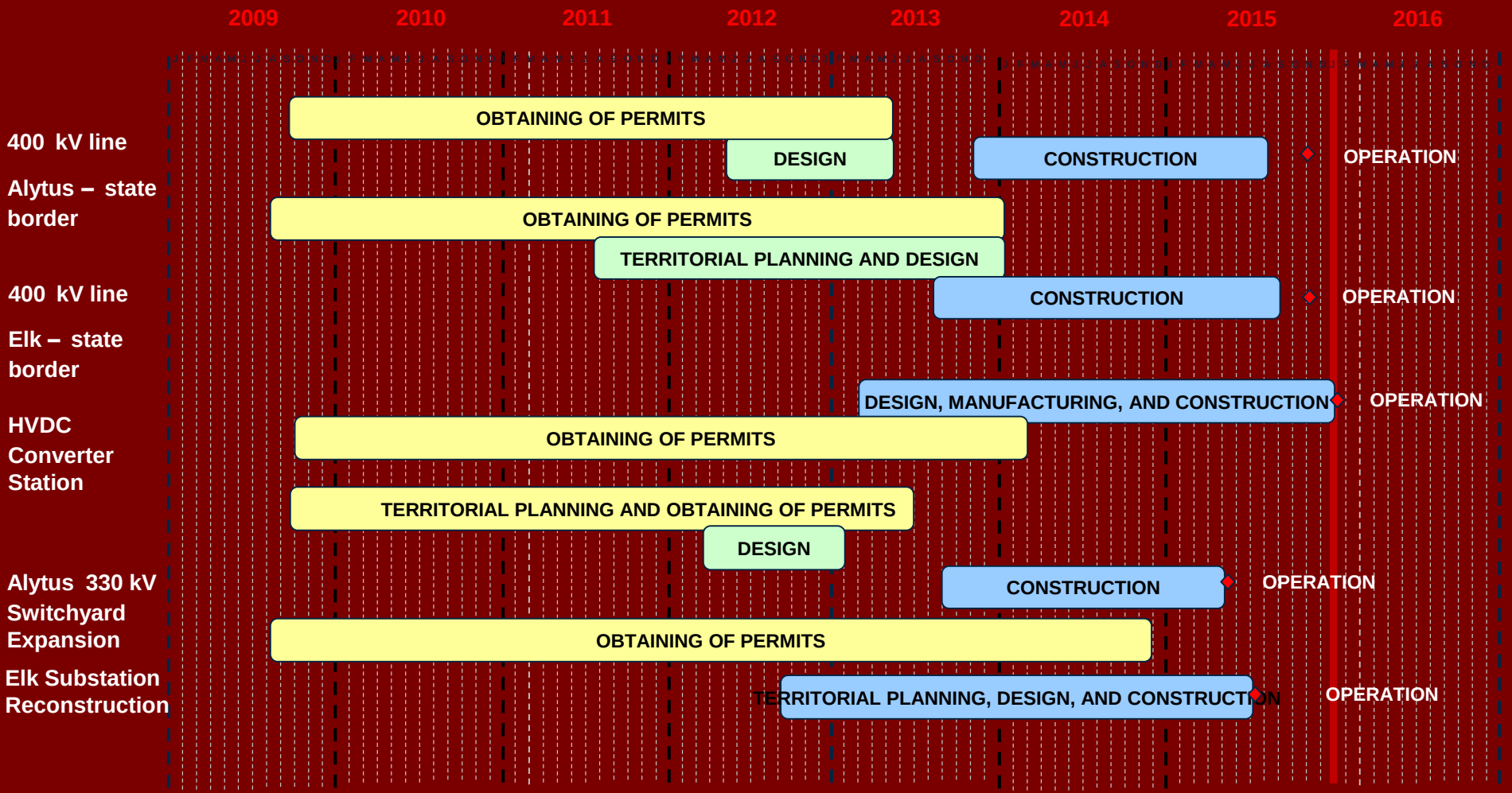
Strategic interconnections

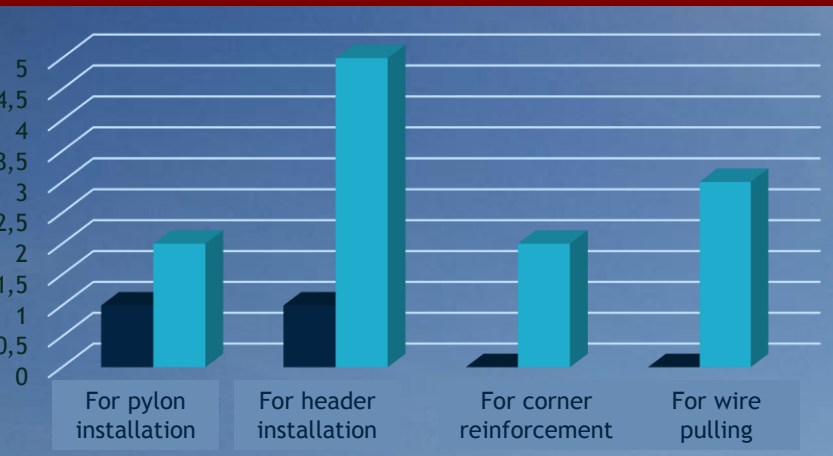
- The first electricity link between Lithuania and Poland, between the Baltic countries and Western Europe
- The link has been in operation since 9 December 2015
- 163 km electricity transmission line Alytus-Elkas
- 500 MW HVDC converter station near Alytus
- Total project cost – € 580 million: € 150 million in Lithuania and € 430 million in Poland
- EU funds – € 200 million (in Poland) and € 31 million (in Lithuania)

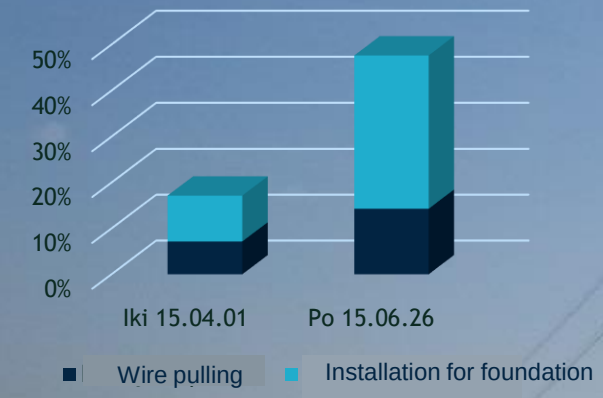
LitPol Link implementation



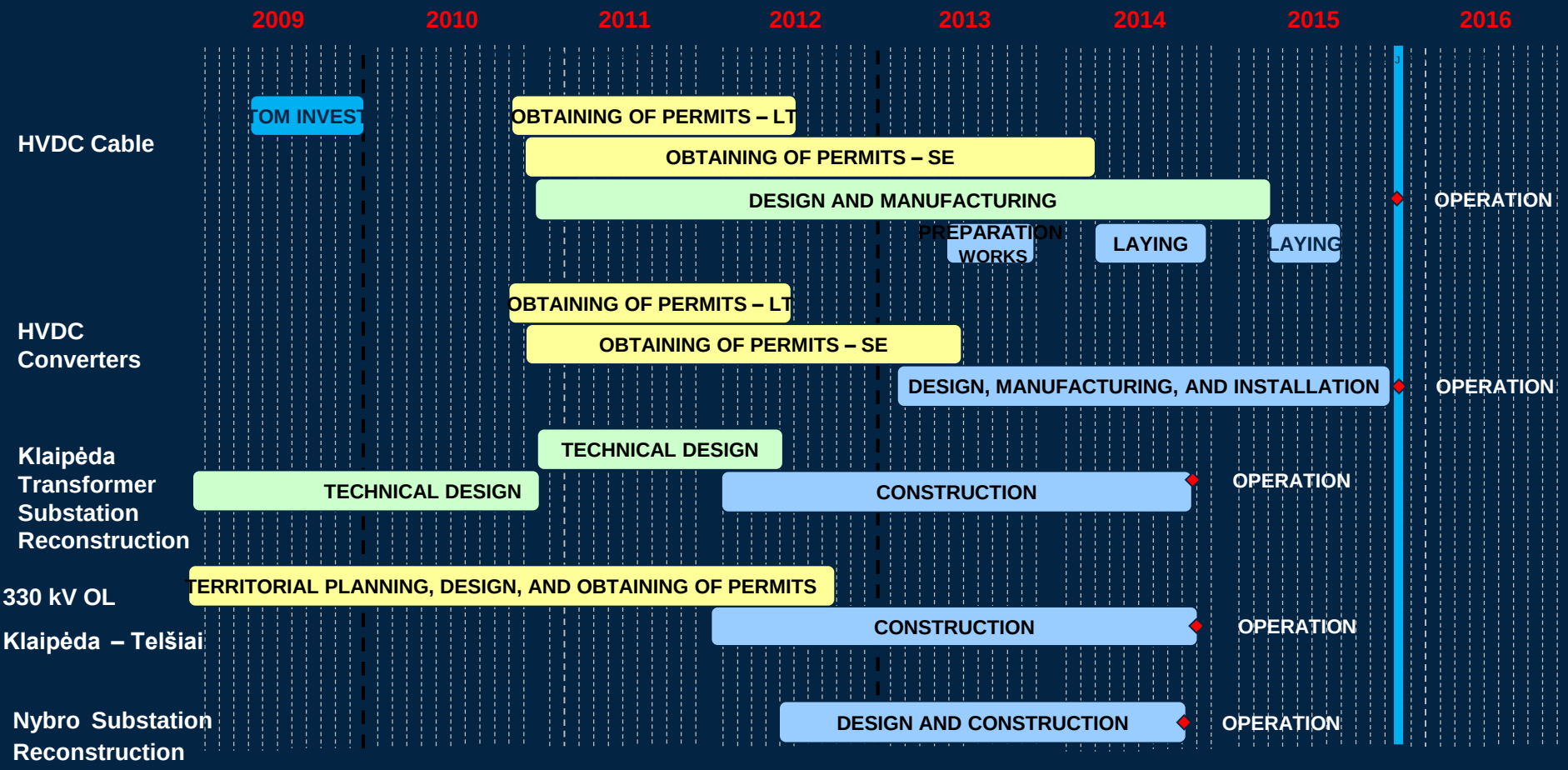
Reinforcement of corner pylons on the line Alytus – state border

Contract work resources of the line Alytus – state border before and after 26 June 2015





NordBalt Implementation



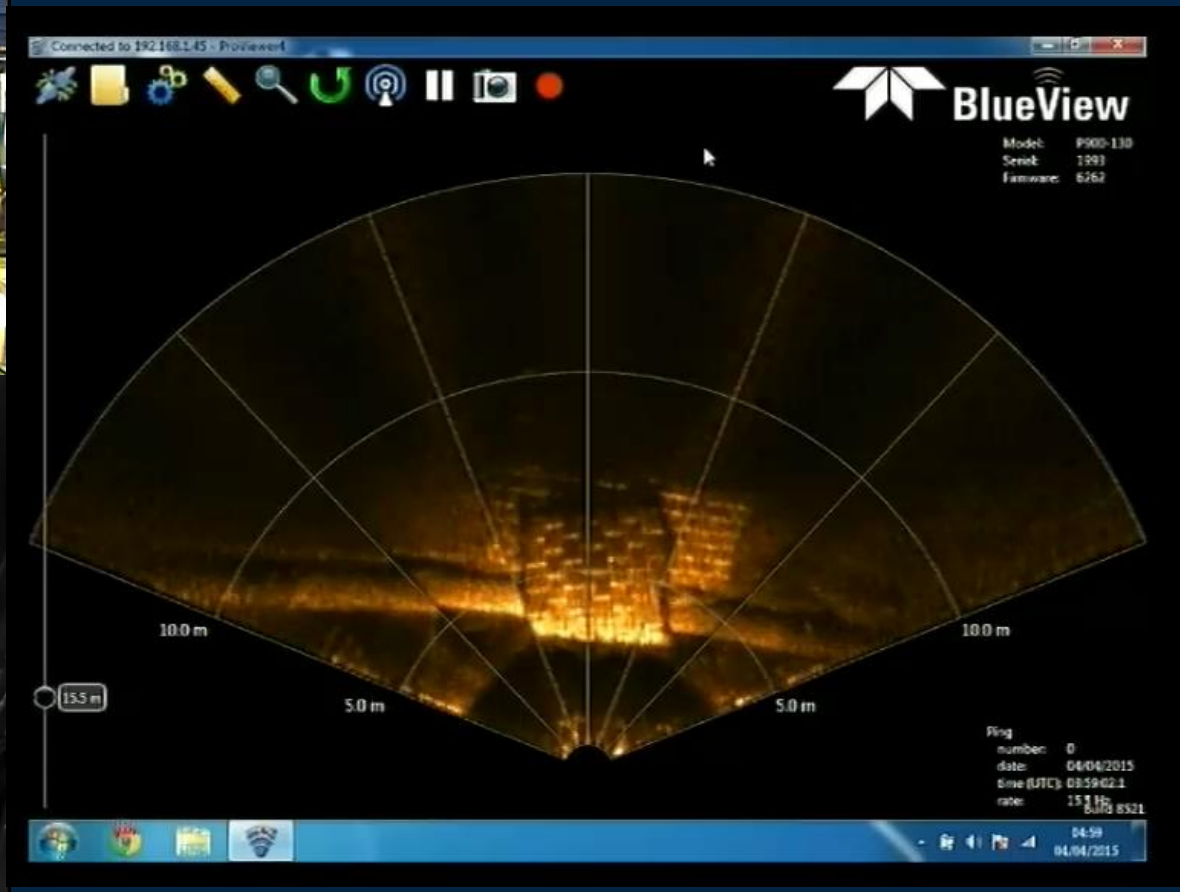
Horizontal drilling under the Curonian Spit

Cable pulling under the Curonian Lagoon

64 tons, 2 days from the delivery of the cable to the port to pulling under the Curonian Lagoon

Crossing with the Nord Stream gas pipeline

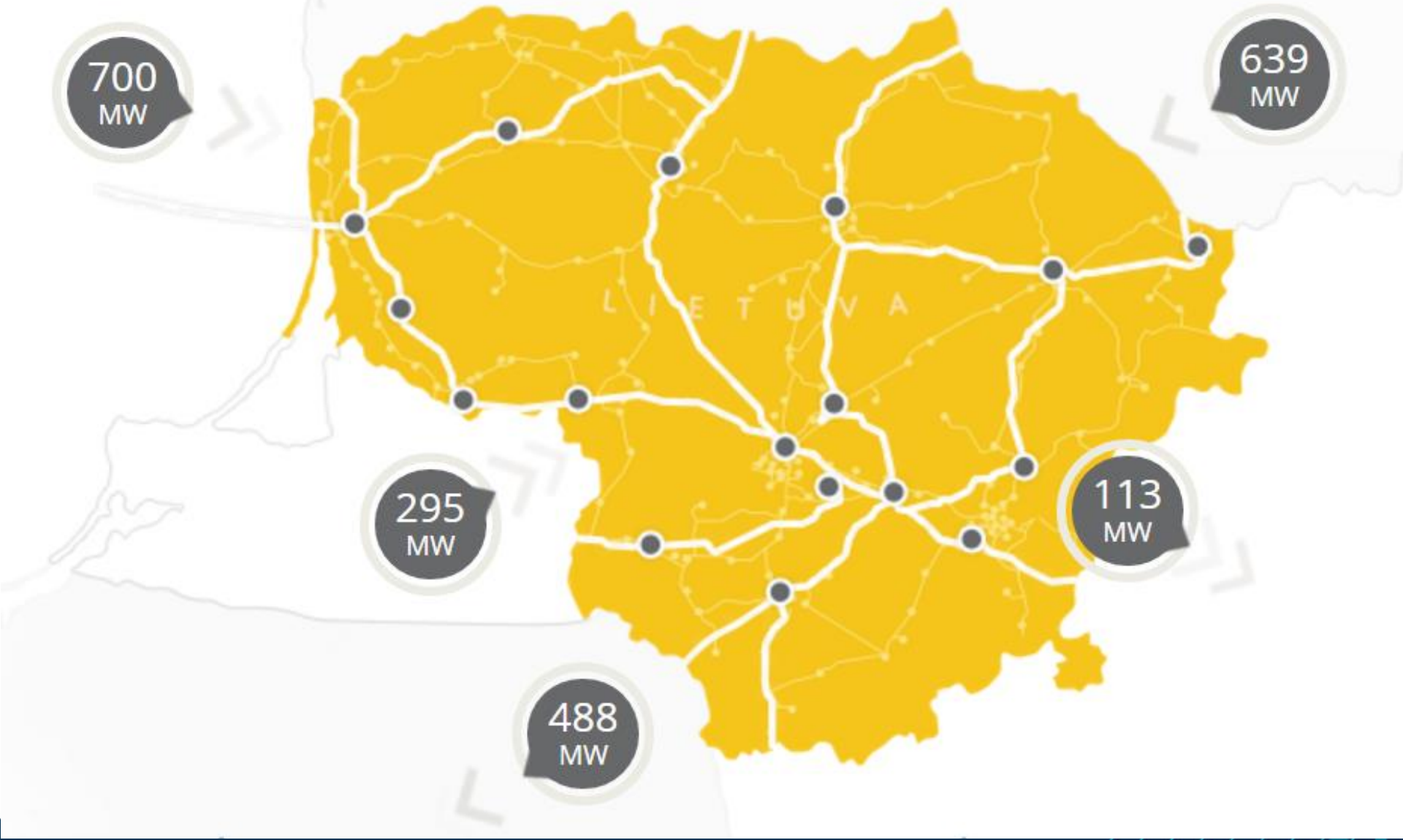
Concrete mattresses under and on the cable at a depth of 60 m



Filling of the sea cable with rubble

The symbolic links connection ceremony in the Grand Dukes Palace of Lithuania on 14 December 2015

A subsidiary of Litgrid has fully taken over the operation of the connections



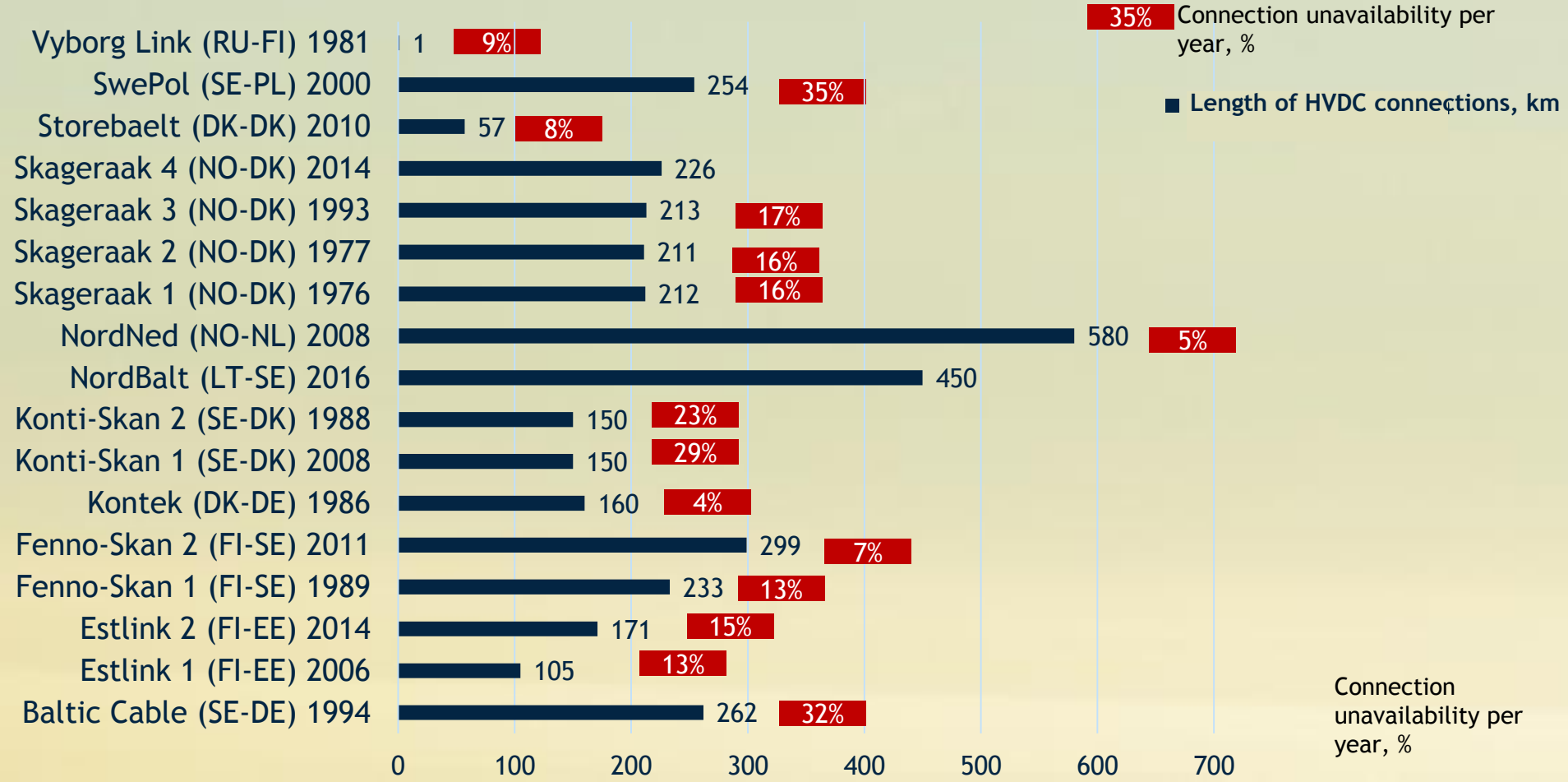
Electricity transmission never stops

HVDC connections disconnected 138 times in 2013

Electricity generators disconnected 67 times in Lithuania in 2014

24/7 electricity transmission to consumers is ensured by the Litgrid System Control Centre

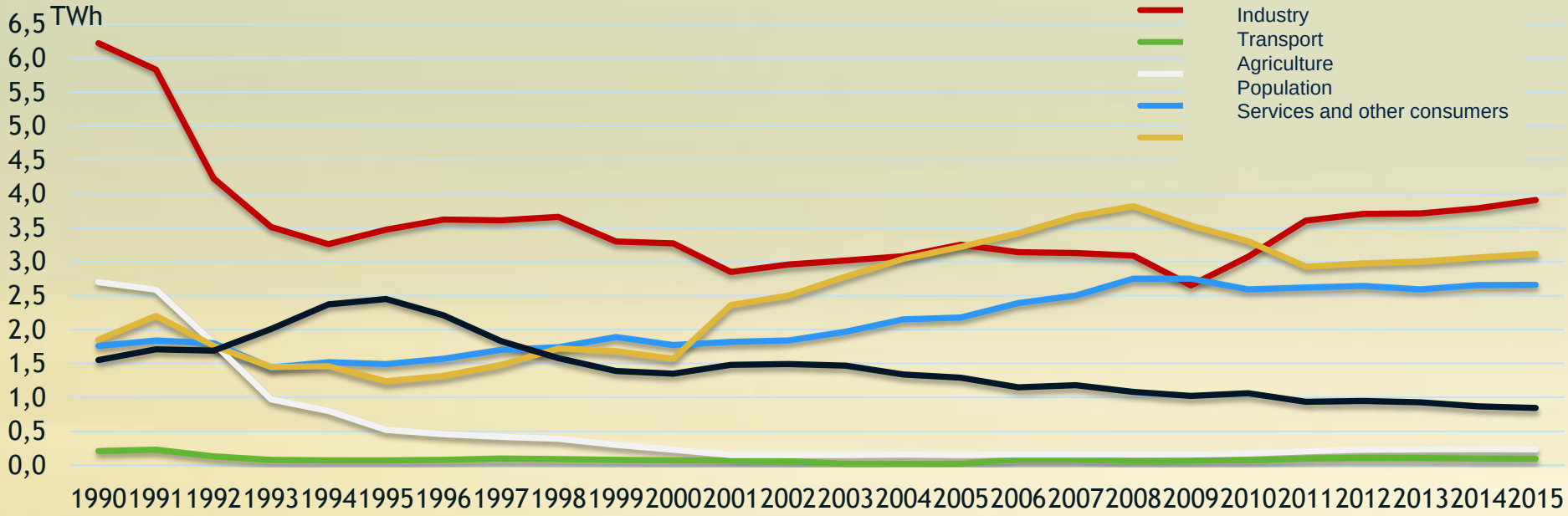
NordBalt – technologically complex and second-longest connection



Reliable and effective network

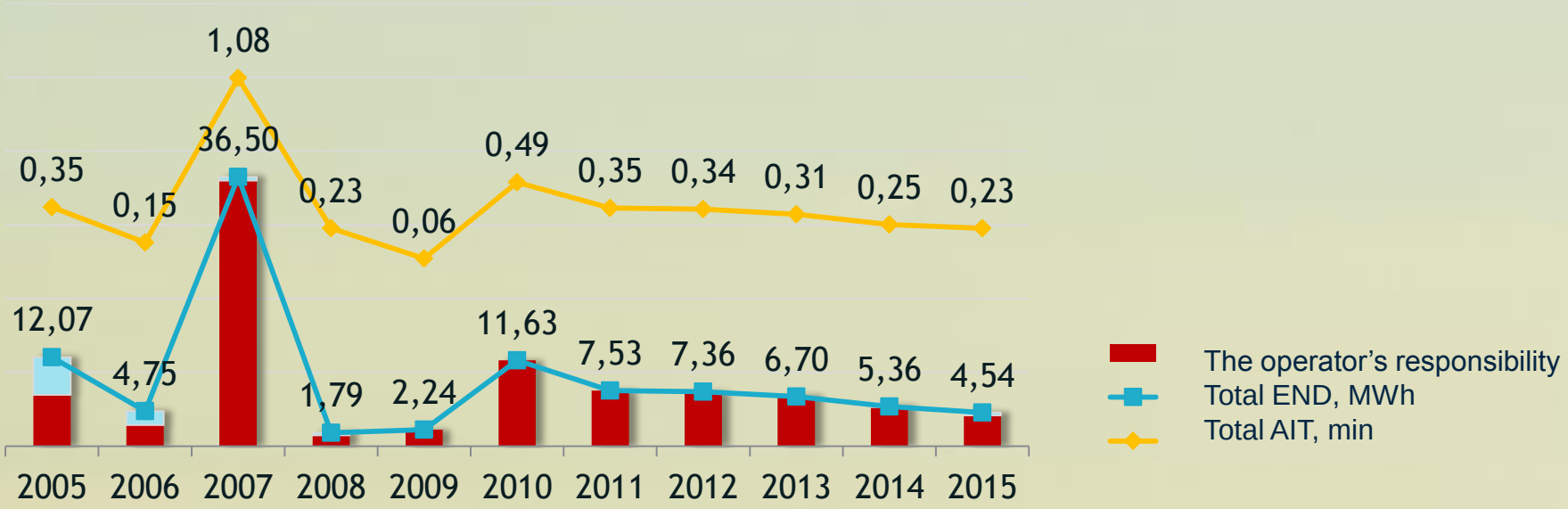
In 2015, demand for electricity increased 1.4%

- In 2015, 10.86 TWh of electricity was consumed in Lithuania
- Electricity consumption by industrial companies increased more by than 3%, while the needs of the service sector grew 1.8%
- Consumption by the population remained stable
- Almost 16% of the consumed electricity was produced from renewable energy sources.



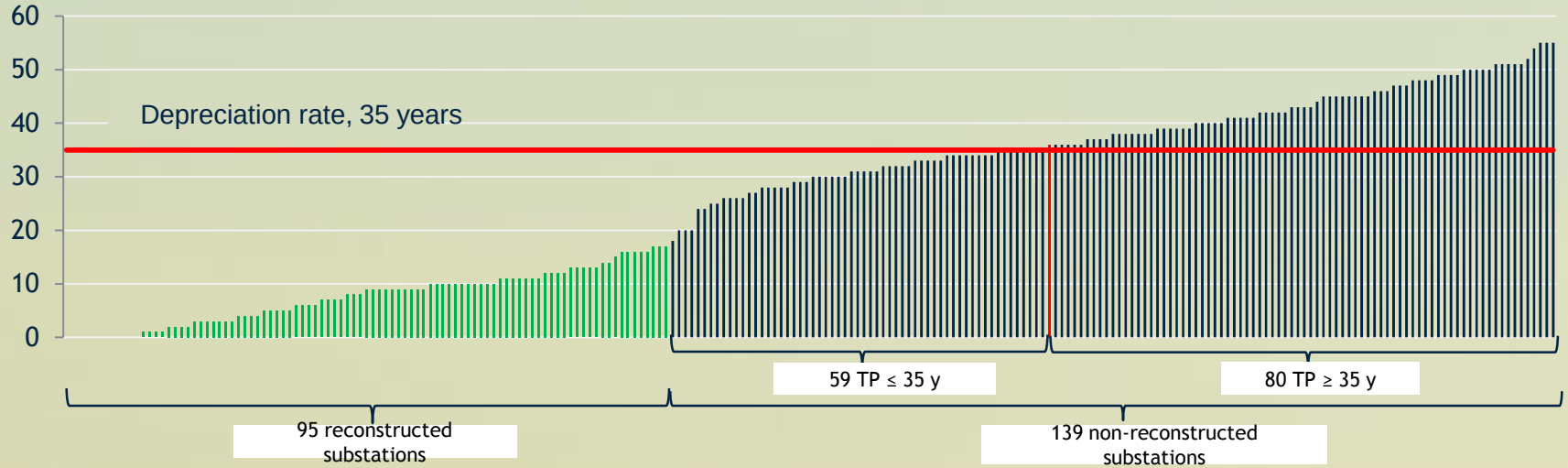
Best reliability indicators

2015 END = 4.5 MWh, AIT =0.23 min.



- The majority of disconnections is caused by natural conditions and other external causes
- A quarter of incidents is caused by the careless behaviour of people in overhead line protection areas

Facilities are reconstructed to maintain the reliability of the network



Substation operation time, years

- In 2015, 15 transformer substations were reconstructed
- Substations, lines, and other facilities age and naturally wear, so investments in the network facilities are continued with rather high intensity

Concern for smaller ones

- In 2015, a total of 6,000 special wire markers, stork protection devices, additional insulators were installed and 121 nesting-boxes for kestrels were mounted
- Works amounting to EUR 164,155 were performed
- A monitoring plan was drawn up in order to assess the impact of the newly constructed and operating lines – LitPol Link and Klaipėda-Telšiai

The sense of community and social responsibility

- The website www.elektrosistorija.lt, which is designed to provide, in simple terms, general knowledge on the members, a brief history and present time of the electricity system, currently operating power stations and assurance of electricity demand as well as key development aspects
- For four consecutive years, Litgrid employees plant forest trees on the occasion of the professional holiday of Power Engineer's Day
- During 2015, the company received 25 groups of visitors who were interested in the electricity system and the strategic interconnection projects and learned about the specifics of the work of energy professionals
- Attention to the activities of Litgrid from officials of various countries and experts and high-rank executives of international organisations brings Lithuania into an international focus

www.elektrosistorija.lt

Traditional forest planting

25 tour groups

Lithuanian and Swedish heads of states

Litgrid – the company with the strongest sense of community

Nasdaq award for the most prominent progress

Enhancement of the design and contract work quality and occupational safety

To enhance the safety of the work of contractor and customer specialists

To improve the quality of projects being implemented

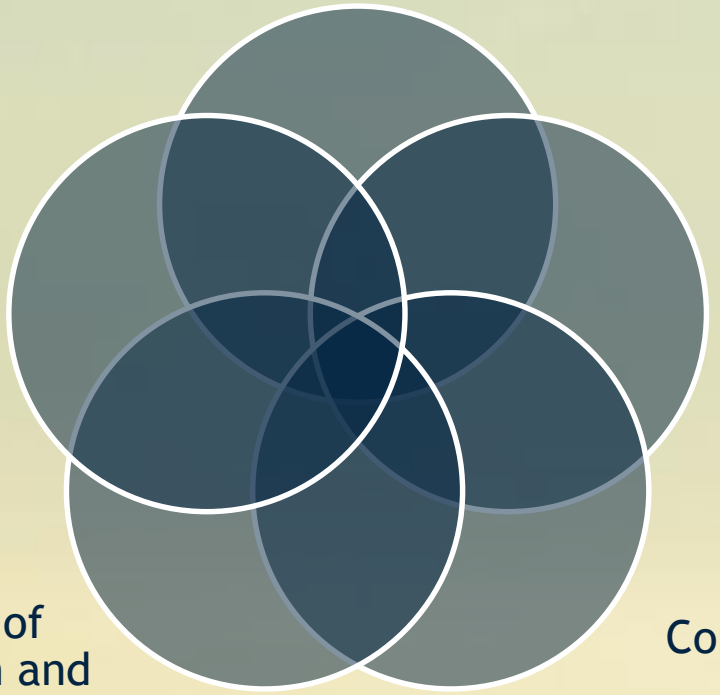
To manage risks more efficiently

To raise the quality standard for contract work

The expected result – better quality

High-quality and reliable expert examination of projects

The procurement of works is based on the principle of economic efficiency



Updated standard design and work contracts

The enhancement of technical supervision and occupational safety quality

Contract termination option

Financial results

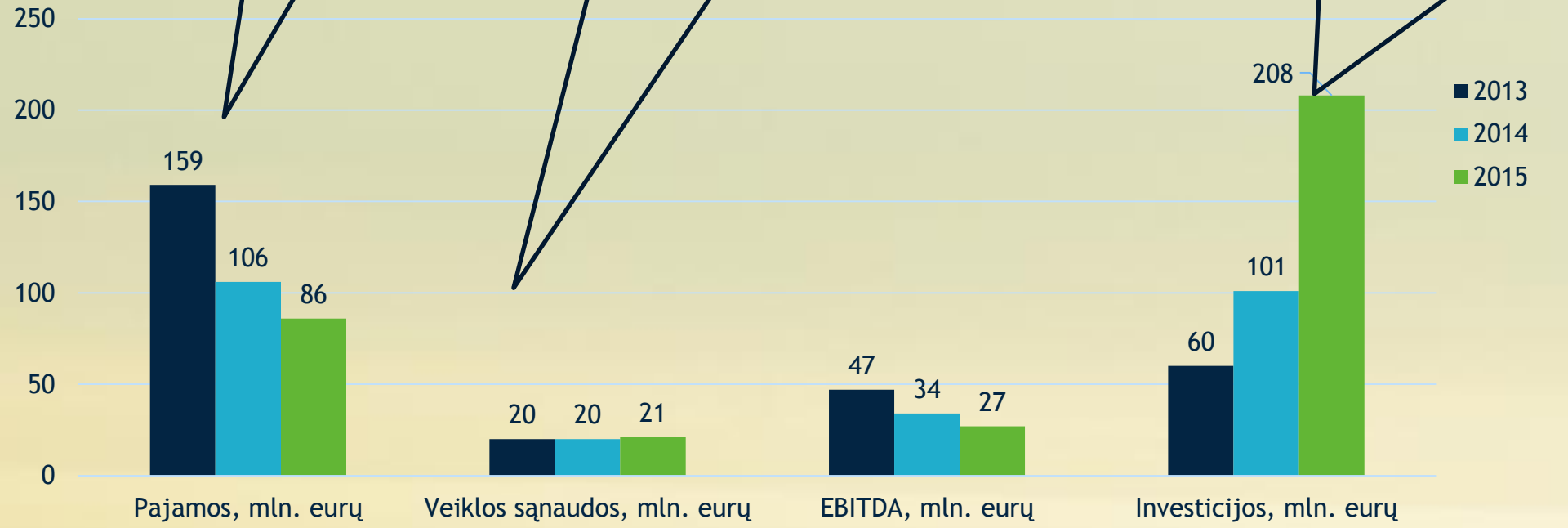
- Litgrid will pay EUR 0.0091 per share in dividends
- Lower costs due to more efficient operating costs and ITT management
- The asset value reduction after the asset evaluation performed in 2014 led to lower depreciation costs
- The subsidiary Tetas operated profitably and paid dividends in 2015

Key financial indicators

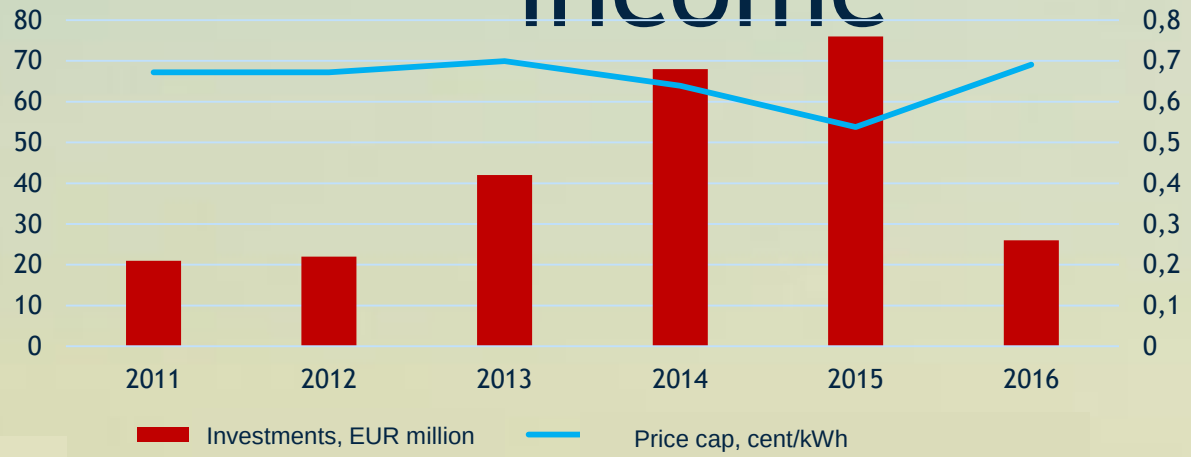
19% reduction in transmission tariff rate

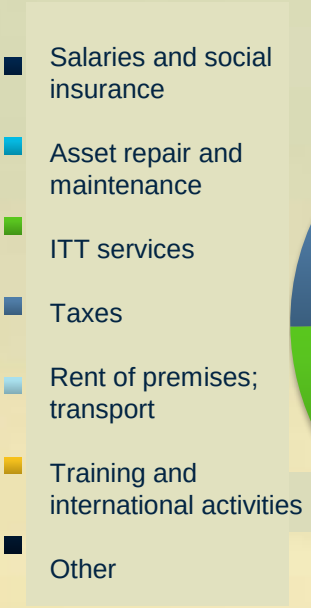
Without regard to the result of asset depreciation

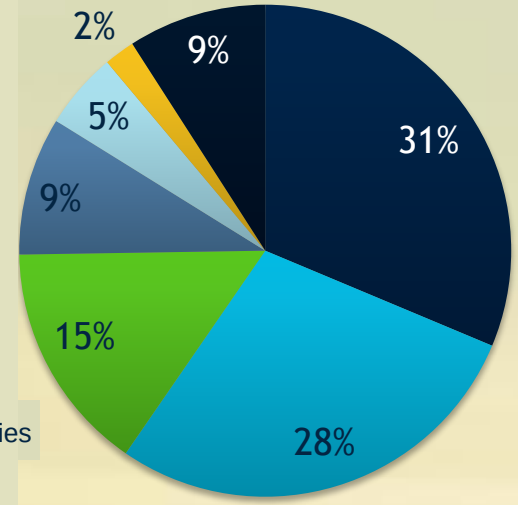
89% – for the implementation of strategic projects



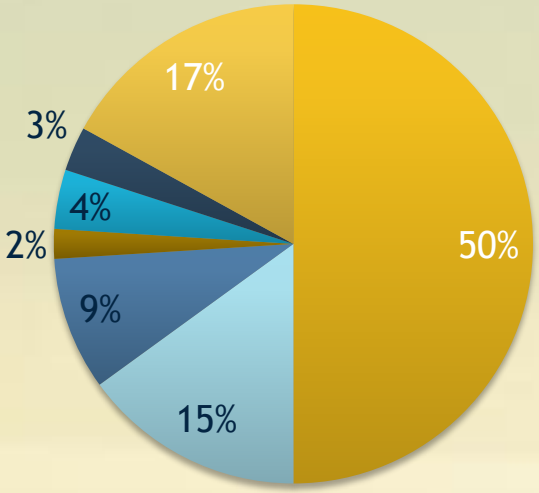
The reduced transmission tariff rate resulted in lower income

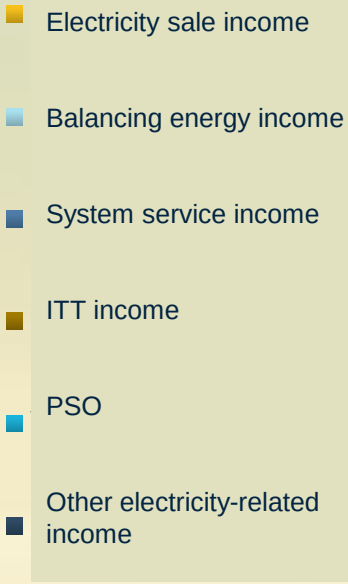






OPEX structure, 2015

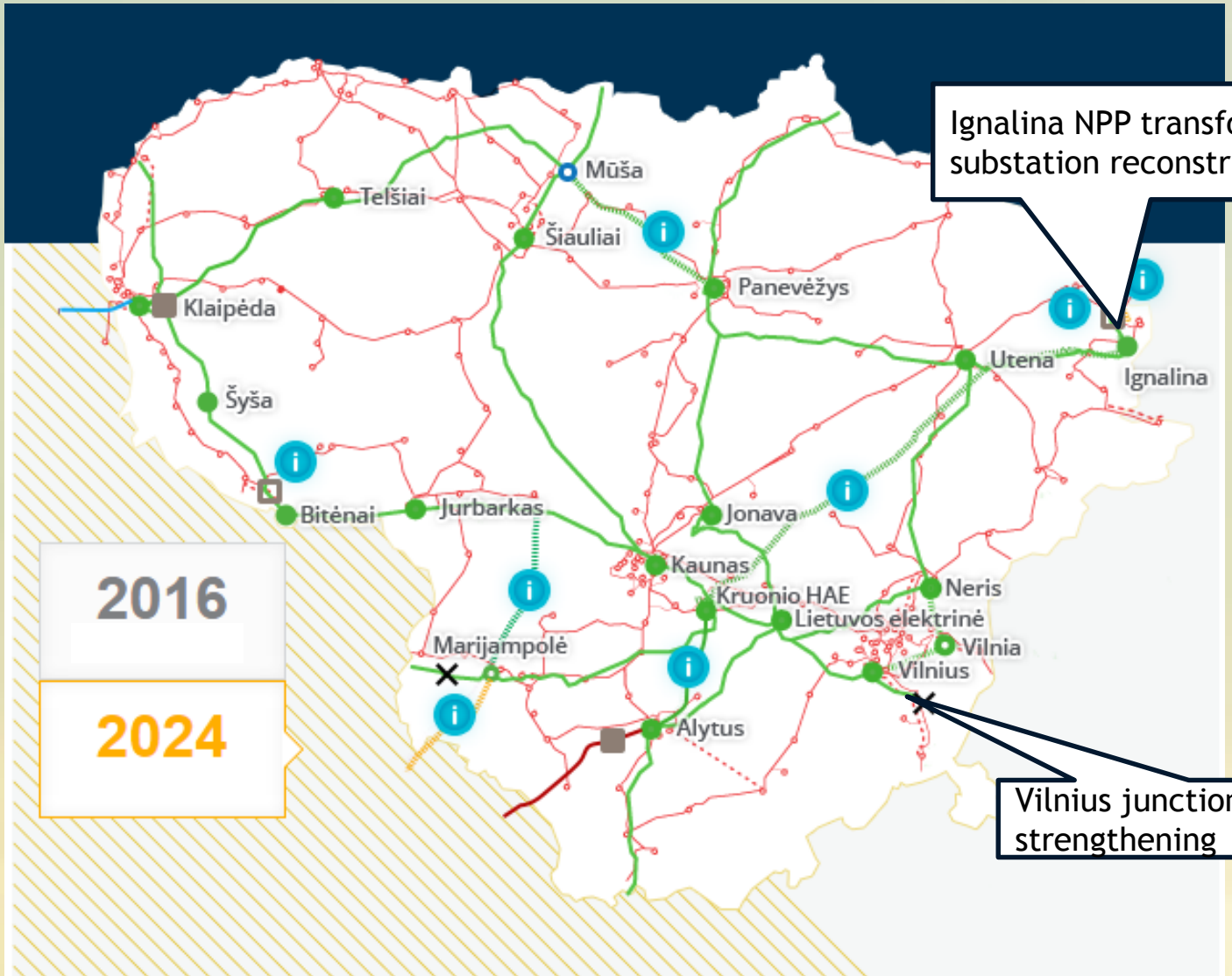




Income structure, 2015

Strategy continuity assurance

The network projects for synchronisation start this year



Reasons for Vilnius junction strengthening

Growing demand

- Today, the demand of Vilnius region accounts for one third of the national capacity demand

Decreasing production

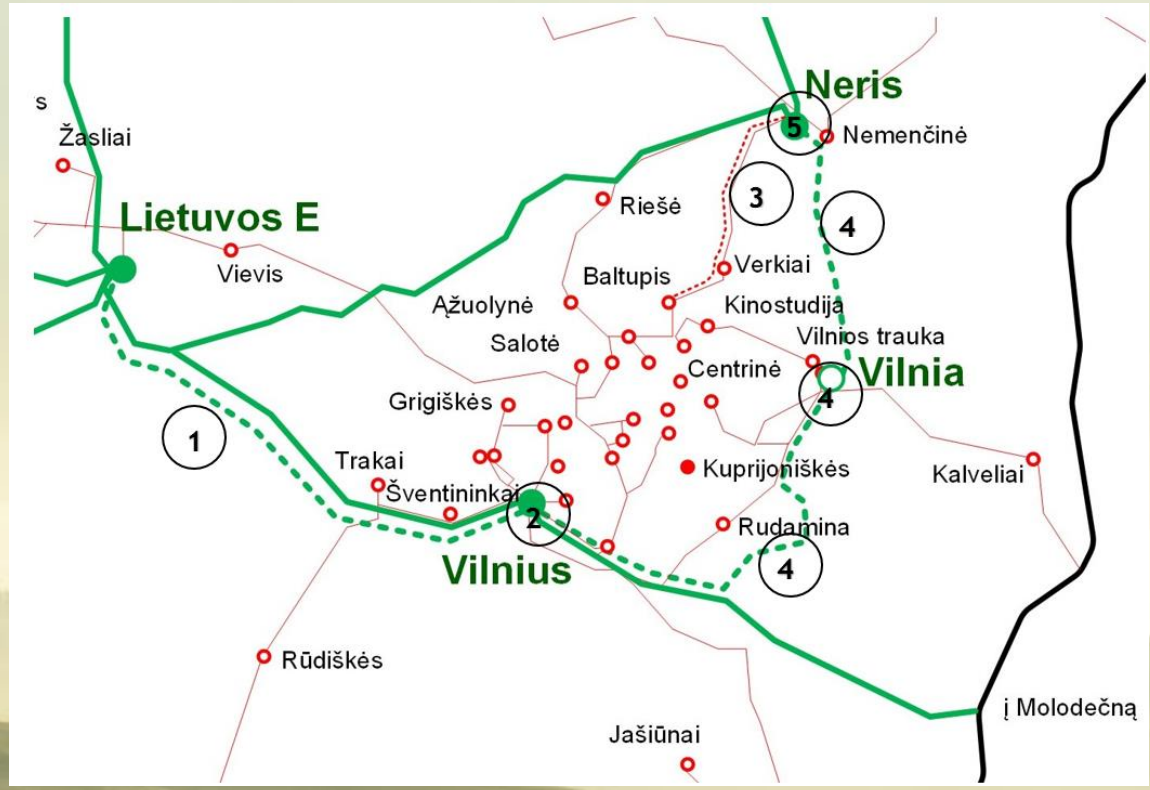
- Electricity production at Vilnius power plants decreases

Synchronisation

- The synchronisation of Lithuania's electricity system with CEN and de-synchronisation from IPS/UPS

Projects

1. The construction of the 330 kV electricity line Vilnius – Lithuania Power Plant
2. Vilnius transformer substation strengthening
3. The construction of the 110 kV electricity line Neris – Baltupis and reconstruction of the 110/10 kV Baltupis transformer substation
4. The construction of the 330 kV electricity line Vilnius – Vilnia – Neris (with installation of Vilnia transformer substation 330 kV switchyard)
5. The reconstruction of Neris transformer substation



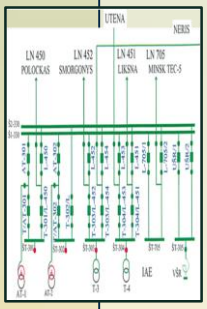
The reconstruction of INPP transformer substation

In operation since 1981

- The condition of the facilities is critical and requires major repair

For new customer connection

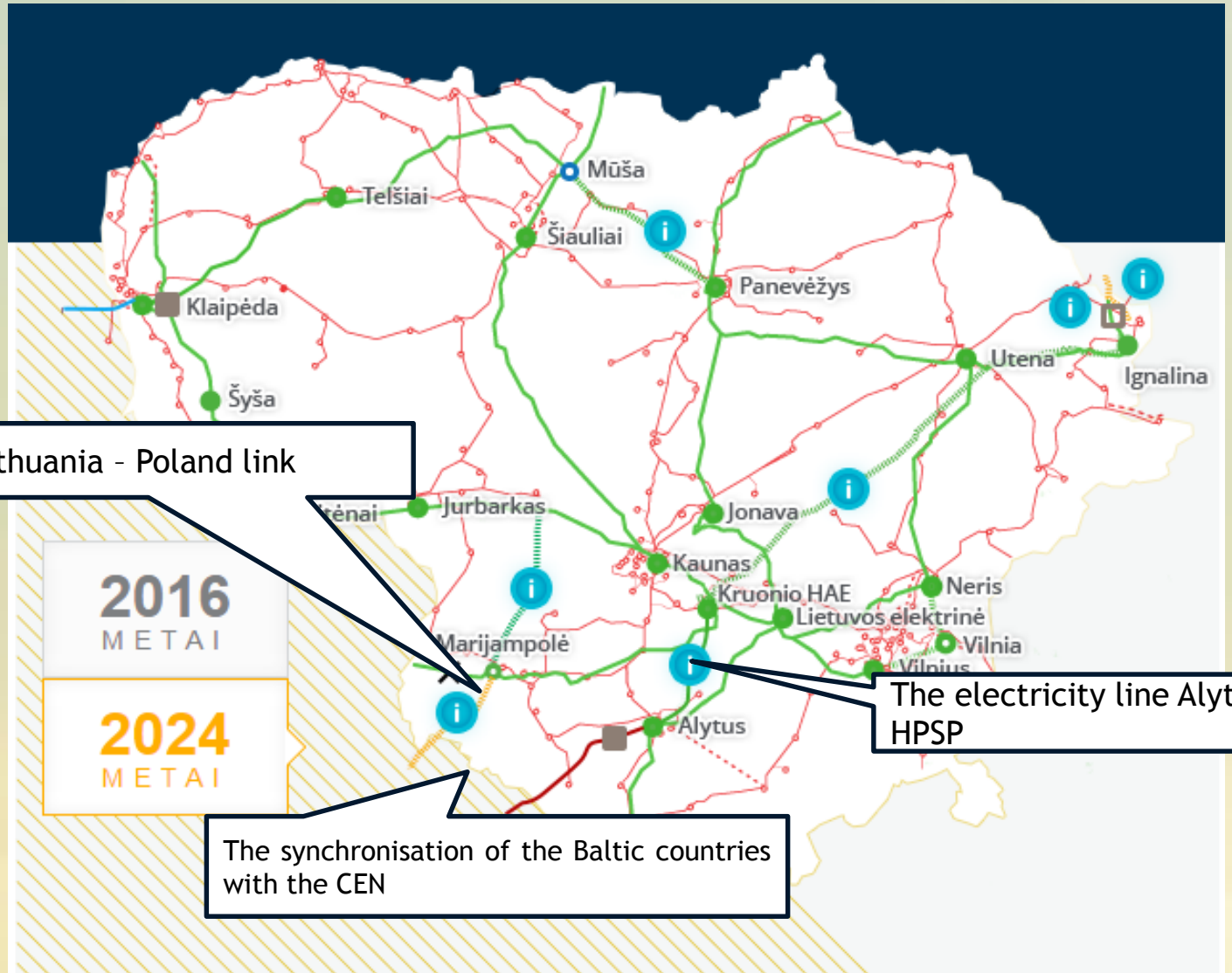
- The nuclear fuel storage will be connected here



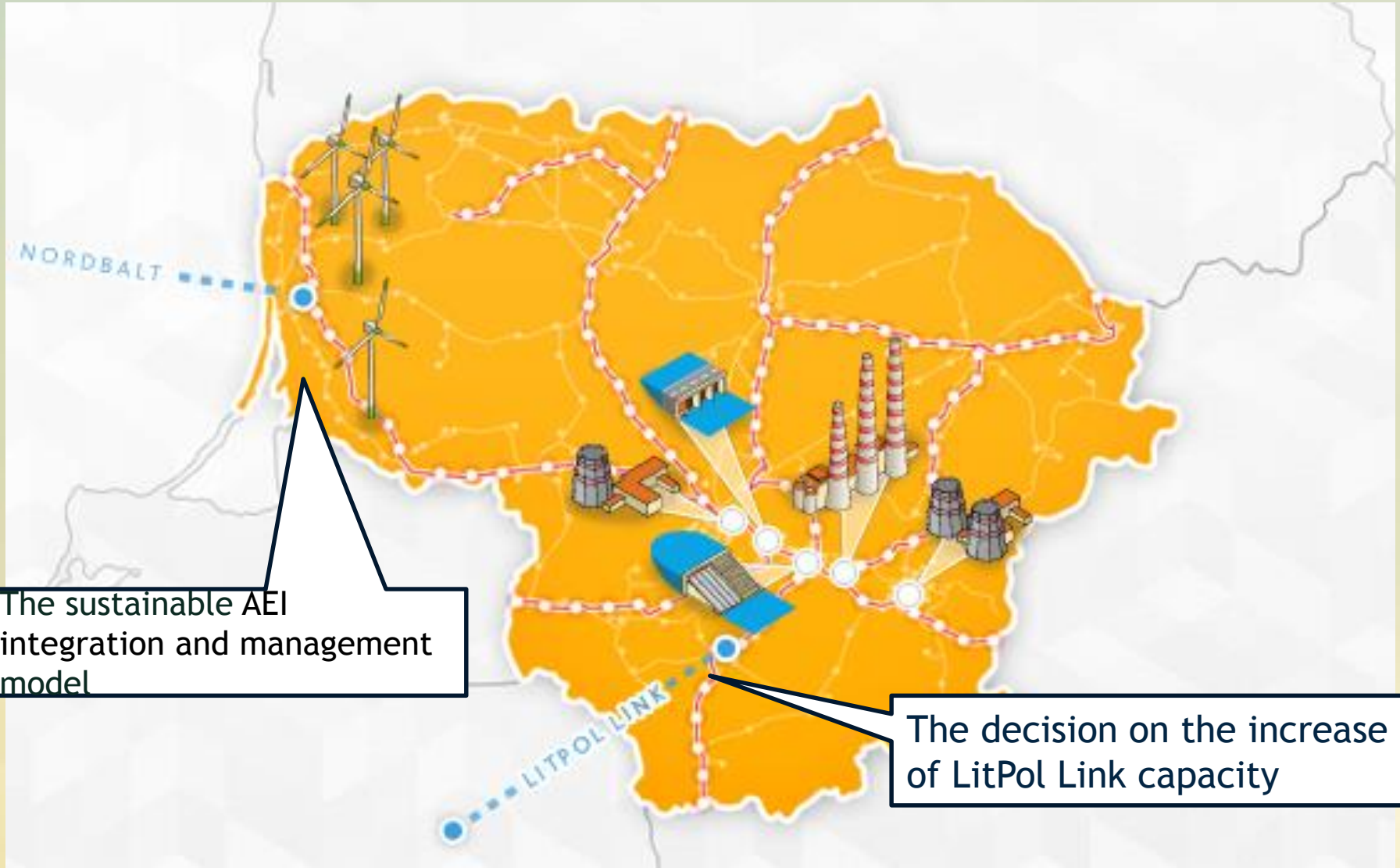
Strongly integrated with the Belarusian electricity system

- Non-adapted for the isolated operation of the Baltic countries and asynchronous operation of the Baltic electricity systems with IPS/UPS

The projects important to Lithuania are in the list of Europe's common interest projects

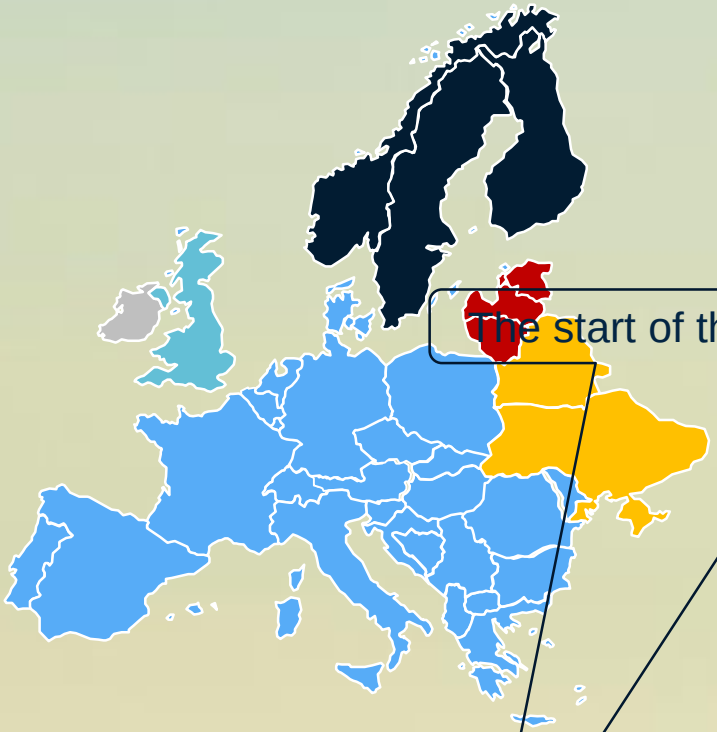


The optimal use of the network and links



The isolated operation test of the electricity systems of the Baltic countries

Isolated operation is an important step of preparation for synchronisation



The start of the dynamic and static stability study

The results of the study

The decision on the isolated operation test

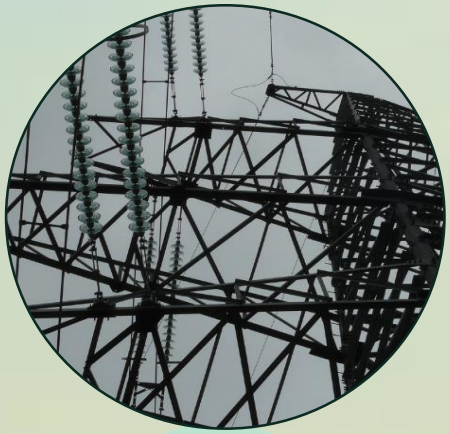
The isolated operation test

Preparation works and analysis

2016 Q2 Q4 2017 Q2 Q3 2018


The results we are proud of
were achieved by the team

- The average employee age – 42
- The average length of experience in the energy sector – 12 years
- The longest experience – 51 years
- 74% of the staff – men; 26% – women
- 50% of the staff are graduates of KTU
- 8 doctors of science work in Litgrid
- By successfully implementing unique energy projects of European significance, we accumulate exclusive competences



Experience of unique projects

Mentoring programme

5,089 training hours

235 professionals' team

Reports at 5 international conferences

19 internship places for students

25 tours for interested visitors

43 specialised conferences

The issues of the electricity market, links and generation development remain relevant

Per year, ~€ 90 lower costs on electricity

The second link with Poland

The development of flexible and effective generation in the region

The second link with Sweden

The regional discussion on energy strategies


Lithuania – the region’s energy competence centre

BALTIC-NORDIC ENERGY STRATEGY 2016-2026

Baltic power conference 2016
Regional integration: a hub of opportunities

Since 2016 the electricity systems of all Baltic Sea region have been connected by power interconnectors. On 1 June 2016 those in charge of energy strategies in the countries of the region will gather in Vilnius to discuss the opportunities and synergies brought by the integration.
The conference is arranged by ENTSO-E, European Network of Transmission System Operators for electricity, and the transmission system operators of Estonia, Denmark, Finland, Latvia, Lithuania, Norway, Poland, and Sweden.

PROGRAMME

9:10 - 9:30	**The Energy Union from promise to practice in the Baltic region**
9:30 - 10:40	**Energy strategies around the Baltic Sea: velectricity and networks** Regiono šalių energetikos strategijų apžvalga
10:40 - 11:10	**Coffee**
11:10 - 12:30	**Strengthening Regional cooperation** Round table discussion with transmission system operators from Estonia, Denmark, Finland, Latvia, Lithuania, Poland, and Sweden.
12:30 - 13:30	**Lunch**
13:30 - 14:45	**TYNDP: what is in for the Baltic region. Baltic synchronization options. Summer Outlook and Winter Review on system adequacy and security of supply**
14:45 - 15:15	**Coffee**
15:15 - 16:45	**Market design :** what is next for the Baltic-Nordic power market

The venue of the event is at Merchants Club (Gedimino av. 35, Vilnius). Advance registration is required. There's no participation fee. The registration until 22 May at litgrid@litgrid.eu.

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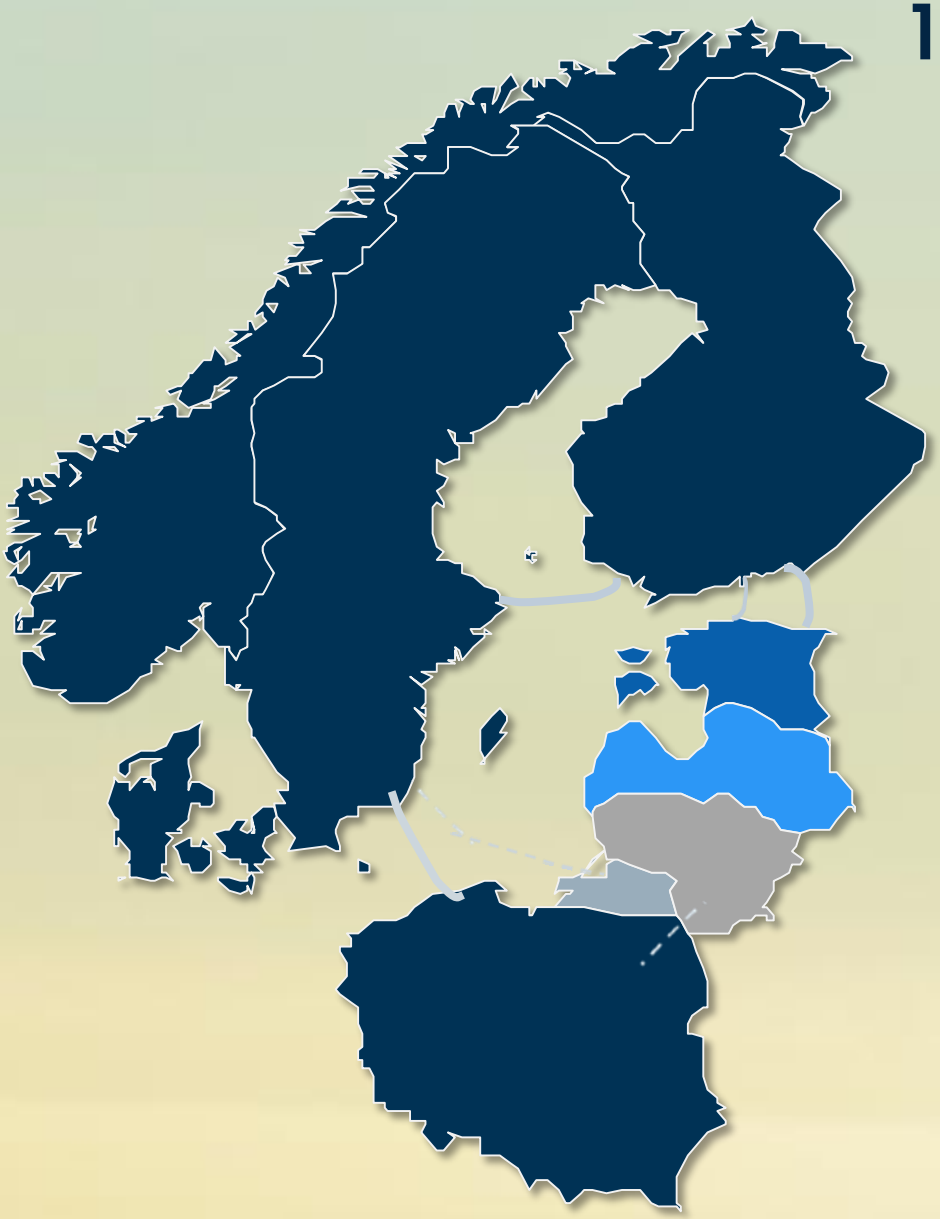
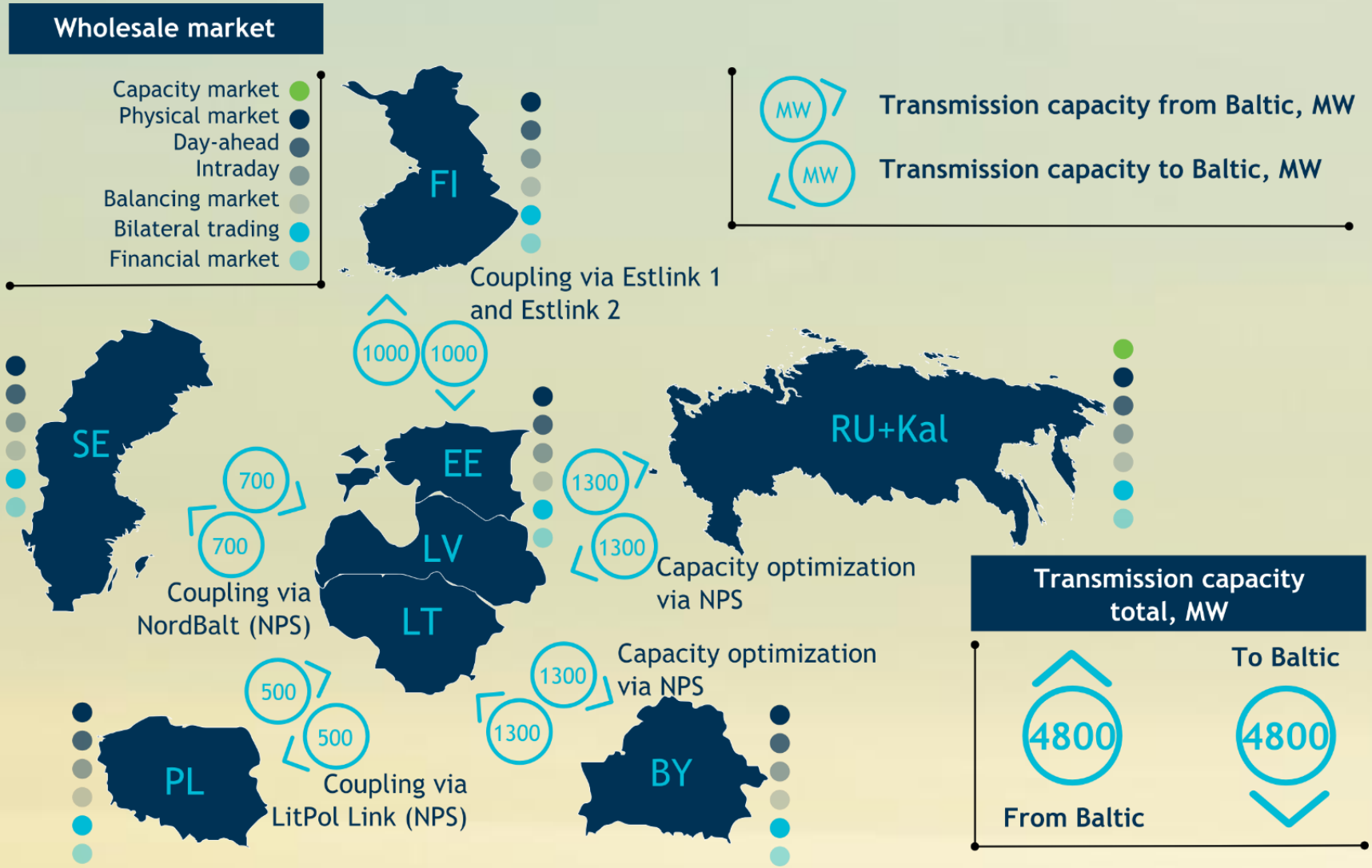
Until 2016, Lithuania is the EU's energy island



- 12 electricity links with Latvia, Russia, and Belarus
- Estlink 1 and 2 are the only electricity links with the Northern Europe
- From 2010, the biggest electricity importer among the energy systems in Europe
- No power connection with the Western Europe

Today, Lithuania is the crossroad of power flows




Empowering the growth of
Lithuania