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THE BALTIC SEA POWER RING CONNECTED: A GLANCE AT NORDBALT AND LITPOL LINK TODAY AND OUTLOOK FOR TOMORROW

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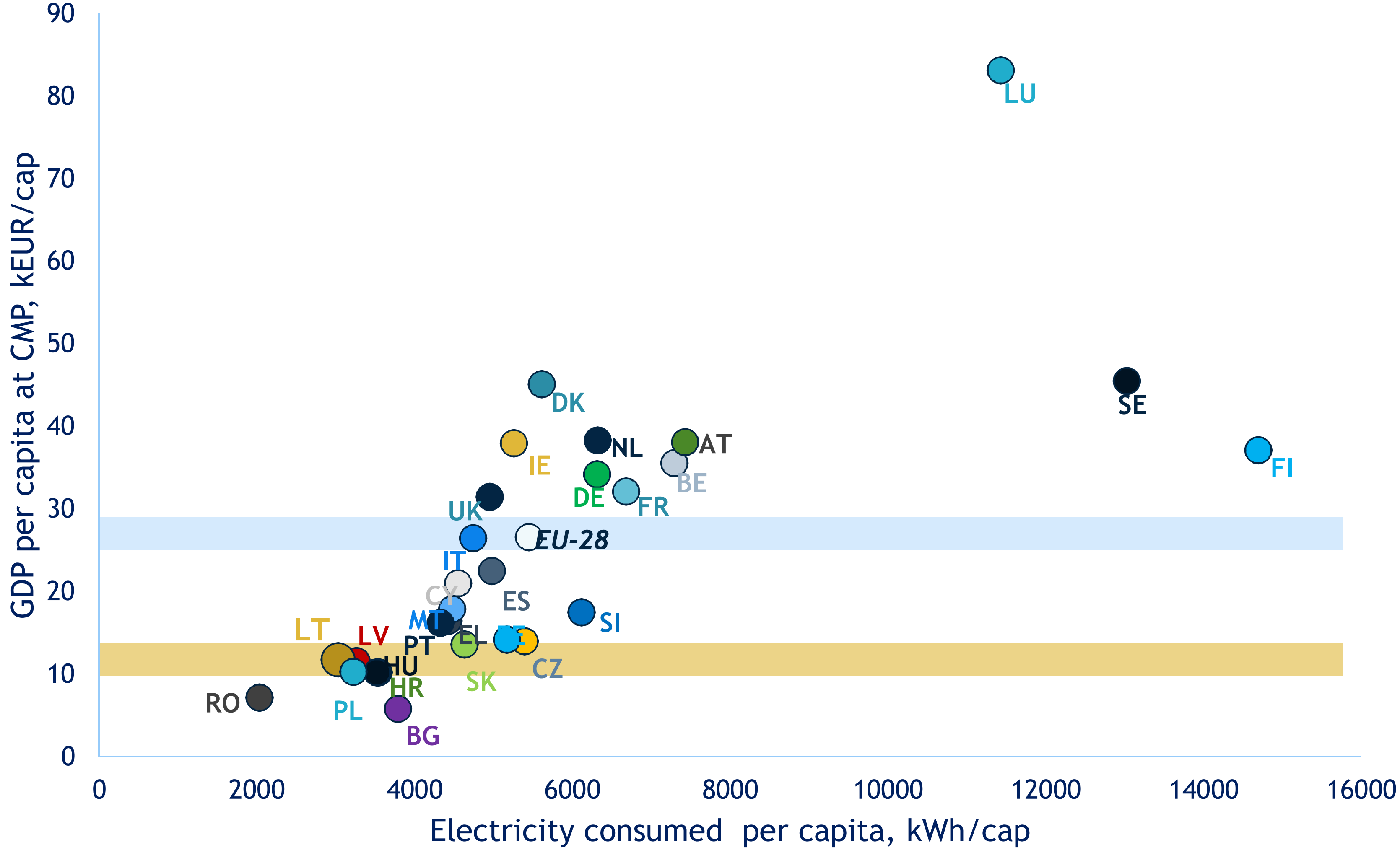
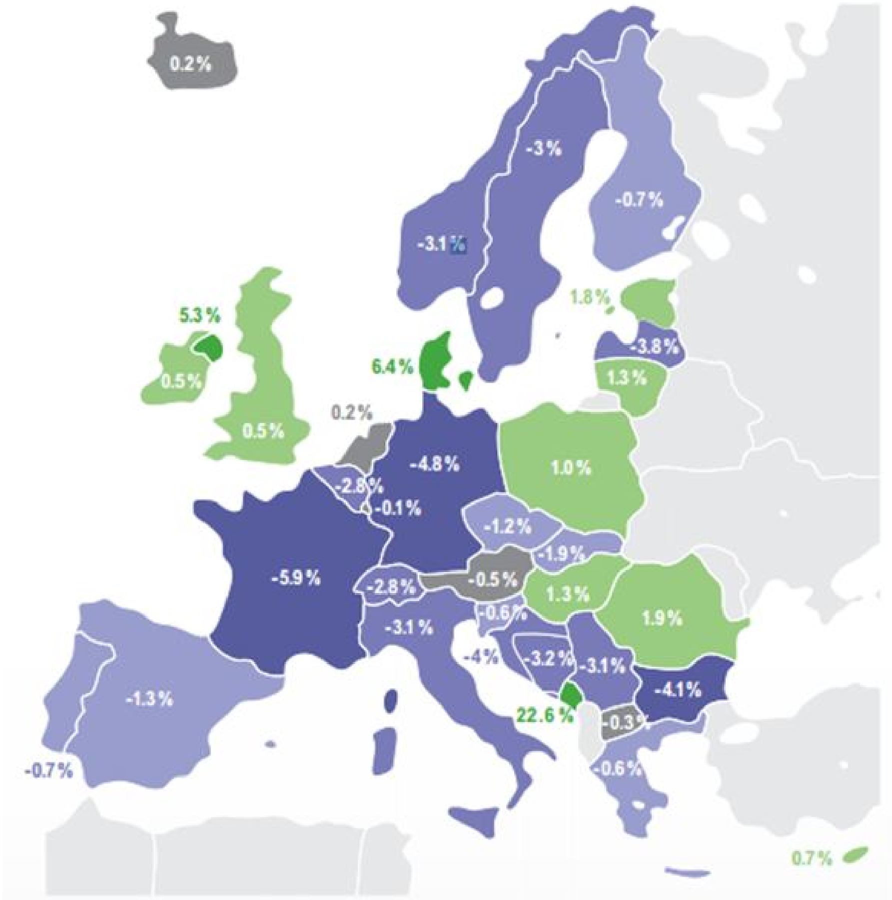
Electricity consumption reflects the level of economy and GDP

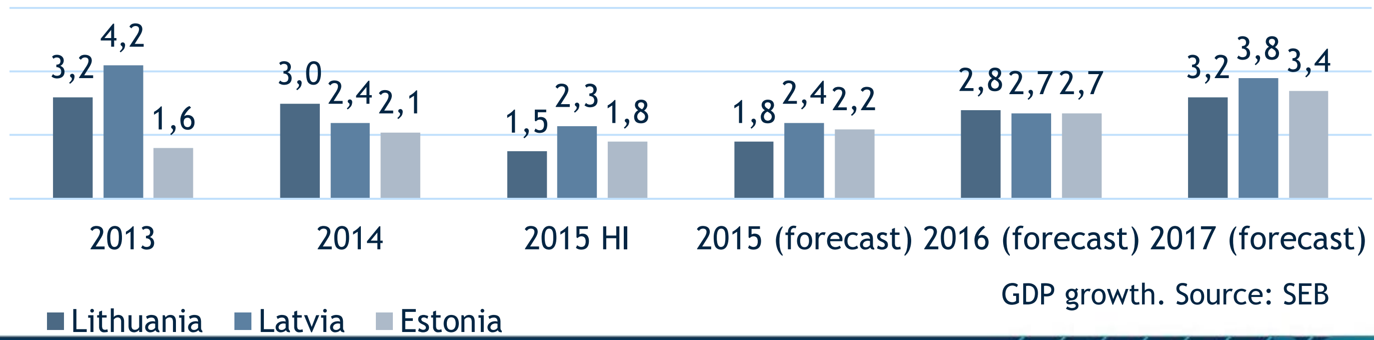


Source: European Commission 2013

- Power consumption in Europe is growing in Lithuania, Latvia and Estonia
- The forecasts indicate the Baltic economies will grow
- Are we ready?



Electricity consumption dynamics in Europe 2014. Source: ENTSO-E



GDP growth. Source: SEB

BALTIC AND NEIGHBOURING POWER MARKETS STRUCTURE

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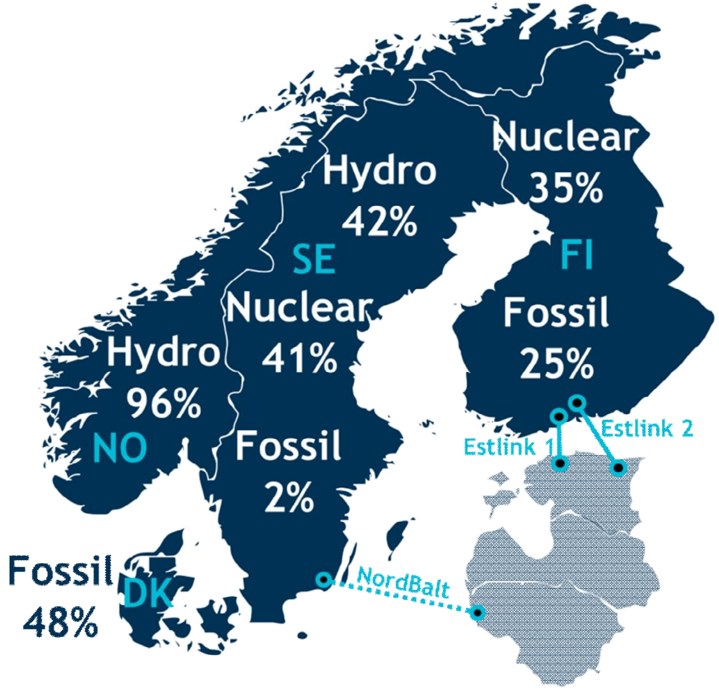
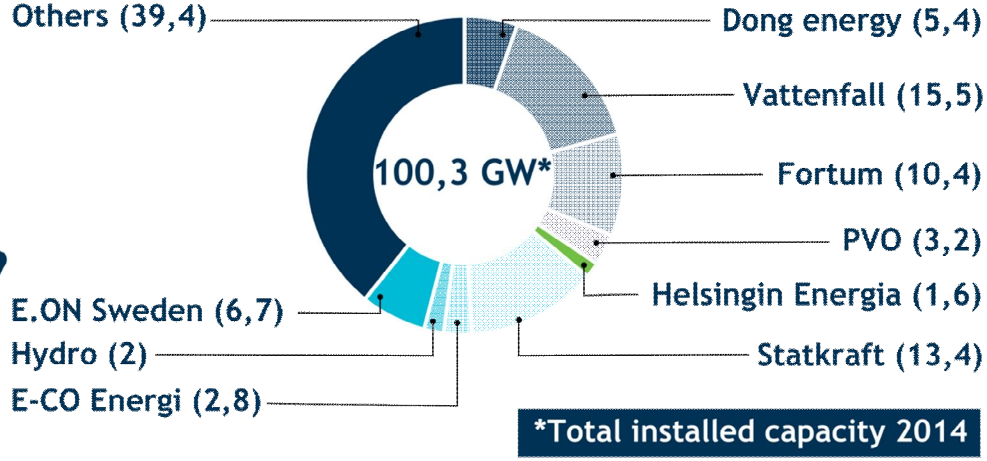
Nordic electricity market

Generation mix 2014



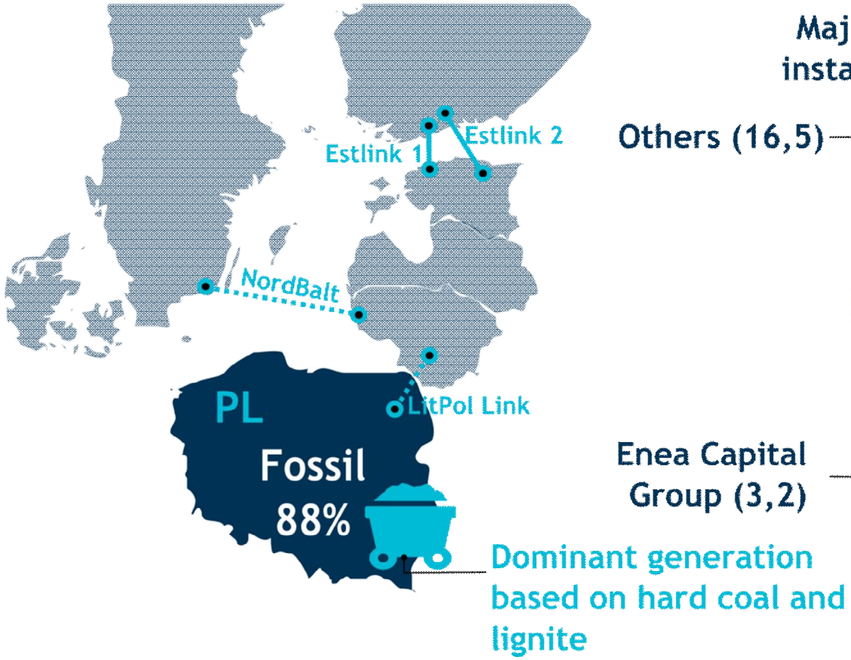
Major electricity producers by installed capacity, GW



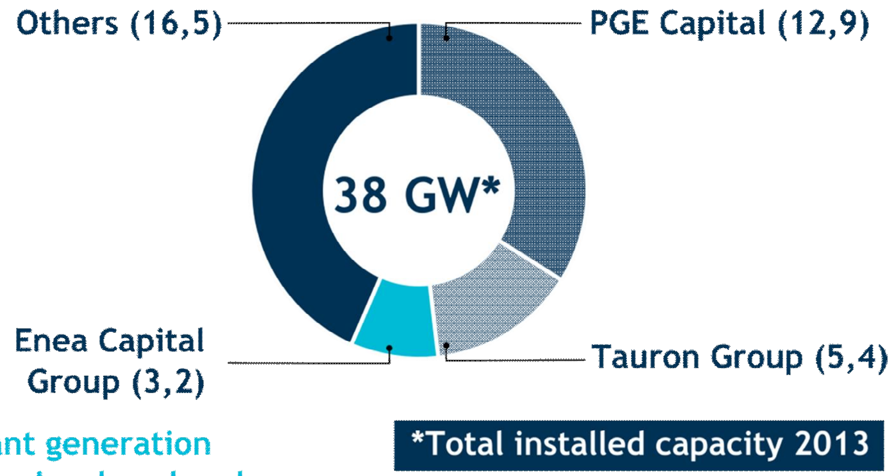
- From 2016 the new 700 MW HVDC connection will increase the availability of Nordic market to the Baltic by 70% - this will become a common Nordic-Baltic market

Polish electricity market

Generation mix 2014

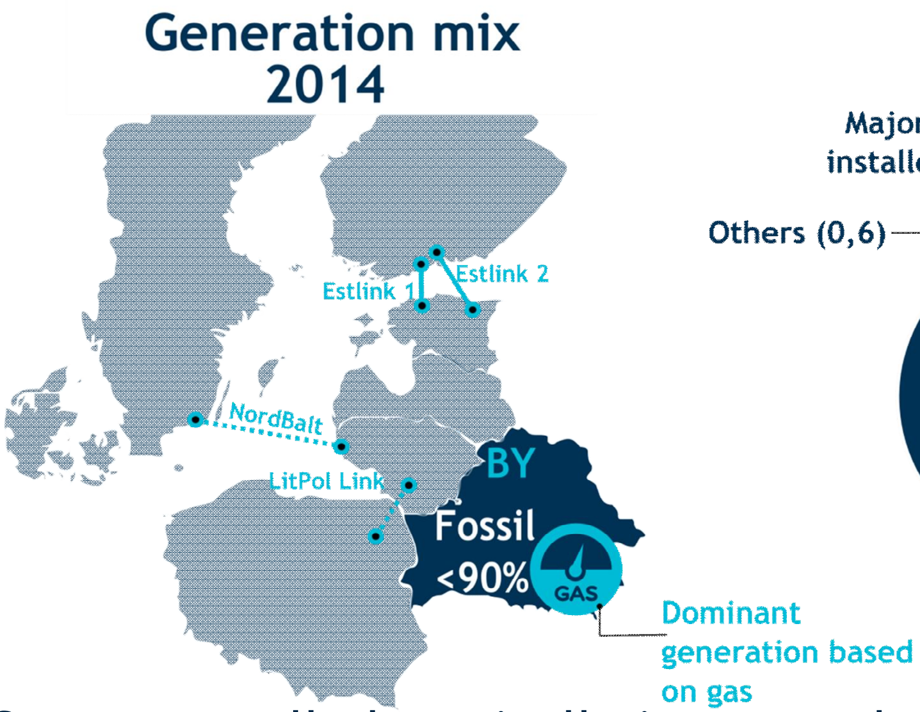


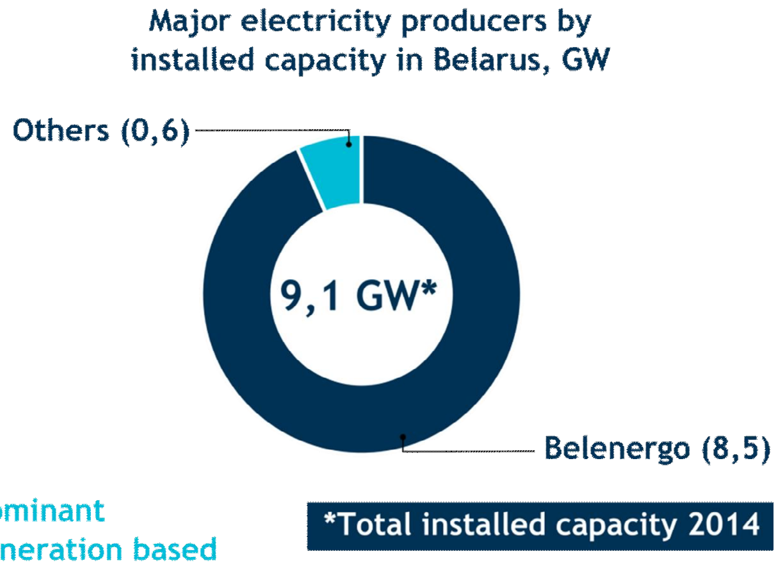
Major electricity producers by installed capacity in Poland, GW



- Carbon price is the key driver of the Polish energy sector development
- From 2016 the Polish market will be available to the Baltic via new up to 500 MW power interconnector

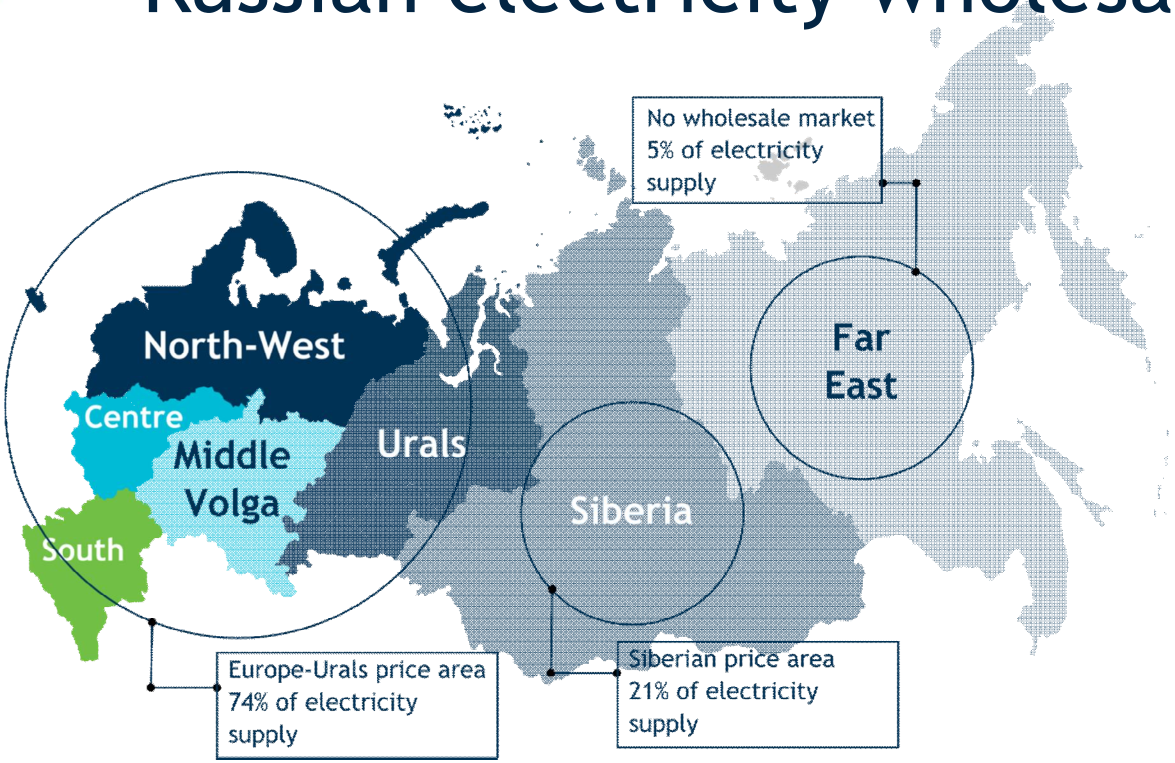
Belarussian electricity market

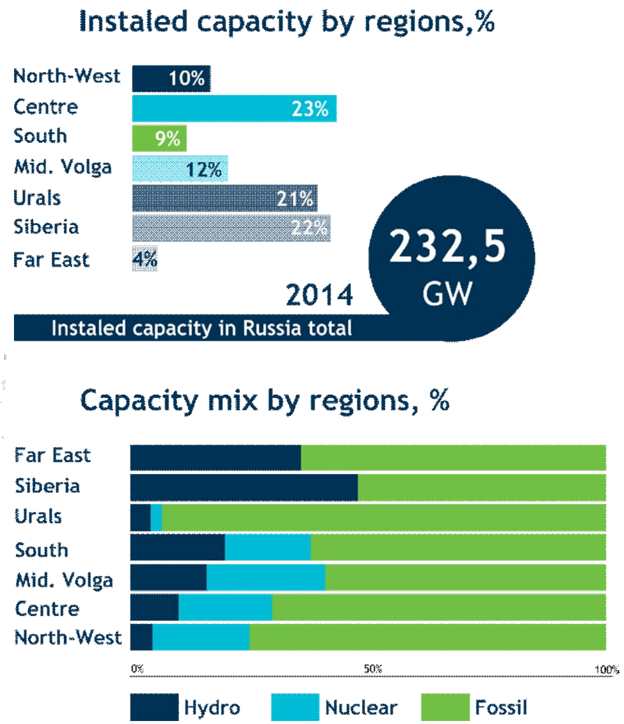




- State-controlled vertically integrated monopoly run by Belenergo
- Transit only from Russia to the Baltic market, no electricity export from Belenergo
- Total import from Russia to Baltic via Belarus – 1,7 TWh in 2014

Russian electricity wholesale market

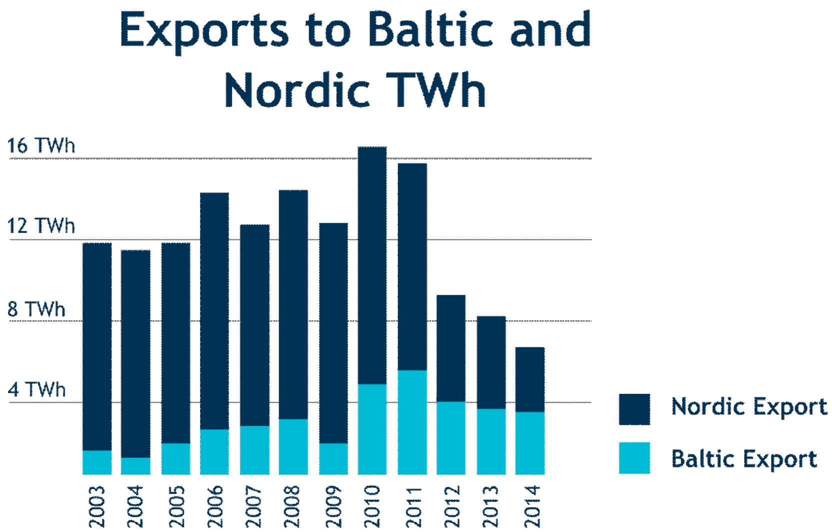


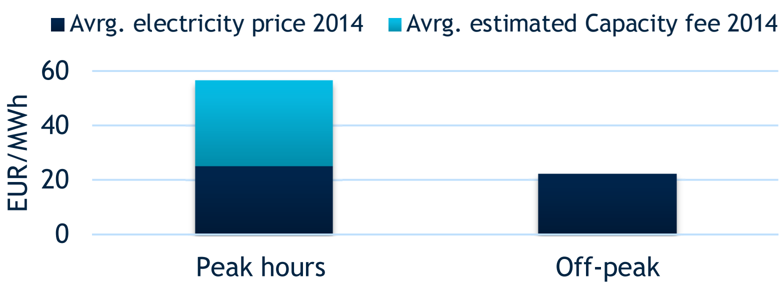


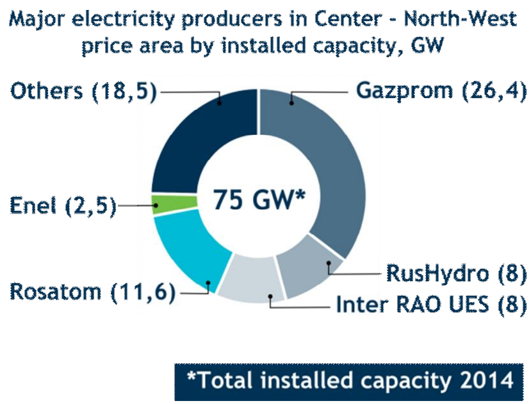
UES – United Energy System

- Nordic and Baltic countries are directly influenced by North-West and Centre regions, dominated by fossil (58%) and nuclear (38%) power generation and counting for 1/3 of total Russian UES capacity, production and consumption

Russian electricity wholesale market



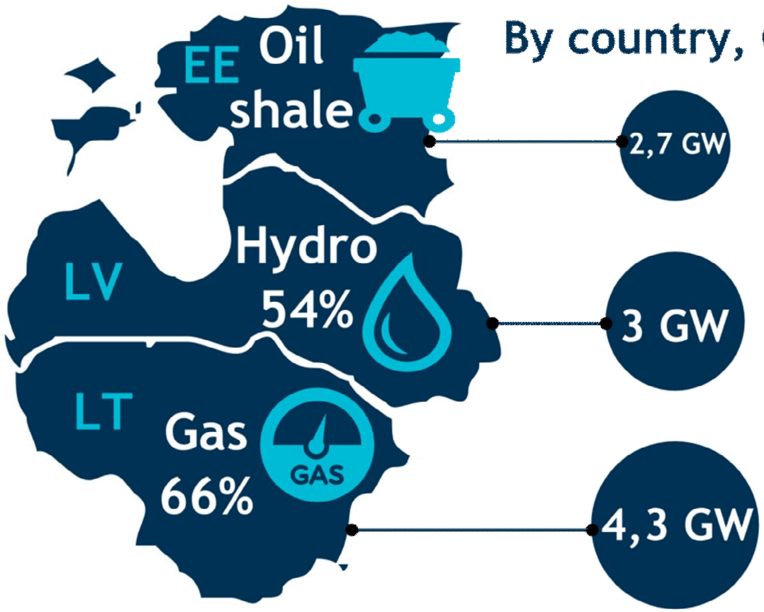




- The Baltic-Russian cross-border capacities allocation is managed by Nord Pool Spot using the capacity optimization method
- Inter RAO UES is the only market license holder. No changes foreseen

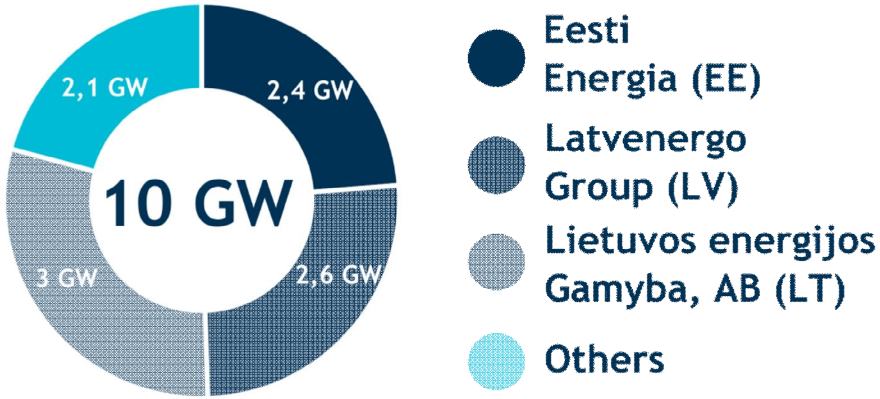
Installed capacity Baltic, 2014

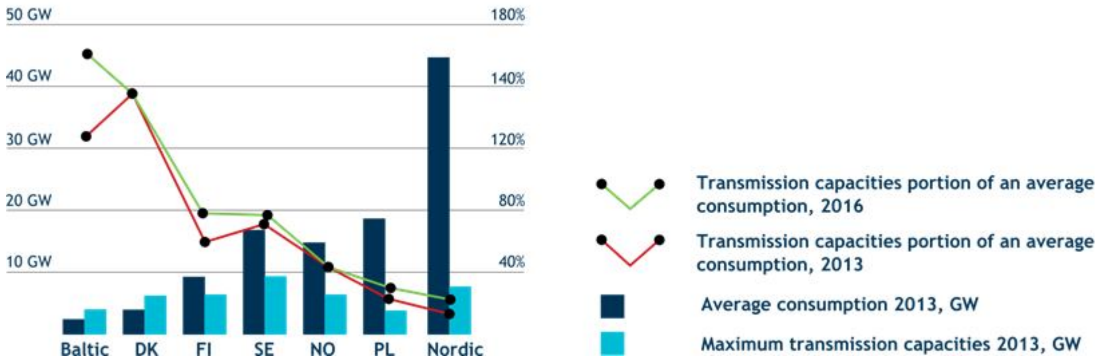
By country, GW



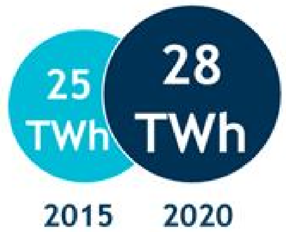
Total, GW

Major producers

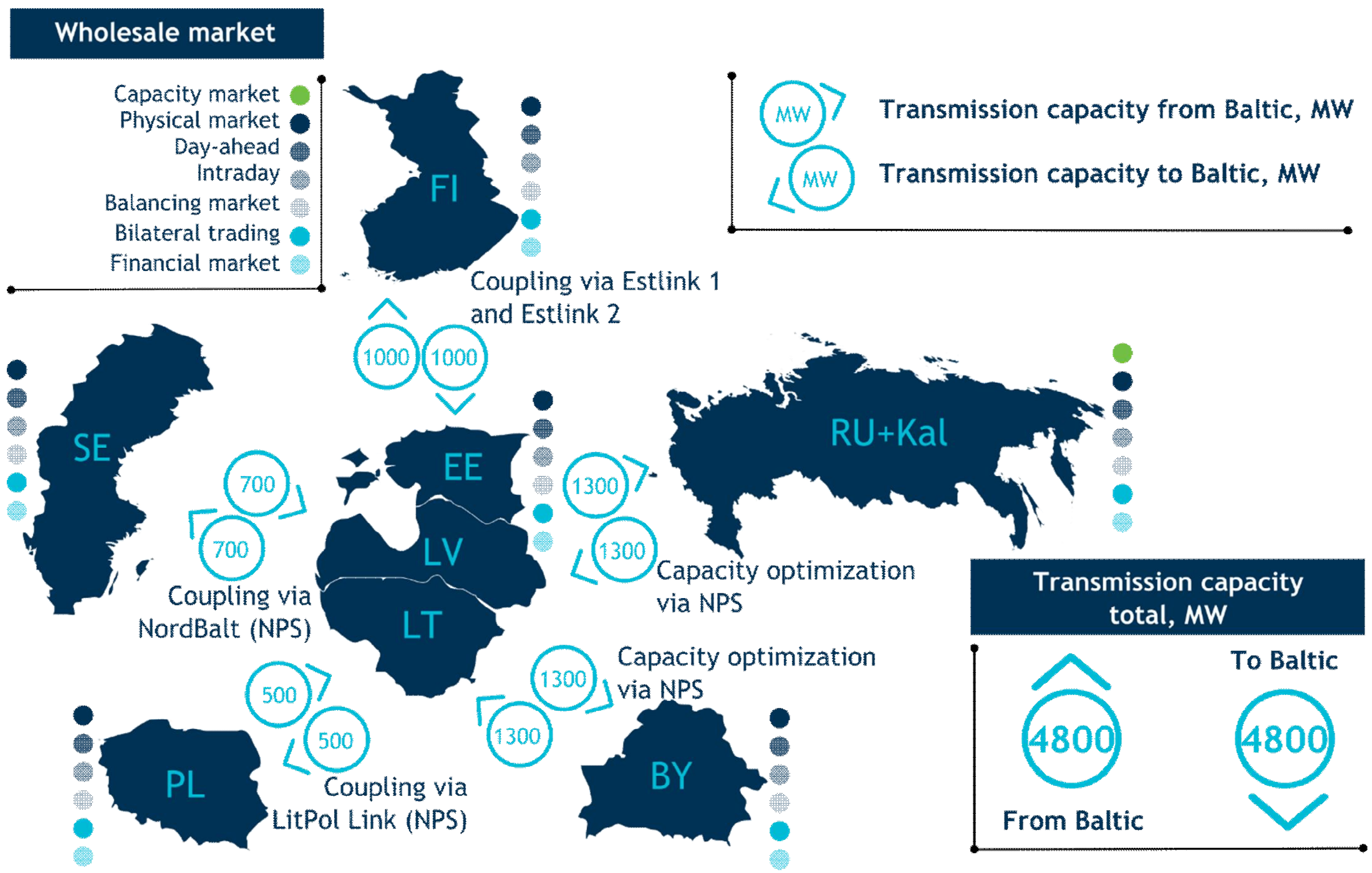




Expected annual consumption in Baltic



Impact of new interconnections



- Lithuania will become a hub for energy flows among the Nordic, Baltic, West European and Russian electricity markets - 7 market products available to traders from Vilnius

- The Baltic becomes integral part of the Nordic and CEE electricity market
- Large markets of Sweden and Poland will dominate
- Lower wholesale market prices in Sweden may carry for 4-5 years
- Electricity strategies of Sweden and Poland will influence the future Lithuanian energy sector

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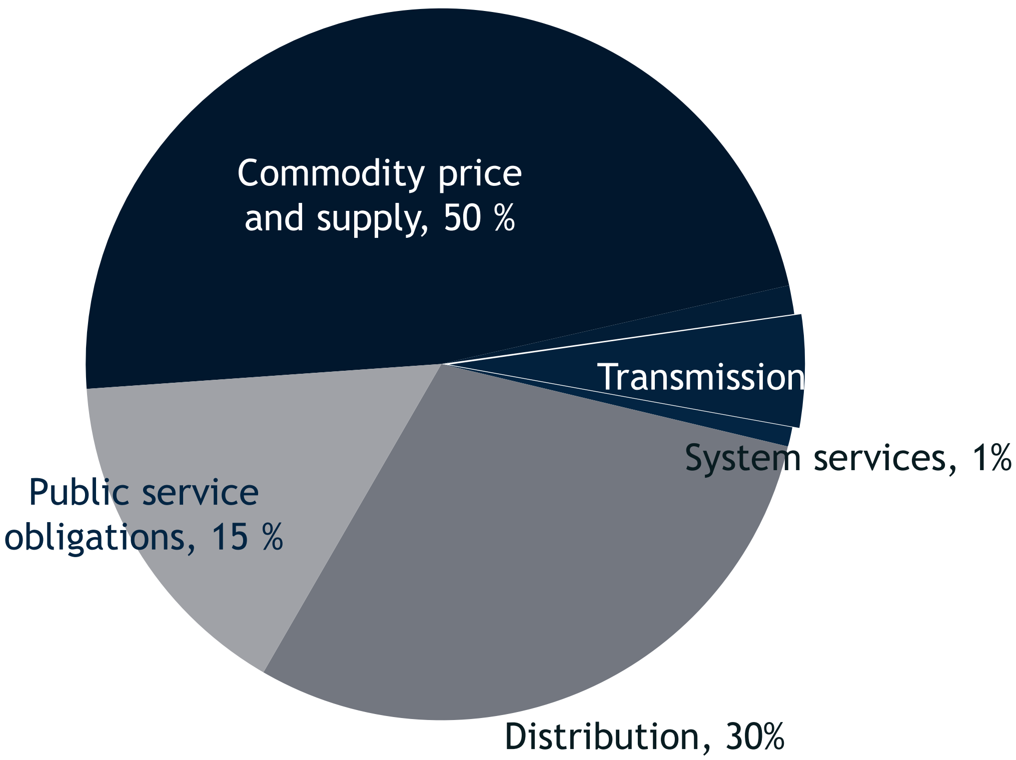
OPPORTUNITIES FOR LOCAL BUSINESS AND HOUSEHOLDS

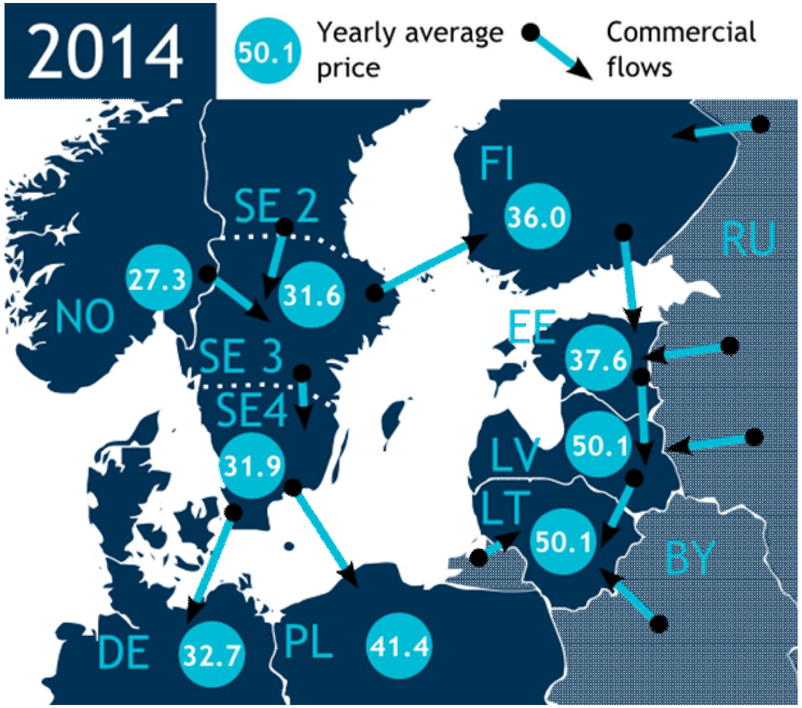
Grid projects ensure decrease in tariff

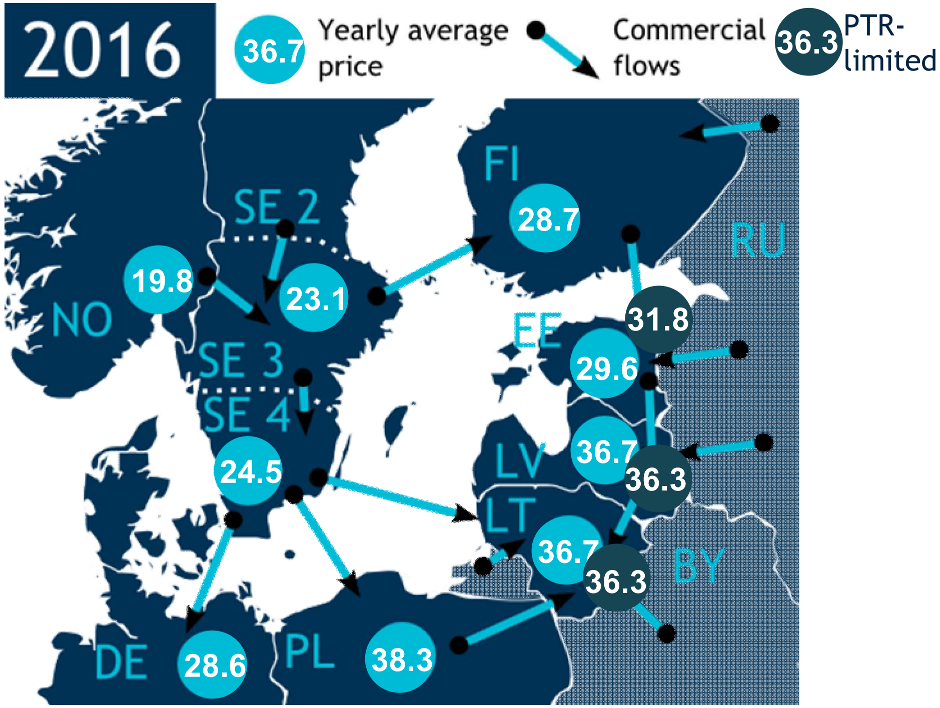


- Major part of the cost – commodity and distribution
- 7 percent drop in commodity retail price – € 66 million savings over a year
- Transmission comprises under 5% of the tariff

Electricity price for industrial consumers, 2015

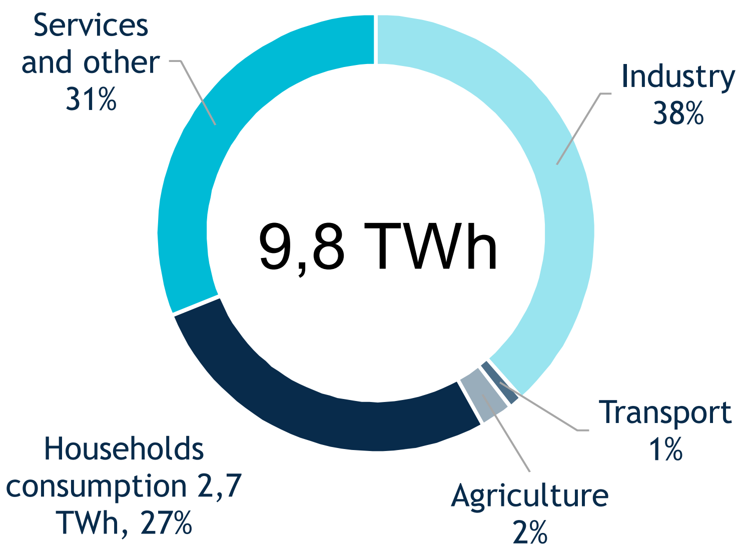
Impact of new interconnections



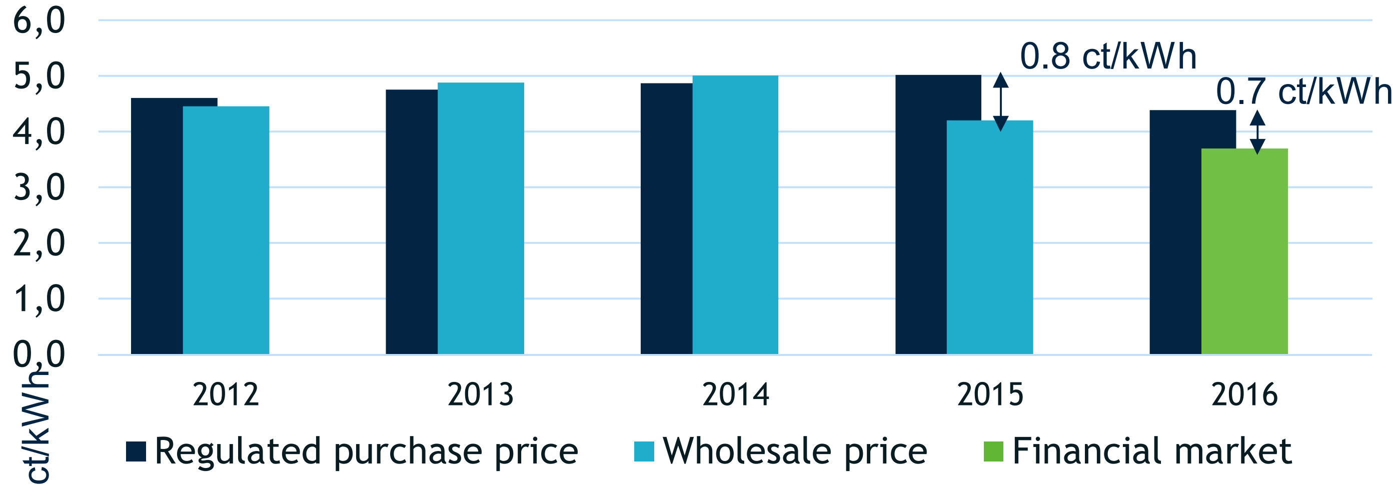


- Nasdaq OMX and Platts Forward Assessments indicate positive impact on consumer prices already today

Wholesale and regulated power prices



- Industry, services and other business in Lithuania consumed 7,2 TWh of electricity in 2014, total cost € 790 million
- Electricity cost for households - € 340 million



2015 *11 month average

Opportunities for smart users – on the market

- Regulated price of commodity leaves open opportunity not to use it
- € 24 million savings over a year could be shared by households in Lithuania if purchased from independent suppliers

Household consumers market in Europe

	Electricity prices for households	Commodity price % in the tariff	# of retailers	# of major retailers	Switching rate
Norway	market	40%	30	3	15%
Sweden	market	34%	100	3	10%
Finland	market	44%	28	3	8%
Estonia	market	38%	42	1	0%
Latvia	market	37%	6	2	0/15%
Lithuania	regulated	39%	19	5	0%
Poland	regulated	42%	82	5	1%
Denmark	market	16%	25		6%
Germany	market	28%	~1000	4	12%

Source: ACER_Market_Monitoring_Report_2014

- Both industrial and domestic users are in the position to benefit from the new market opportunities
- ~ € 90 million can be saved in the first year with minimum risk
- Market education to the domestic consumers is the opportunity for independent retailers

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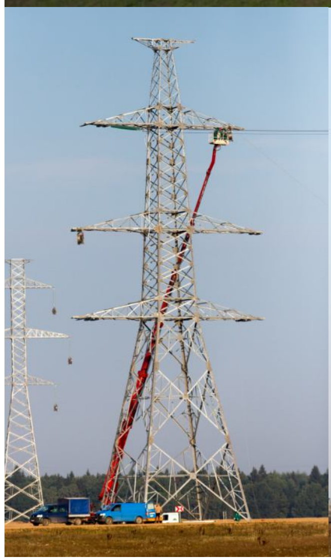
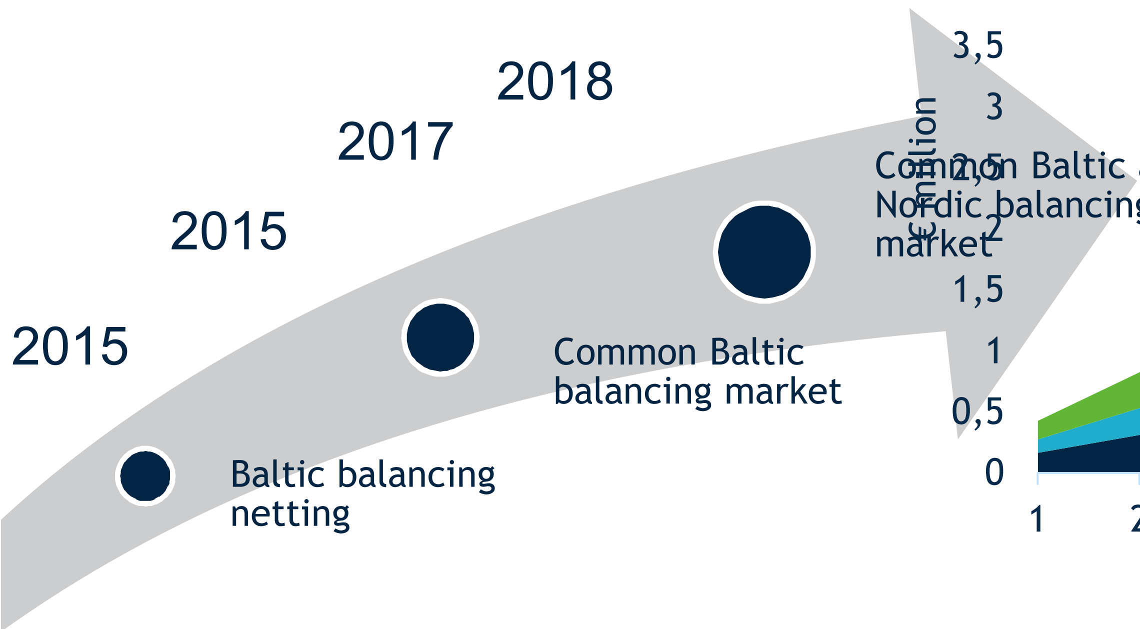
LITPOL LINK AND NORDBALT ARE IN PLACE. WHAT TO EXPECT NOW?


TOPAZ INSTALLER

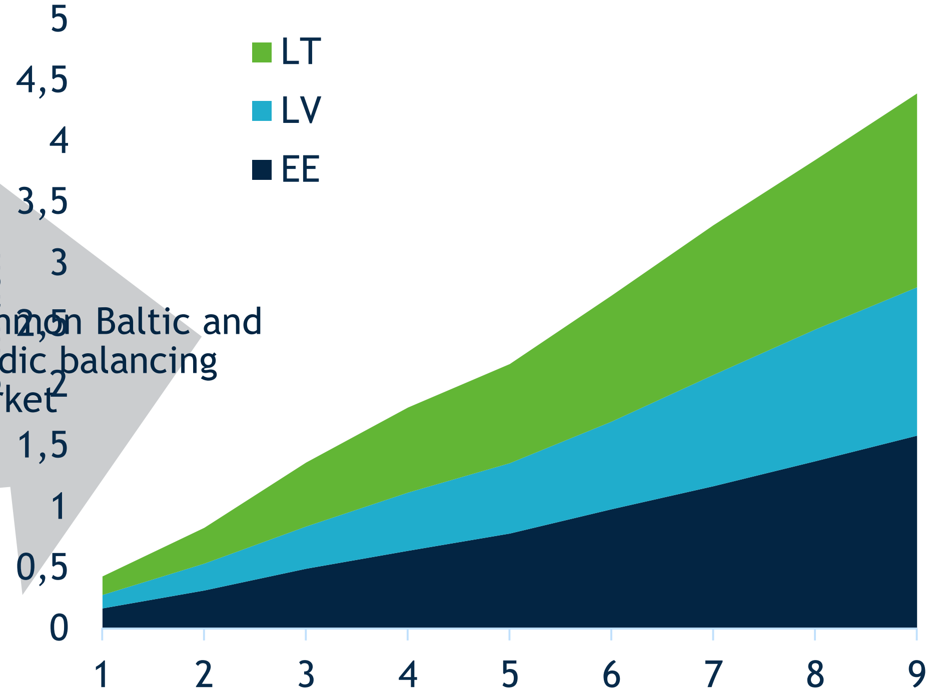

LMR Drilling

Deeper electricity market integration



€ 4,39 million saved in balancing by the TSOs over 9 months of 2015



ancing market
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Full-fledged European integration

- Grids interconnected
- Day-ahead markets
- Intra-day markets
- Balancing market
- Financial markets
- Capacity allocation and management
- EU Network Codes
- Synchronous operations with Continental European network

Today: most intense moment of links’ projects implementation

- Energizing of the LitPol Link – 19 November
- System tests of NordBalt – this week
- Exceptional feature of NordBalt – energizing the power system after ‘black-start‘
- Trial operations – as announced on Nord Pool Spot
- Planned and emergency disconnections happen: an average of 9,8 disconnections of a cable in a year*

Source: ENTSO-E statistics of 14 HVDC cables functioning in Nordic region in 2013

Tomorrow: new era in electricity sector

- Better integration will lead to more synergies in the energy strategies of the region’s countries
- The Swedish spot prices will remain lower for a few years and will dominate
- Discussions regarding NordBalt 2 will start soon
- The project of synchronizing the power systems with continental Europe may help solve 3rd countries’ market integration issues for all Europe


Empowering the growth of Lithuania