



# Electricity Sector Development in Lithuania

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Forum "Energy in Latvia 2011"  
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Riga

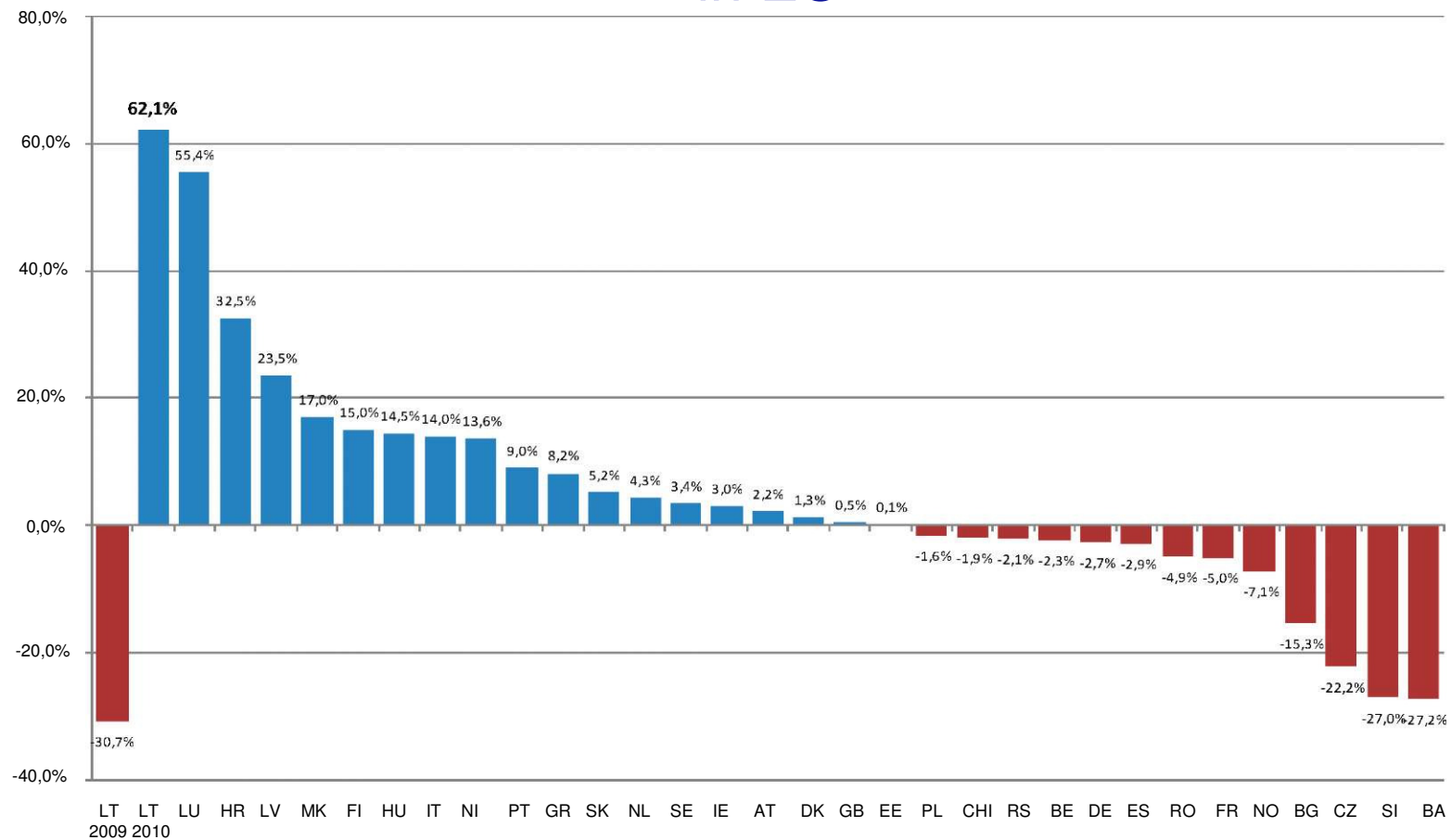


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- Generation development
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  - Elektrenai and Kruonis
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- Interconnections
  - Sweden – Lithuania (NordBalt)
  - Poland – Lithuania (LitPol Link)
- Internal grid development



## Lithuania – the most dependent country of electricity import in EU





## Electricity production, export/import, consumption (TWh)

	2009	2010
Production		
Ignalina NPP	10,85	0
Hydro	1,06	1,21
Thermal	2,64	3,63
Wind	0,34	0,46
Other	0,43	0,4
Export	3,61	1,14
Import	30,68	7,13
Consumption (netto)	9,16	9,22

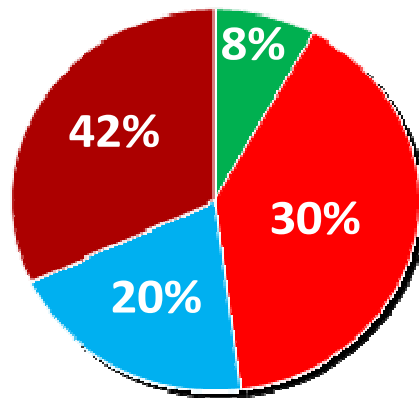
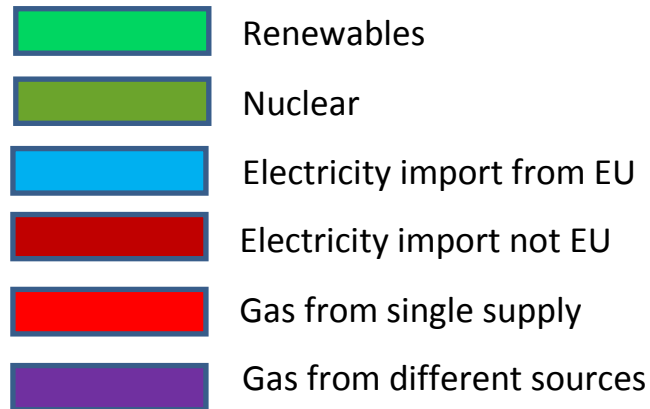


## Installed generation capacities

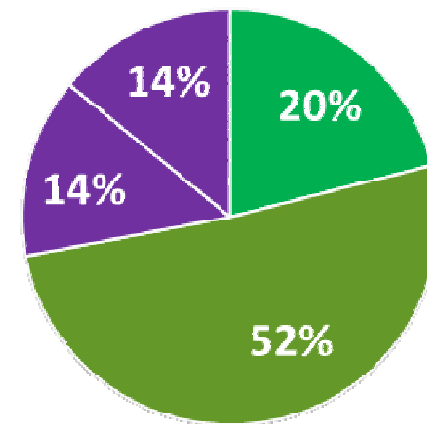
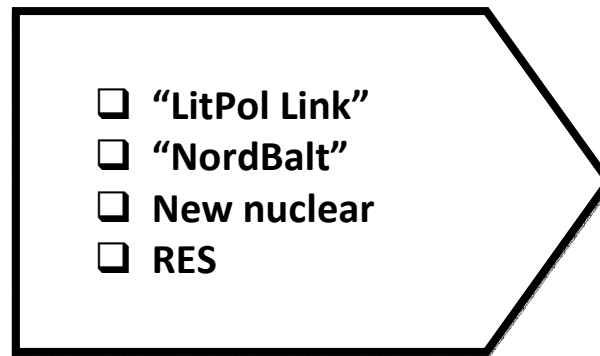
Power plant	MW
Elektrėnai CPP	1500
Vilnius CHP	360
Kaunas CHP	170
Mažeikiai CHP	210
Other thermal	170
<b>Total thermal</b>	<b>2410</b>
Kruonis HPSP	900
Kaunas Hydro	101
Small Hydro	26
Biofuel	47
Wind	166
Solar	0,08
<b>Total Renewable</b>	<b>341 (exl. Kruonis)</b>
<b>Total</b>	<b>2750</b>
Peak Demand	1900



# Electricity production and import



2010



2020

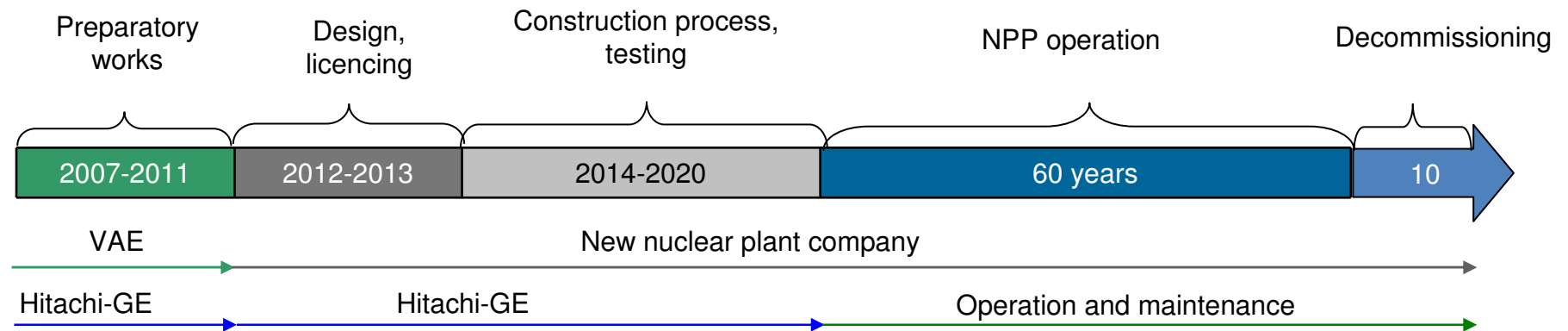


## Visaginas Nuclear Power Plant Project Progress

- Japanese company Hitachi is selected as strategic investor. Company has experience, know-how, financial recourse.
- The regional partners from Latvia Estonia and Poland participated in the consideration on the proposals.
- Hitachi offered to provide an Advanced Boiling Water Reactor (ABWR) 1300 MW with increased safety technology.
- Preparatory Works of the project have already been completed (more than 30 projects and programs), including environmental impact assessment and site suitability evaluations.
- Preparatory Works results have been obtained positive by IAEA.
- The joined technical, commercial, legal working groups are established.
- Package of agreements should be prepared by end of December
- Most of people in Lithuania support the development of NPP.
- The public is invited to see ABWR reactor module in Museum of Energy and Technology in Vilnius.

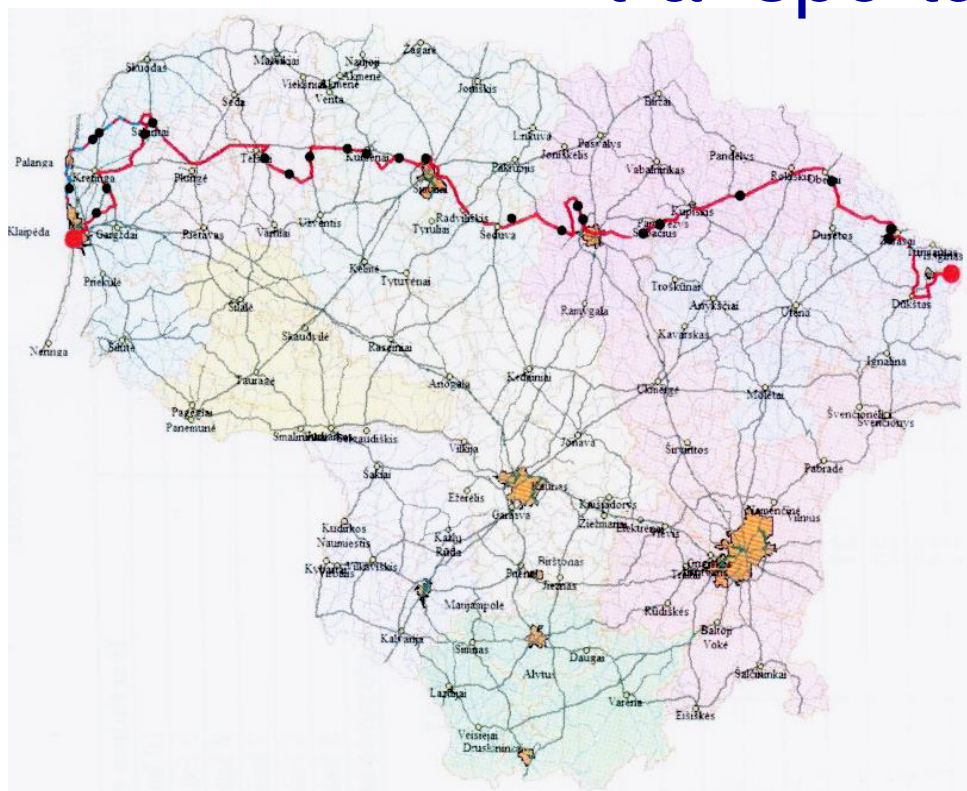


# Visaginas project's schedule

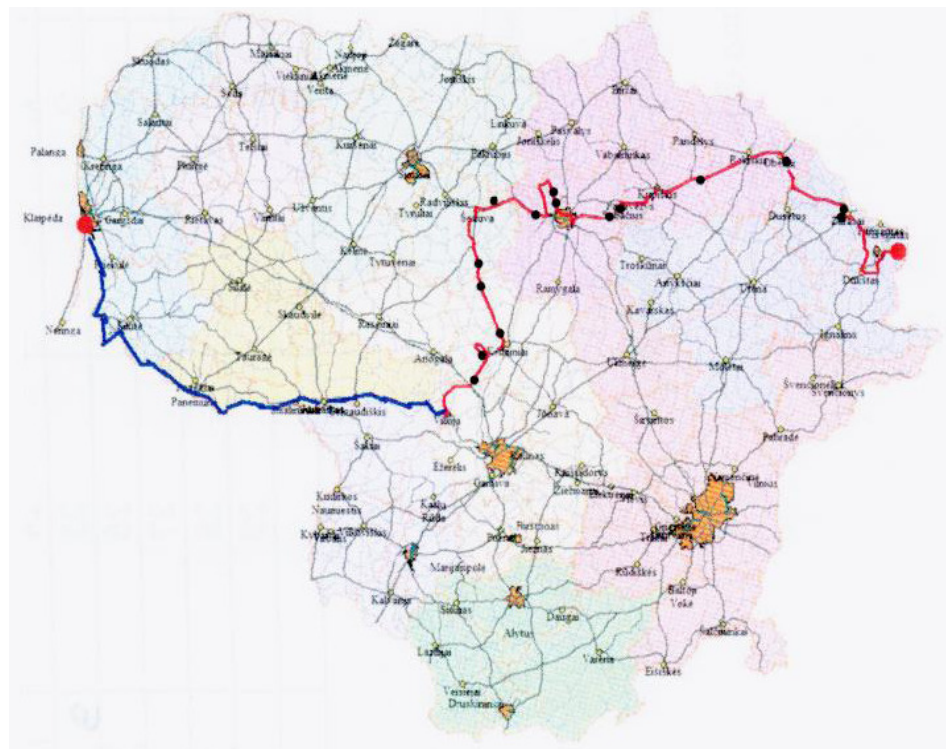




## Oversized and super heavy cargo transportation route



Roads – 550 km



Water + roads: 225 + 400 km



## Elektrėnai Power Plant

- New unit CCGT 450 MW gas fired – on schedule, commissioning - 2012.
- Old 2 units x 150 MW – closed. Now installed capacity – 1500 MW.

## Kruonis Hydro Pump Storage

- Existing 4 units are not flexible in generation and pumping mode.
- Installation new 5-th unit – tender documentations under preparation.
- Implementation ~ 2015.
- Investment ~ 250 mln. Lt



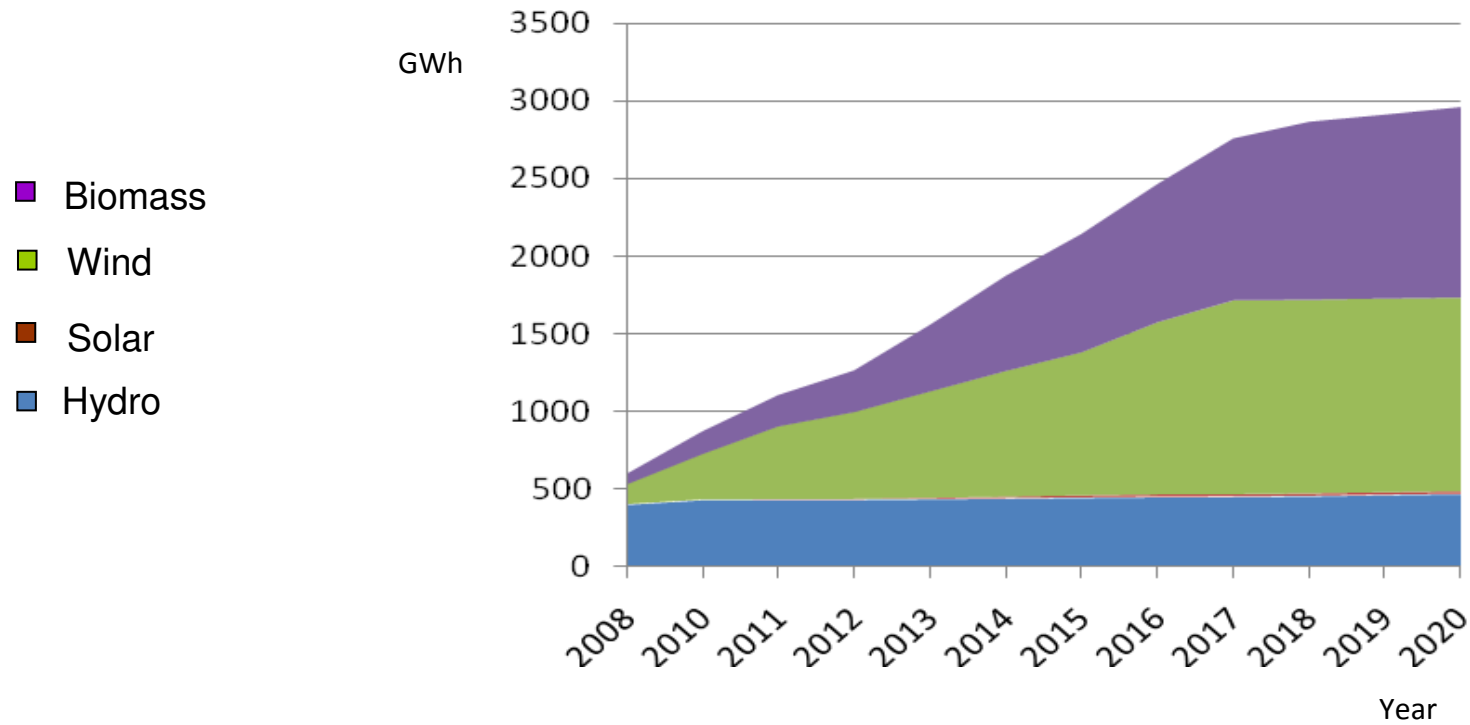
## Renewables

- May 2011 – law passed.
- By 2020 – 23 % energy from renewable:
  - 20 % electricity (2010 – 8 %);
  - 60 % district heating;
  - 10 % fuel in transport.

	<b>2011 MW</b>	<b>2020 MW</b>
Wind	170	500
Hydro	126	141
Biofuel	47	355
Solar	0,08	10
Production: TWh	~ 1,1	3,0
%	~ 10 %	20 %



## Renewables: production





# NordBalt

HVDC cable (submarine – 400 km, underground – 40+13 km)

Voltage – 300 kV

Capacity – 700 MW

Converters:

400 kV – Nybro (Sweden)

330 kV – Klaipėda

Length: ~ 450 km

Investments: 550 mln. €

(incl. EU support 131 mln. €)

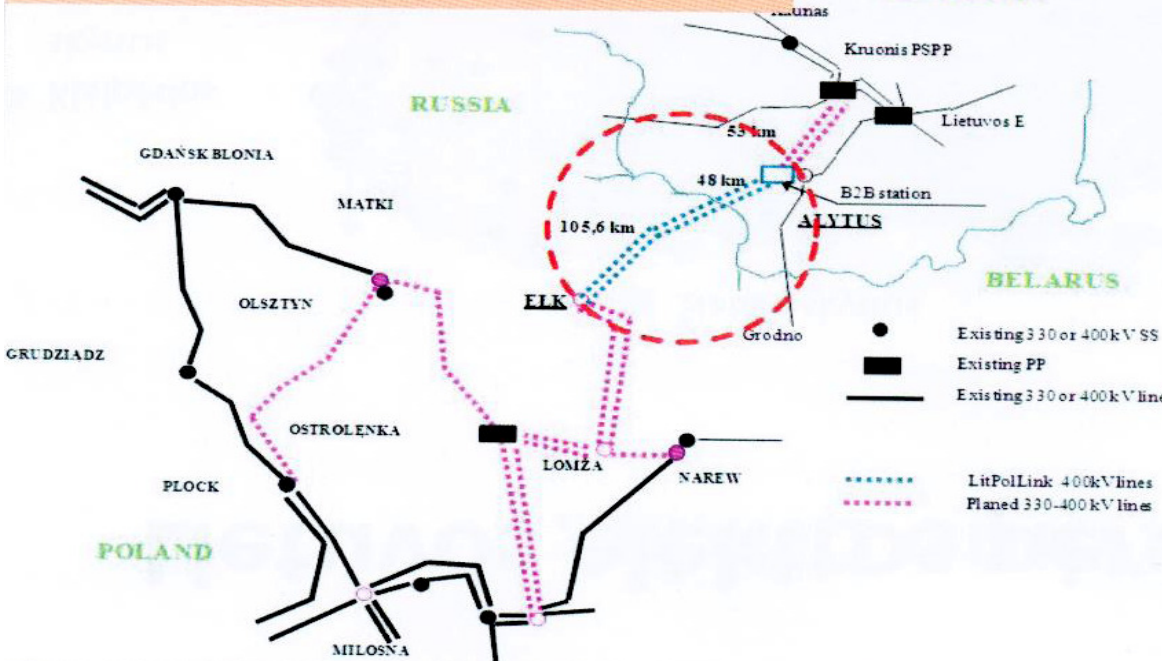
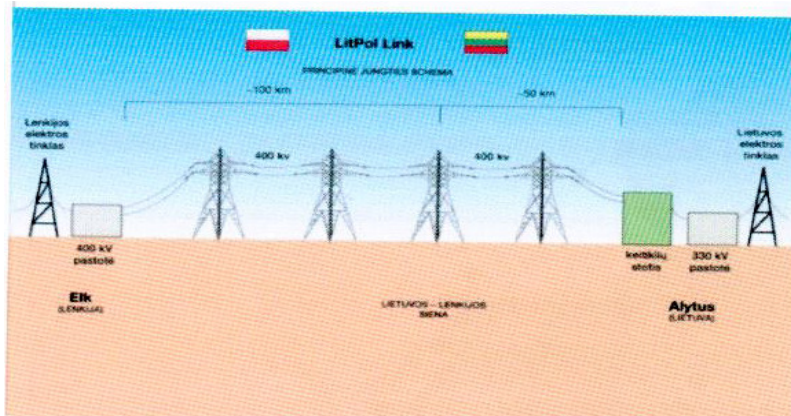
Status: Litgrid and Svenska Kraftnat signed the contract with ABB company (cable and converters installation)

Commissioning: December 2015





# LitPol Link



Double – circuit 400 kV overhead AC line from Alytus to Elk

Length: 154 km (48 km in Lithuania)

Converter (B-2-B) in Alytus

Capacity: 1000 MW

Operation: 2015 – 500 MW;  
2020 – 1000 MW.

Investments: 370 mln. €

Status: announced

international public tender for the technical project of the line.



## Lithuanian 330-110 kV electricity transmission system



Klaipėda – Telšiai: 89 km, 900 MW,  
year 2013

Status: announced the tender for  
construction

Alytus – Kruonis: 50 km, year 2015

Status: territory planning process

Mūša – Panevėžys: year ~2018



Thank you !

