



**Lietuvos  
energija**

# **Modernization of District Heat Supply Systems of Vilnius and Kaunas**

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# Lietuvos energija Group

Maintenance and  
development of  
the energy sector

Power and heat  
generation and  
supply

Natural gas  
trade and  
distribution





H1 2015  
EMPLOYEES

5552



ELECTRICITY, HEAT  
PRODUCTION



ELECTRIC POWER TRADE  
AND DISTRIBUTION



NATURAL GAS TRADE  
AND DISTRIBUTION



MAINTENANCE OF  
POWER PLANTS AND GRID

€973

MILLION

GROUP REVENUE (2014)

EBITDA 217 m EUR



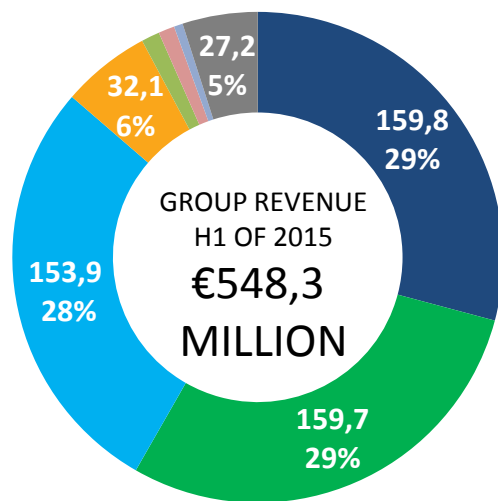
CONSUMERS  
IN H1 2015



1.6 million



560 thousand

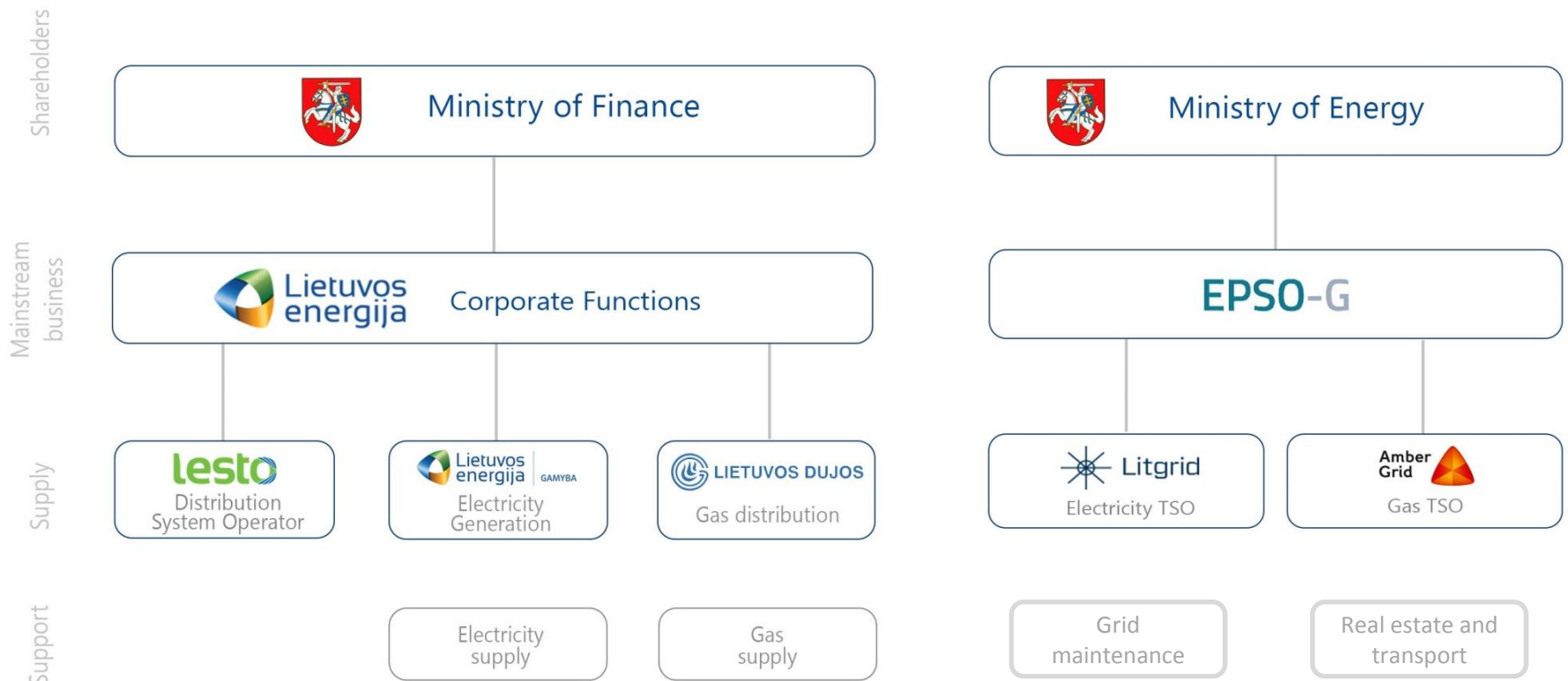


- ✓ LIETUVOS ENERGIJA IS ONE OF THE **TOP 5** LARGEST COMPANIES **BY THE SALES** REVENUES IN LITHUANIA
- ✓ LIETUVOS ENERGIJA IS THE **206<sup>TH</sup>** LARGEST COMPANY IN **CENTRAL EUROPE** (DELOITTE 2015).

- Distribution of electricity
- Gas sales and distribution
- Produced electricity sales, trade and supply
- PIMS of LEG
- Connection of new customers
- Balancing, regulation and power reserve
- Heat energy
- Other revenue



# The Structure of Lithuania's Energy Sector after EU 3<sup>th</sup> Energy Package Implementation



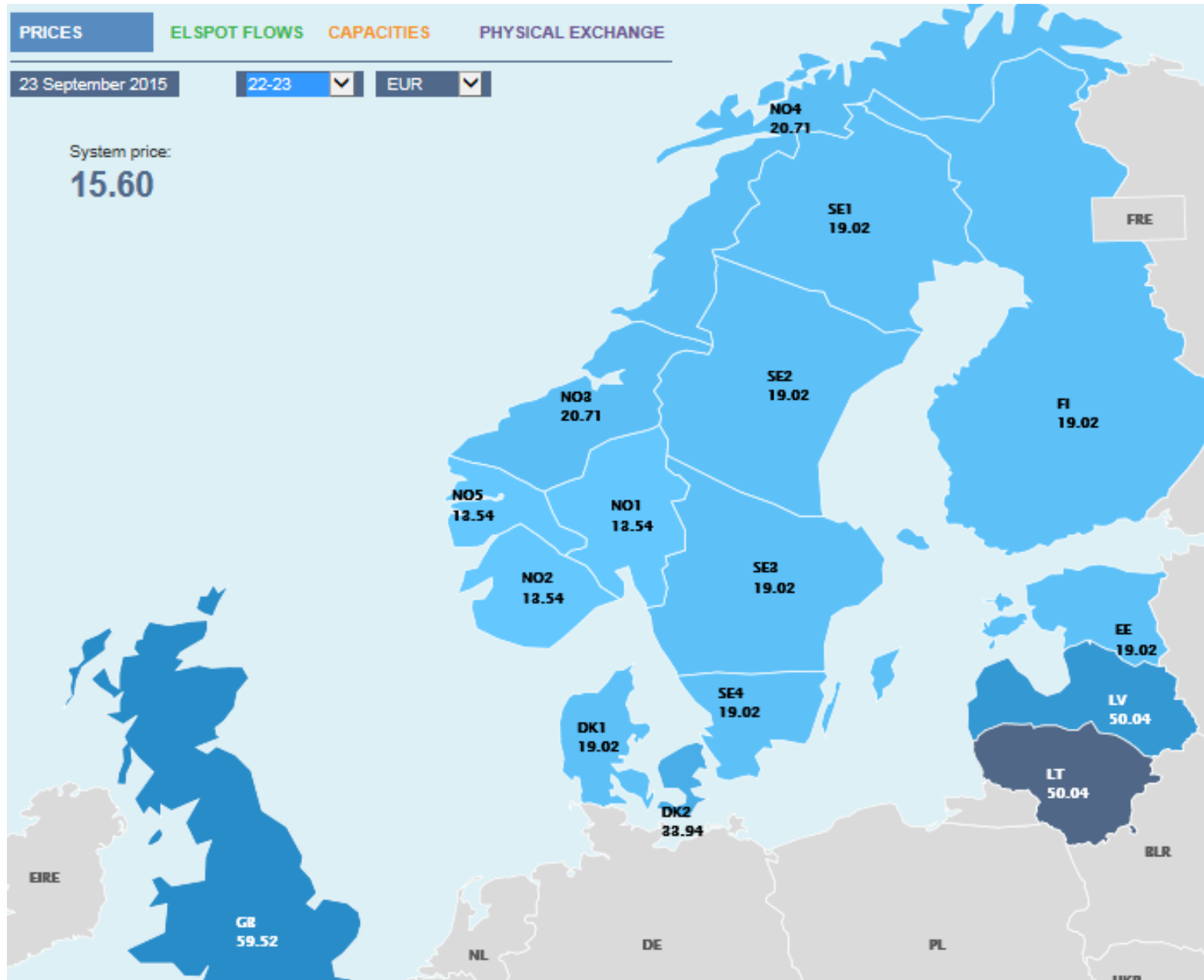
# Projects of modernization of district heat supply systems of Vilnius and Kaunas

# Lithuania's Energy Sector Outlook

- One of the biggest importer of electricity among EU countries (~ 70 proc.);
- No local natural gas/coal/oil available;
- No financial incentives to use conventional fuel based cogeneration;
- Ineffective waste management, more than 70% of waste are landfilled;
- Existing power generation capacities are almost depreciated.

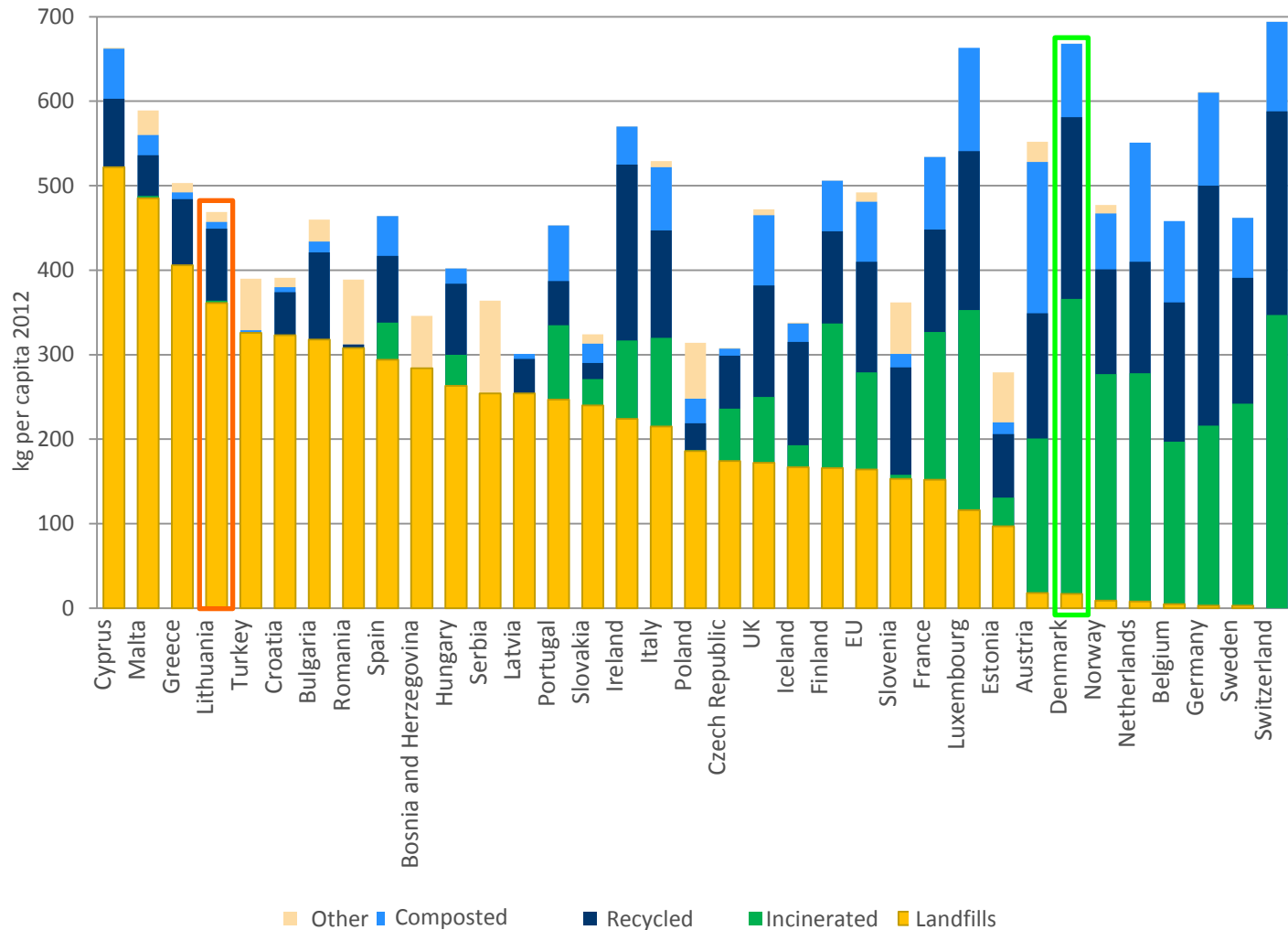
**Long term risk – security of energy supply**

# Today's NordPool Spot – Electricity market



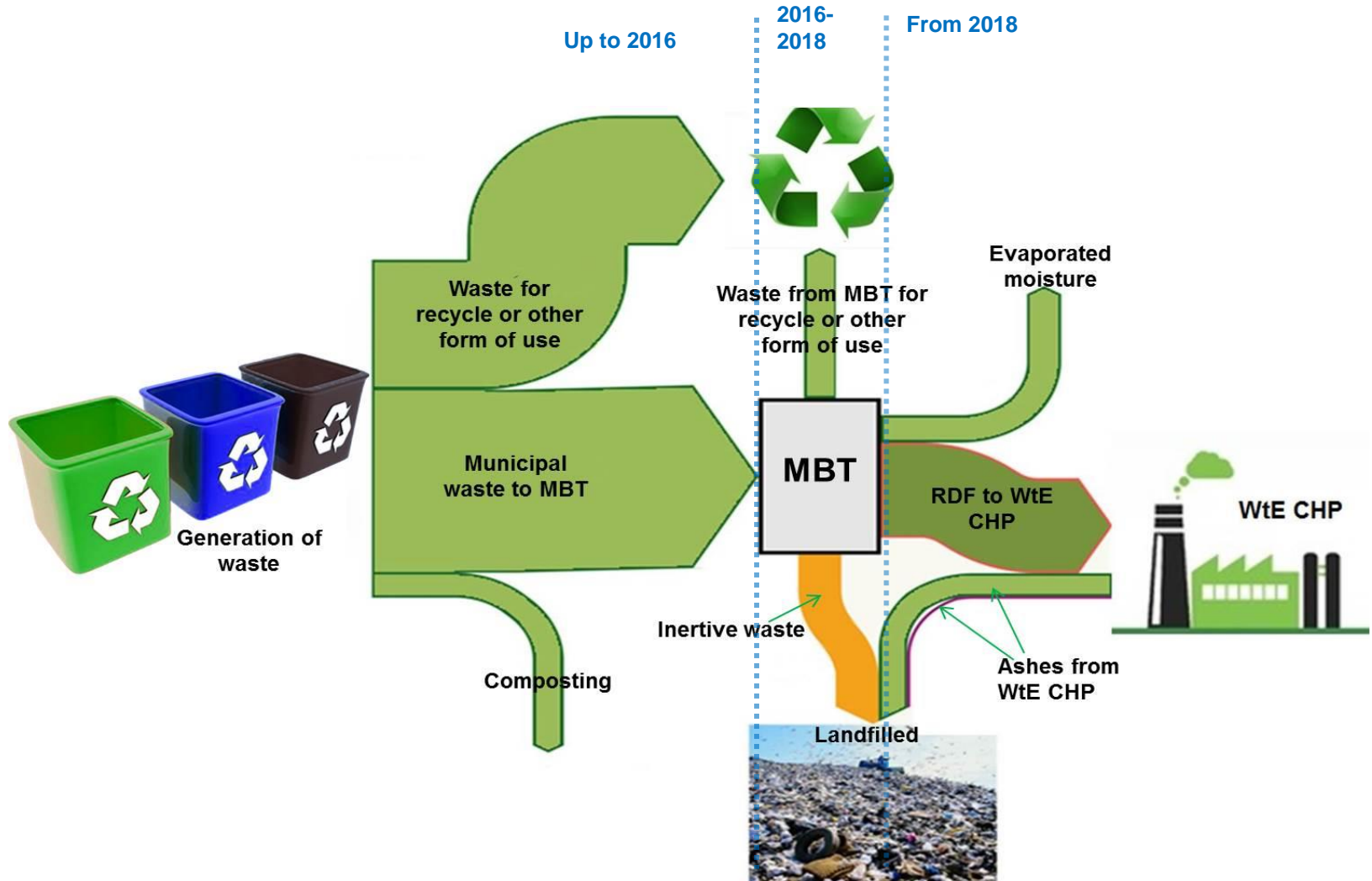
# Municipal waste treatment in the European Union countries

- Municipal waste collected in Lithuania – 1.280.049 t;
- Landfilled – 64% (forecast in 2016 –55%; EU–31%);
- Kilograms per capita – 433 kg (EU–481 kg);
- Incinerated – 7% (EU–26%);
- Recycled – 21% (forecast in 2016 –45%; ES–28%);





# Waste management hierarchy



# New CHP's in the Largest Lithuanian Cities



## Kaunas:

- Population 301.296
- District heating 90%
- Annual heat demand 1,2 TWh
- Municipal waste (RDF) ~200.000 t/yr.
- Landfilling ~95%

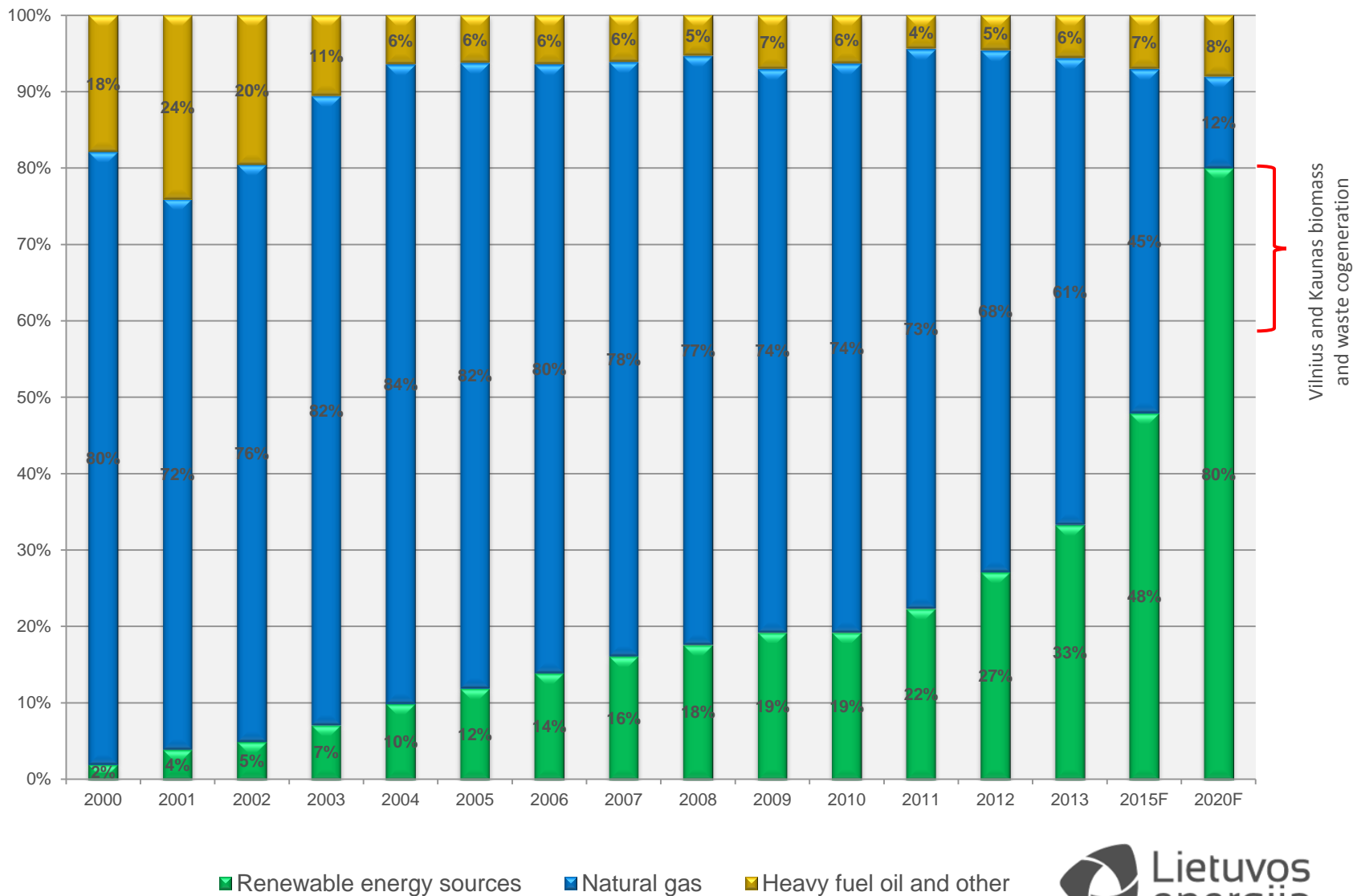
## Vilnius:

- Population 542.664
- District heating 90%
- Annual heat demand 2,5 TWh
- Municipal waste (RDF) ~145.000 t/yr.
- Landfilling ~85%

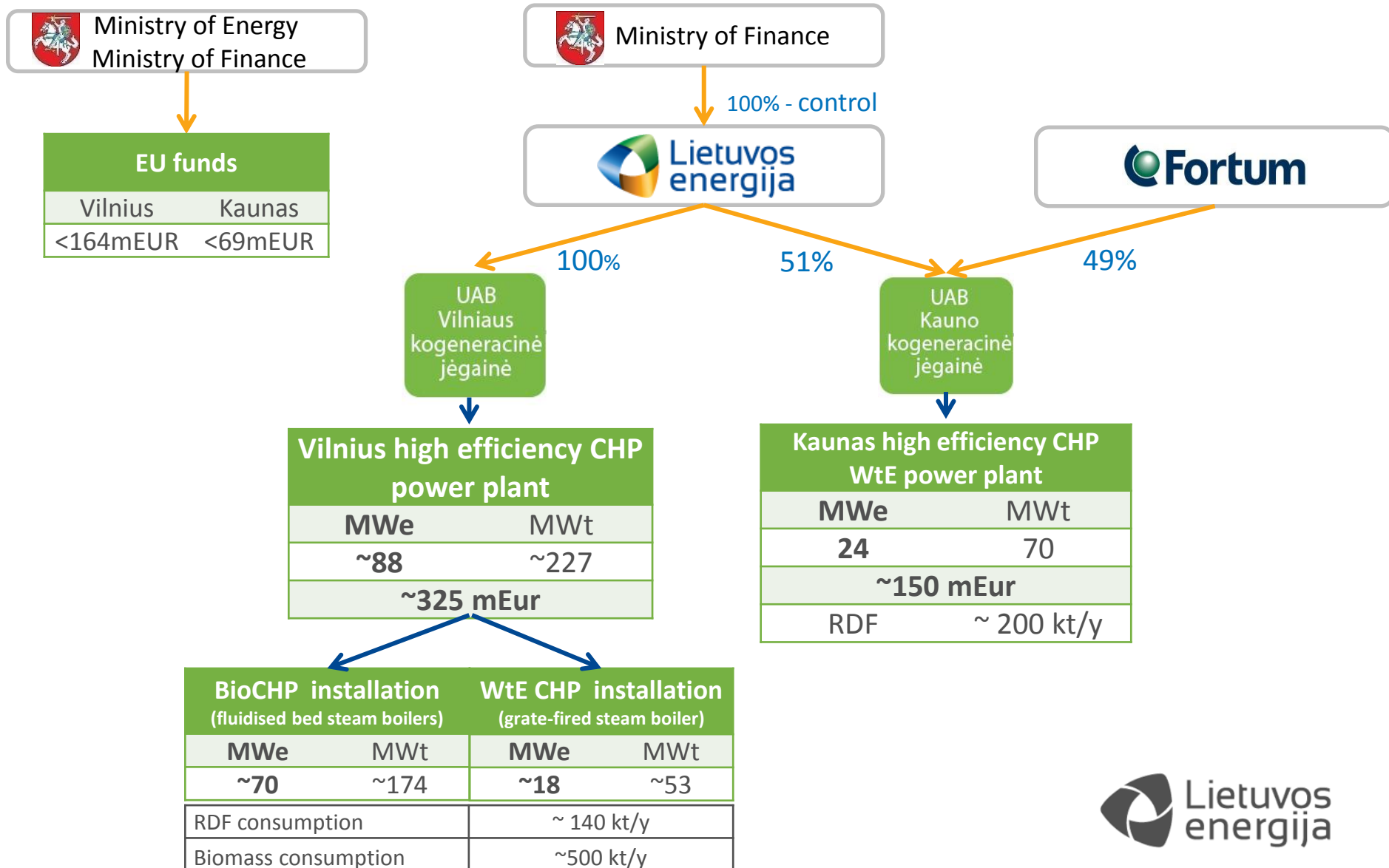


- Competitive electricity from local and RES
- Cheaper heat, energy efficiency
- Contribution to the waste management

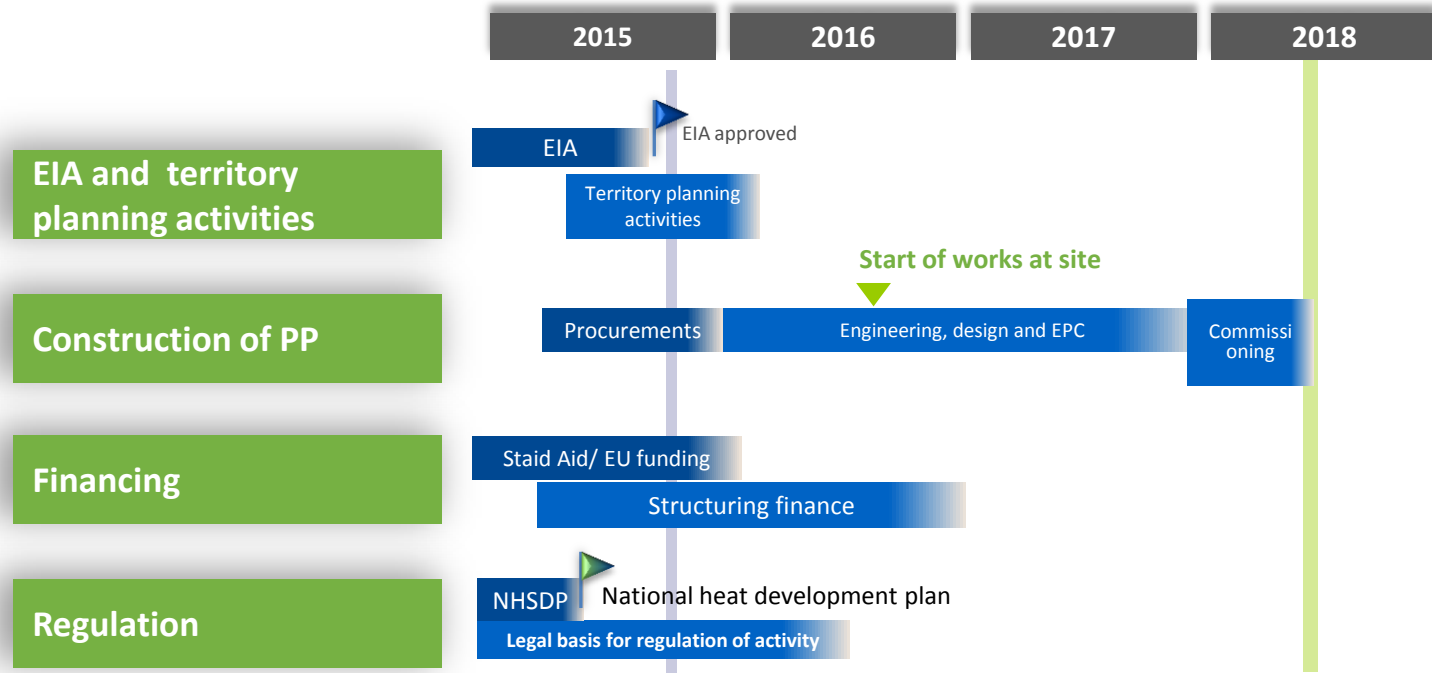
# Fuel in district heating system in Lithuania



# CHP's projects at the glance

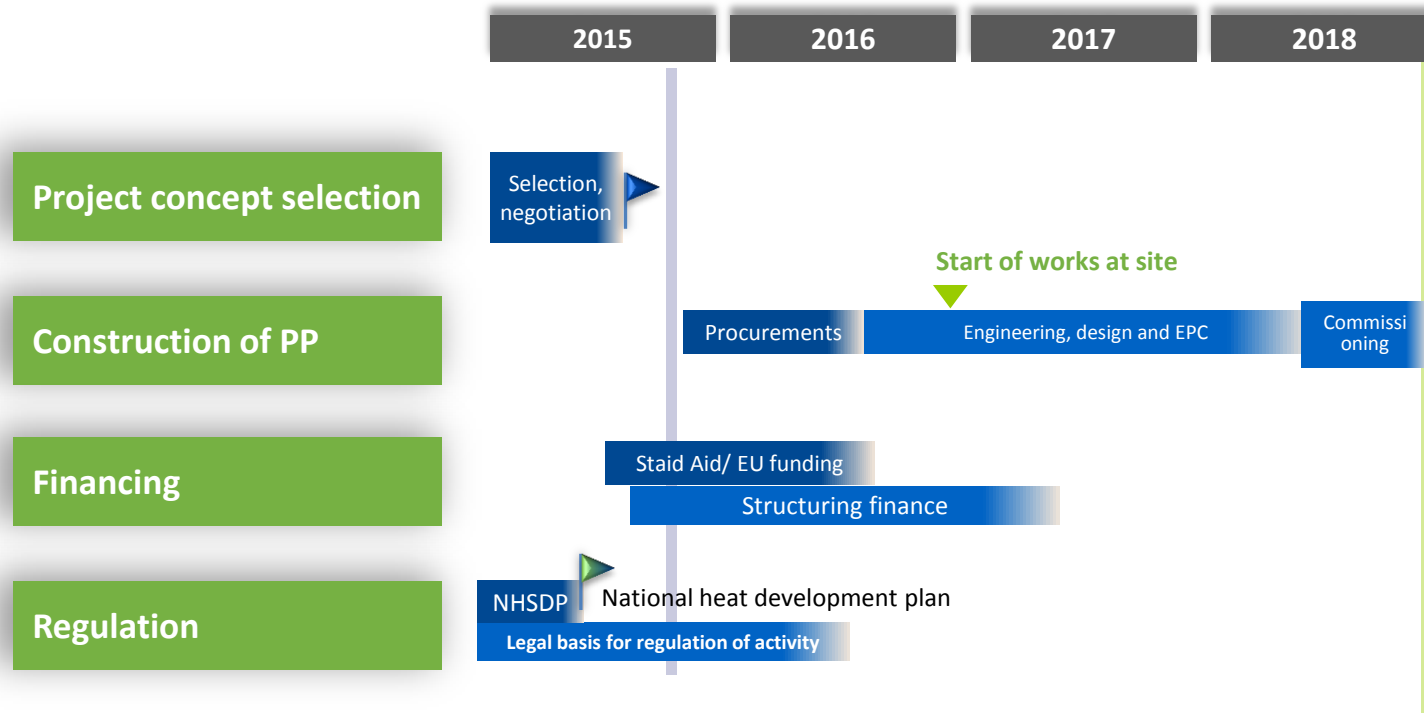


# Vilnius CHP project



- **EIA.** 2015-09-02 Environmental Protection Agency approved Environmental Impact assessment;
- **EPC.** 2015-05-08 announced EPC tender. Qualification assessment should be finished 2015-09, preliminary first proposals to be received end November, final – beginning 2016.
- **EU grant.** 2015-04-14 EU DG Competition registered UAB Vilniaus kogeneracinė jėgainė pre-notification documents.

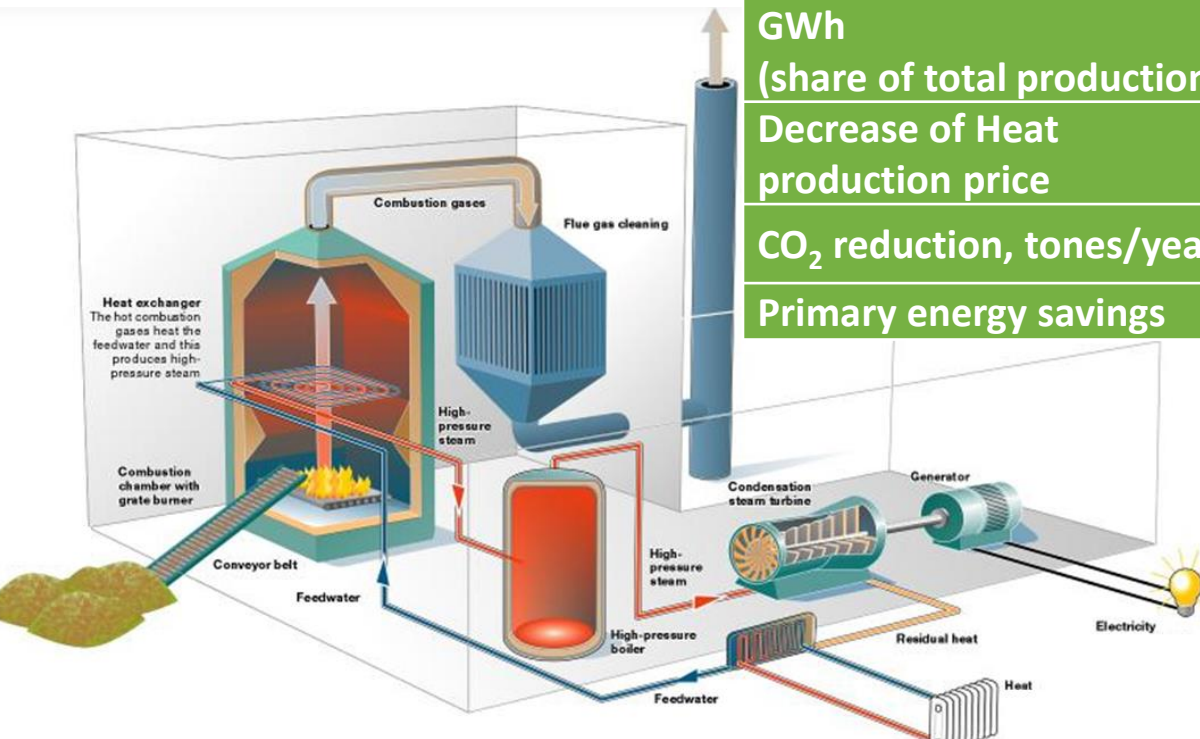
# Kaunas CHP project



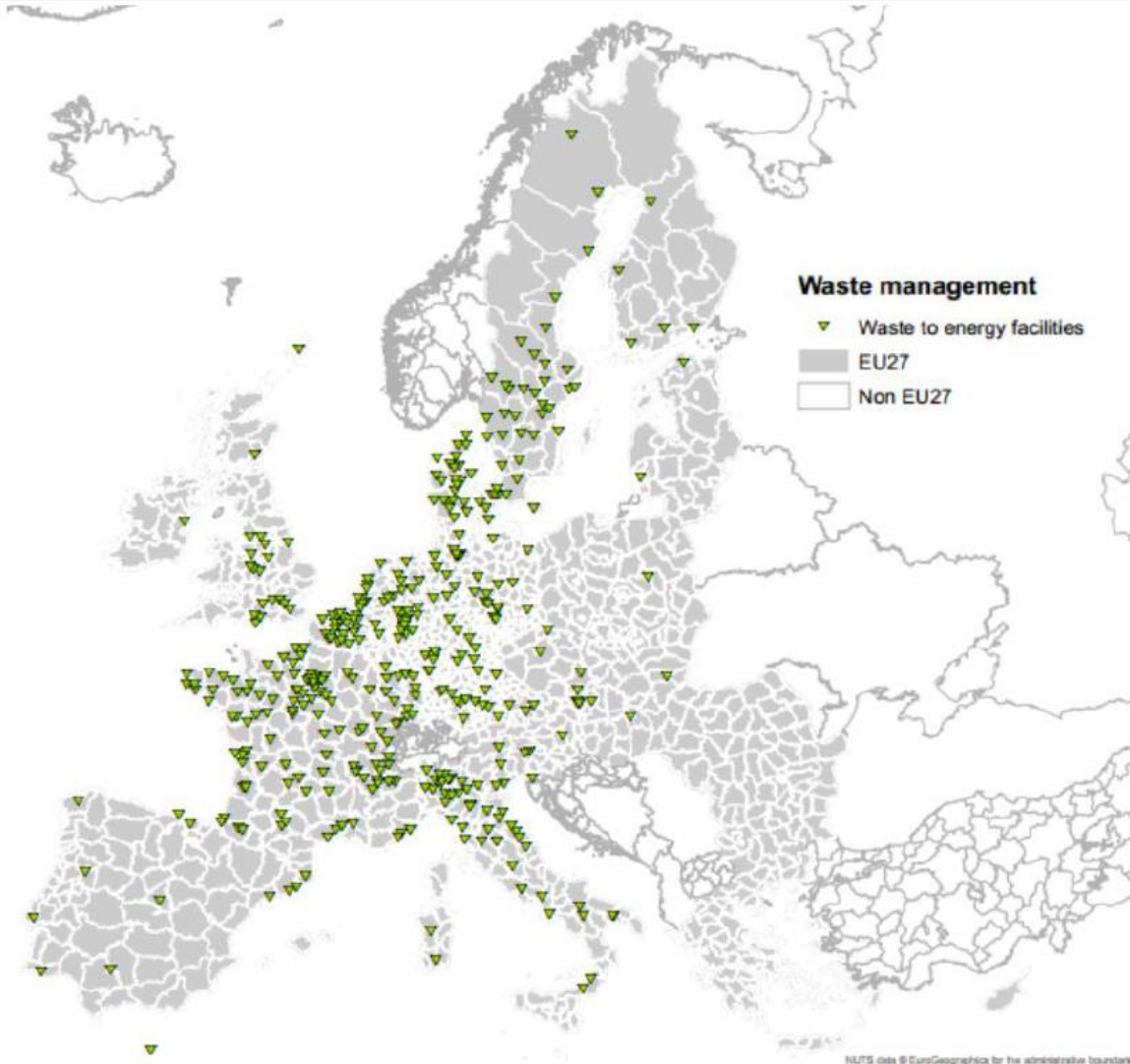
- **Partner.** 2015-05-20 selected partner – Fortum – signed cooperation agreement.
- **EPCM.** Project is expected to be implemented by procuring EPCM (engineering, procurement, construction and management) services. Preliminary procurement will be organized splitting plant contractors into 5-10 lots (EPC contracts). It is expected to start procurement procedures in 2015-10.
- **EU grant.** 2015-09-22 EU DG Competition registered UAB Kauno kogeneracinė jėgainė pre-notification documents.

# Expected results

	Vilnius high efficiency CHP installation	Kaunas high efficiency CHP installation
Electricity production, GWh (share of TSO demand)	400 (3,7%)	175 (1,2%)
District heat production, GWh (share of total production)	1.240 (48,9%)	500 (17%)
Decrease of Heat production price	>20%	>20%
CO <sub>2</sub> reduction, tones/year	~ 230.000	~ 70.000
Primary energy savings	~40 %	~ 46%



# Thank you!



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