LITHUANIAN DISTRICT HEATING SECTOR: PRESENT SITUATION AND FUTURE OF THE LITHUANIAN ENERGY MARKET

2015 Sep 29

MINISTRY OF ENERGY
OF THE REPUBLIC OF LITHUANIA
Vice-minister Vidmantas Macevičius
CURRENT SITUATION IN LITHUANIAN HEAT SECTOR

- **Individual Heat Supply**: 45%
- **District Heating**: 55%

**District Heating Participants**
- DH suppliers – supplies to the network 6058 GWh
- Independent heat producers – supplies to the network 2508 GWh
DISTRICT HEAT PRODUCTION AND DISTRIBUTION
IN YEARS 1996, 1998-2014

Heat supplied to the network
Heat supplied to the consumers

Data:
The Lithuanian District Heating Association
THE CHANGE IN NUMBER OF HEAT CONSUMERS
BY YEAR 2001 - 2014

Data:
The Lithuanian District Heating Association

Data:
The Lithuanian District Heating Association
THE STRUCTURE OF PRIMARY FUELS FOR DISTRICT HEAT PRODUCTION IN YEAR 1997-2014

Data: The Lithuanian District Heating Association
THE STRUCTURE OF PRIMARY FUELS FOR DISTRICT HEAT PRODUCTION IN 2014

Data: The Lithuanian District Heating Association

- Wood and wood waste – 357,041 tne (45.4 proc.)
- Straw biomass – 2,095 tne (0.27 proc.)
- Biogas – 2321 tne (0.75 proc.)
- Municipal waste – 17,574 tne (2.23 proc.)
- Geothermal energy – 3,423 tne (0.43 proc.)

Technological transmission losses, %

Technological transmission losses, TWh

Data:
The Lithuanian District Heating Association
HEAT NETWORKS LENGTHS AND RENOVATION IN YEAR 2003-2014

Data:
The Lithuanian District Heating Association

LIETUVOS RESPUBLIKOS ENERGETIKOS MINISTERIJA
THE NATIONAL HEAT SECTOR DEVELOPMENT
2015-2021 PROGRAM (1)

Reduce the heat price and environmental pollution giving priority to local and renewable resources in a fuel balance

- in order to increase local competitive electricity output, promote high efficiency cogeneration
- reduce heat generation plants pollution and ensure the development of renewable energy sources usage
- to set the transparent district heating systems development planning and regulatory rules

IN 2021

- To reduced heat price by 20%.
- Renewable and (or) local energy resources part in district heating fuel balance – 70 percent.
THE NATIONAL HEAT SECTOR DEVELOPMENT
2015-2021 PROGRAM (2)

Reduce transmission losses

- modernization of worn heat transmission networks, to ensure a reliable and high-quality heat transfer

Promote trade in energy resource exchange

- To set the obligation for regulated energy companies to acquire solid biomass in Baltpool energy exchange

IN 2021

- Update 330 km network
- Reduce transmission losses up to 14 percent

Year 2014 – 10%
Year 2015 – 50%
Year 2016 – 100% of total consumption.
MODERNIZATION OF HEATING FACILITIES IN VILNIUS AND KAUNAS CITIES DISTRICT AREAS

ENVIRONMENTAL AND ECONOMIC BENEFITS

- Vilnius and Kaunas CHP project would reduce methane and CO2 emissions from landfills and district heating sectors. Vilnius and Kaunas CHPs Project would result in more than ~300,000 tons of CO2 emission reduction annually.
- Reduced landfill
- Decrease the prices of thermal energy production

INCREASED EFFICIENCY

- Vilnius and Kaunas CHP project would increase energy efficiency of using primary energy by ~ 40 %

STRENGTHENED LITHUANIA’S ENERGY INDEPENDENCE

- Increase the usage of local and renewable energy sources:

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<tr>
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<th>Vilnius CHP</th>
<th>Kaunas CHP</th>
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<tr>
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<td>MWt</td>
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<td>Waste and biomass</td>
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BALTPOOL ENERGY EXCHANGE –
THE FIRST AND ONLY BIOMASS EXCHANGE IN EUROPE

BRIEF HISTORY

- 2010 – Established.
- 2010-2012 – operated Power Exchange in Lithuania (Nord Pool Spot trading platform was introduced).
- 2013 August – in-house developed biomass trading platform launched.
- 2015 July – 200th member was registered in Biomass Exchange.

THE TARGETS ARE:

- to increase transparency of biomass sector
- to involve more market players into trading process
- an efficient stimulation of market competition
- to ensure efficiency of trading and settlement processes
- implement product and process standardization
- to increase sustainability of biomass sector
- a fair market price determination.

THE MAIN TARGET OF BIOMASS EXCHANGE IS A TRANSPARENT, EFFICIENT, OPEN AND COMPETITIVE BIOMASS MARKET.
In Year 2012/13 The Foundations for Biomass Exchange Liquidity Growth in Lithuania Were Created

- Regulated energy companies were legally obligated to acquire solid biomass in Baltpool energy exchange:
  - Year 2014 – 10%
  - Year 2015 – 50%
  - Year 2016 – 100% of total consumption.

- Biomass energy content determination standards were adopted.

- Biomass exchange launched in August, year 2013:
  - Auctions are organized on weekly basis, 203 members already registered.

- To achieve the “Directive 20-20-20” targets Lithuania has set, among others, the target to increase biomass consumption in heating sector up to 70-80% of total fuel balance. Current consumption stands at 45% and increase every year.
PRICE LEVEL AND DIFFERENCES IN LITHUANIAN BIOMASS MARKET DECREASED SIGNIFICANTLY JUST IN TWO YEARS

Up to 25% biomass price differences between regulated CHP’s in neighboring districts (2012-2013)

Biomass prices fell by 20-47%, max price difference between districts 14% (2014-2015)

Solid biomass exchange was created to increase transparency and efficiency, foster competition in biomass market in Lithuania and other CEE countries.
COMPETITION LEVEL IN LITHUANIAN BIOMASS MARKET INCREASED SIGNIFICANTLY JUST IN TWO YEARS

High concentration in CHP’s biomass supply side in Lithuania (2012-2013)

Low concentration in biomass supply side in biomass exchange (YTD2015)

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

Data:
Energy Exchange Baltpool UAB
Thank You for Your attention!