INOGATE

PROGRAMME FUNDED BY THE EU

Decarbonisation of Lithuanian energy sector

Tools and Tendencies

Lessons to learn and mistakes to avoid

2nd Energy Policy Talks, Tbilisi, April 5,2016

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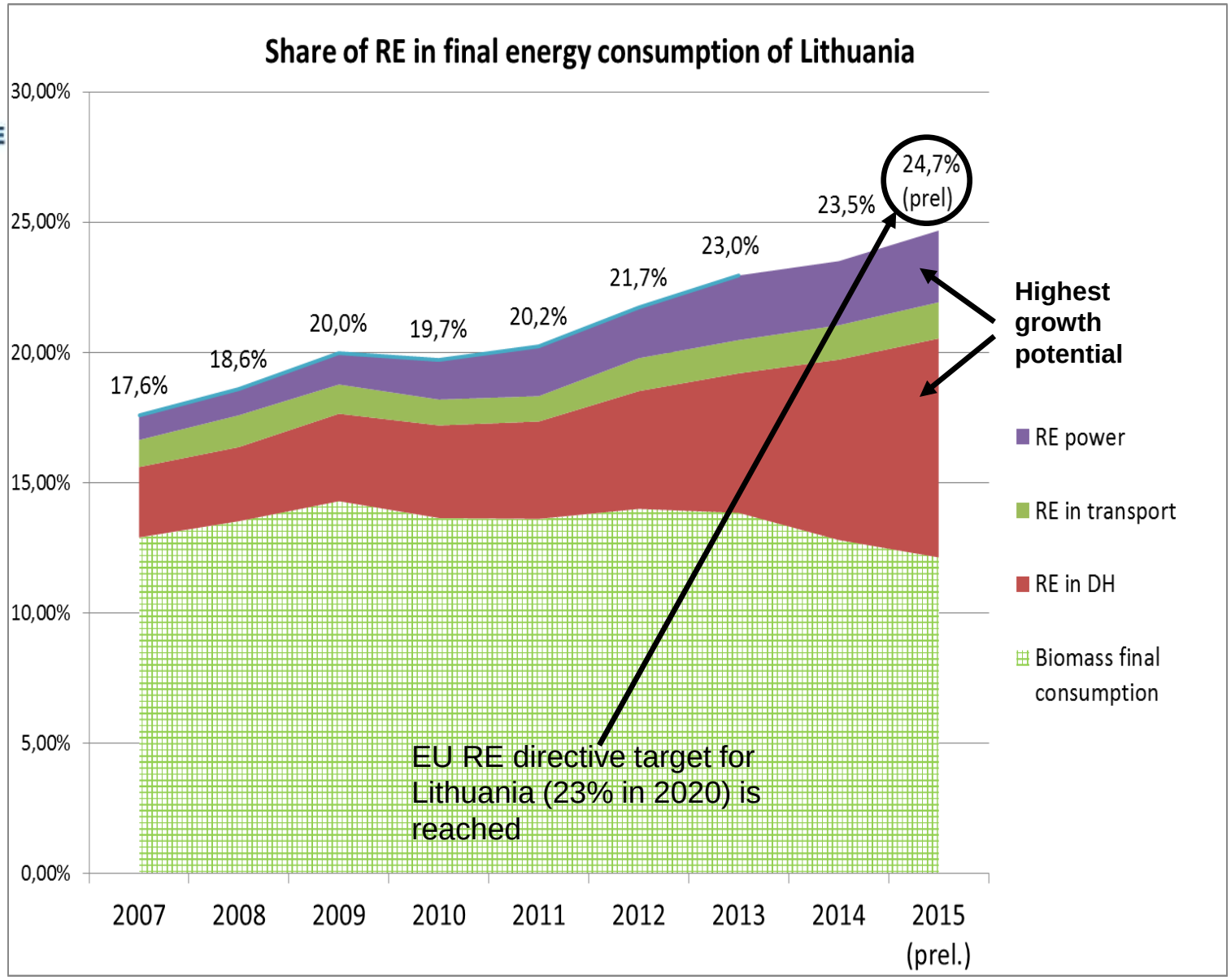
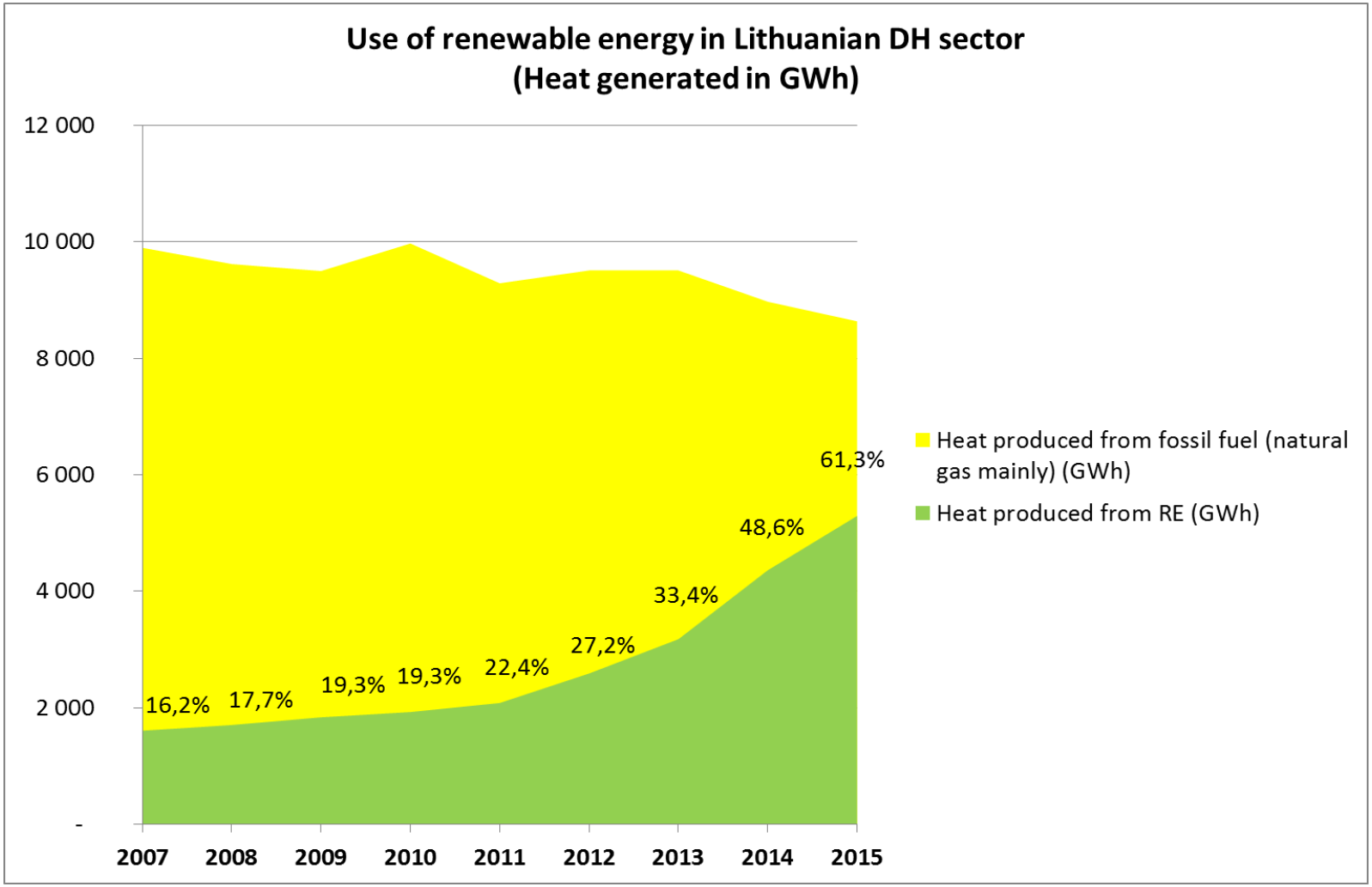
BUILDING PARTNERSHIPS FOR ENERGY SECURITY

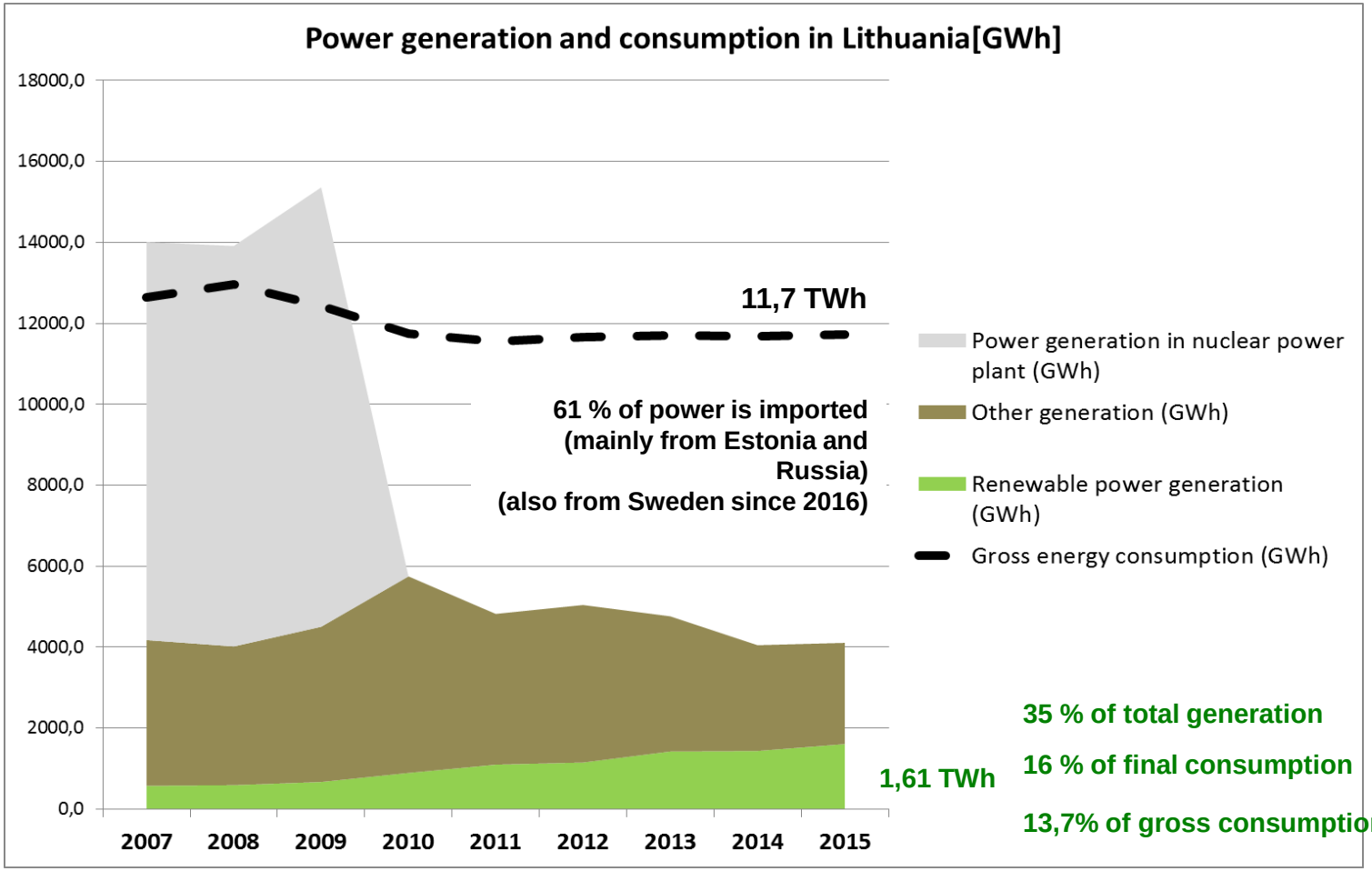
Lithuania
Data on renewable energy generation


Share of RE in final energy consumption of Lithuania
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
17,6%
18,6%
20,0%
19,7%
20,2%
21,7%
23,0%
23,5%
24,7% (prel)
2007
2008
2009
2010
2011
2012
2013
2014
2015 (prel.)
Highest growth potential
RE power
RE in transport
RE in DH
Biomass final consumption
EU RE directive target for Lithuania (23% in 2020) is reached

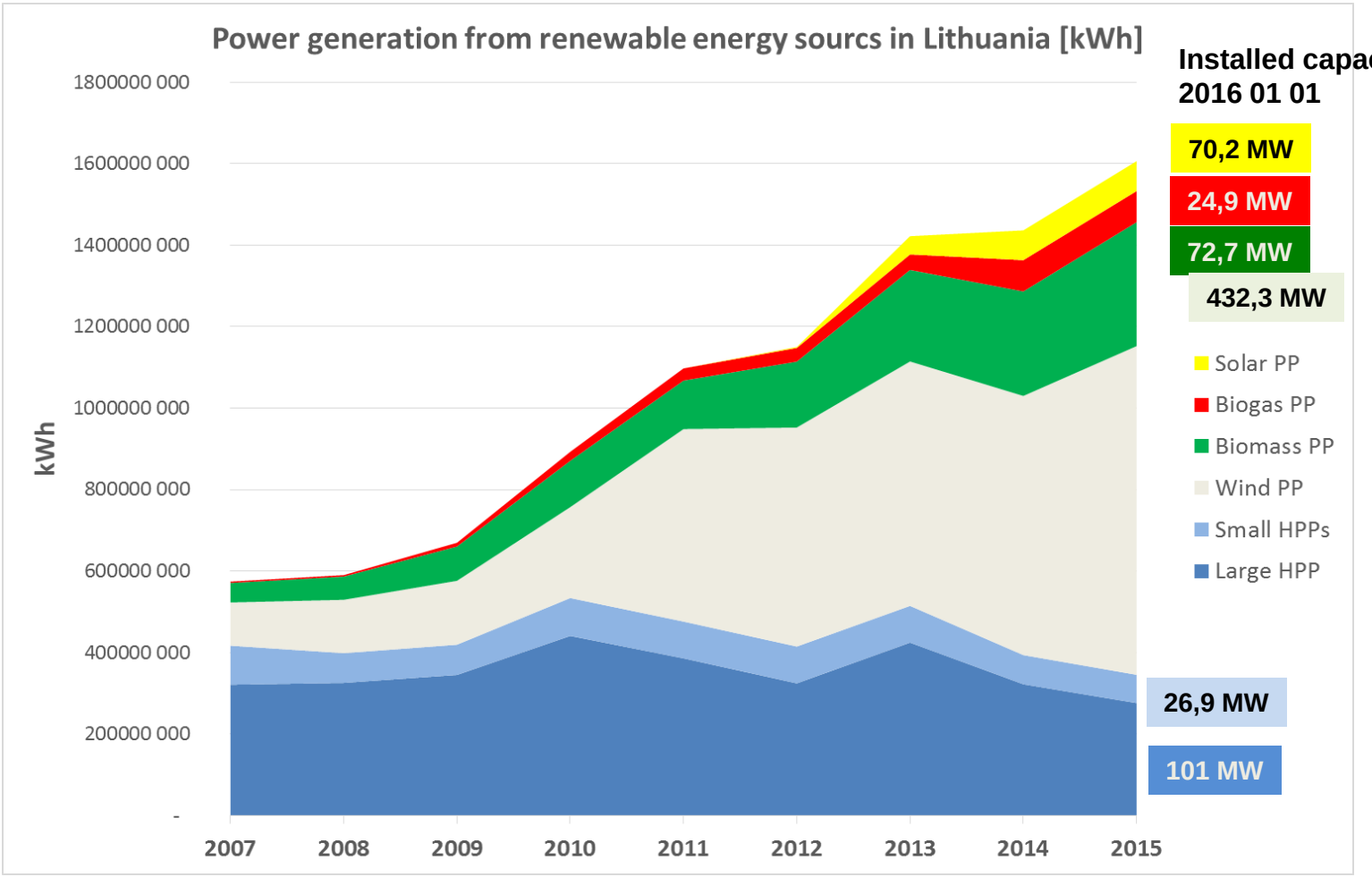
Heat Supply to District Heating systems in the past



Power generation and consumption in the past



Power from renewable energy generation in the past (2)

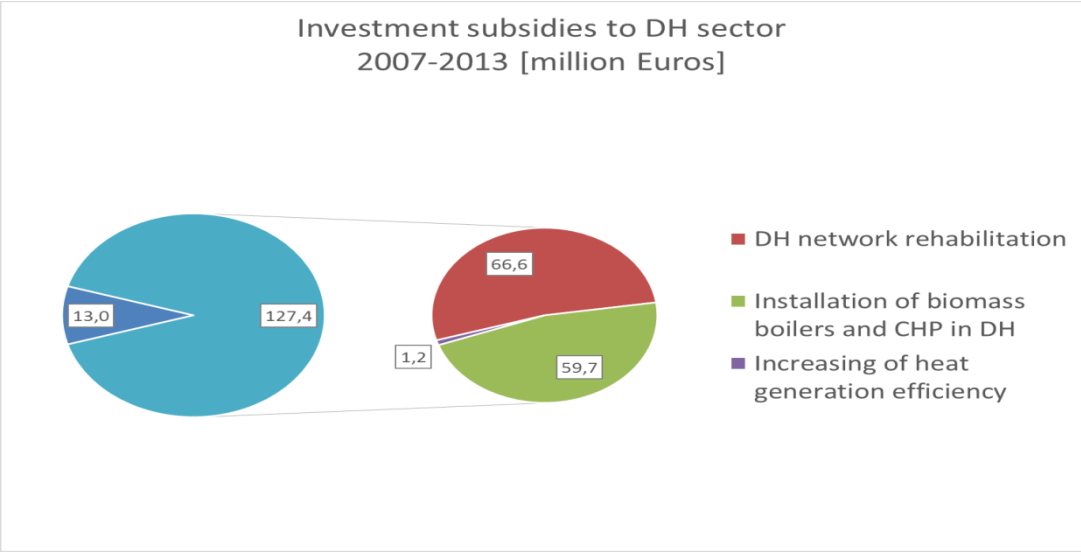


LITHUANIA

Experience

Renewable energy support schemes

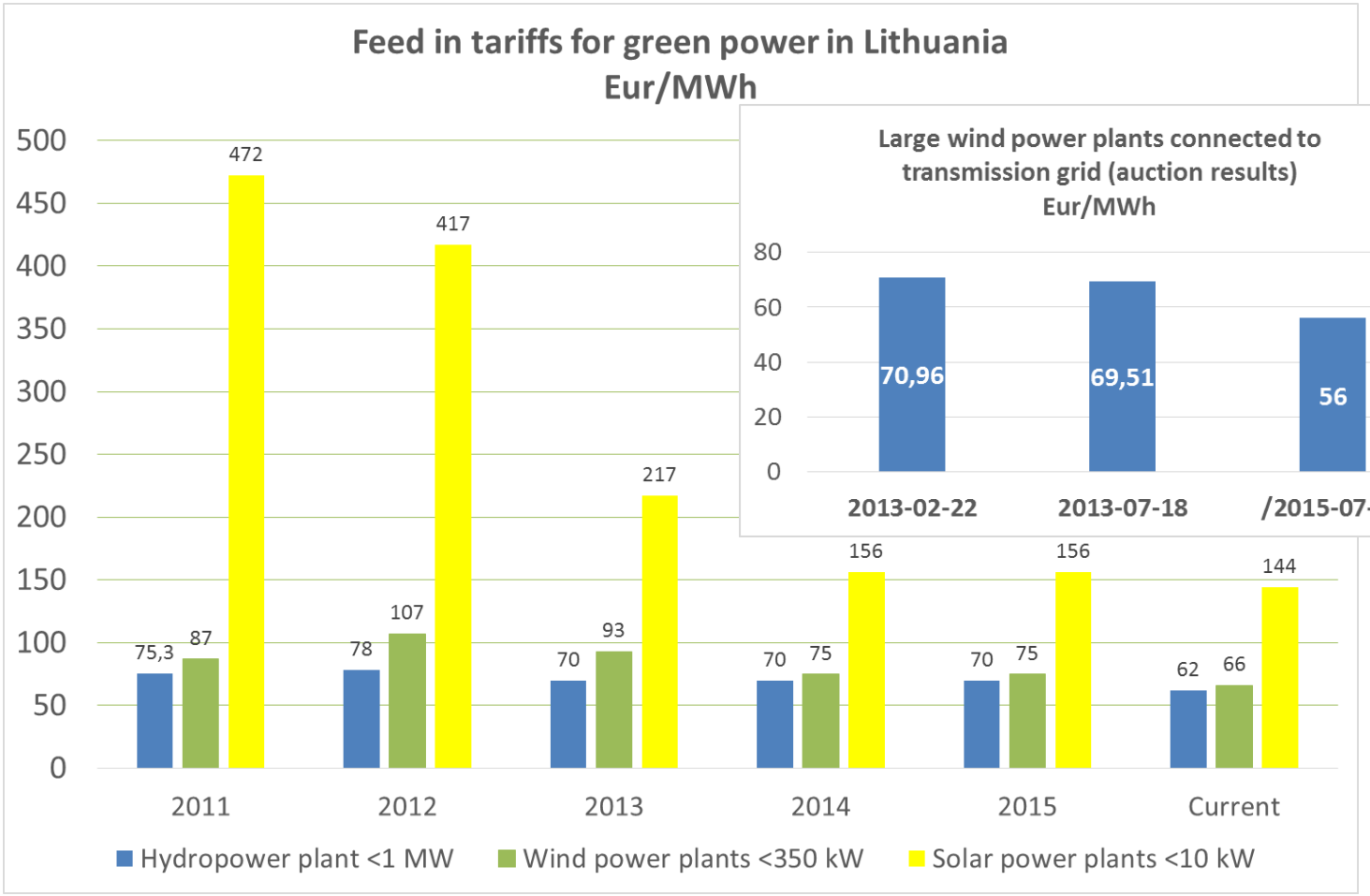
- **Investment subsidies** (EU funds, budget, climate fund)
  - Subsidised biomass boiler houses in DH sector, biomass CHP plants, biogas plants, individual pellet boilers in housing, small solar collectors in housing, ...
  - Maximum intensity and requirements for subsidy receivers set, then selection of subsidy receivers were carried out by responsible authority



Renewable energy support schemes

- **Feed-in tariff for green power**
  - For power produced in hydro power plants, solar PV plants, biomass CHP plants, biogas plants, wind power plants
  - Valid for 12 years from start of production
  - Difference between fixed price and market price is payed to producers from „**public service fund**“ which is financed by power consumers, paying addition to power price
  - Different schemes used:
    - Fixed feed in tariff for all potential producers (different for different kind of power producers)
    - Auctions – pricing committee establishes ceiling for feed-in tariff, then investors which proposes least feed-in tariff are selected

Renewable energy support schemes



Renewable energy support schemes

- **Obligations**

- Obligation to mix biofuel
- Obligation to connect new green power producers
- …

Experience of Lithuanian business gathered

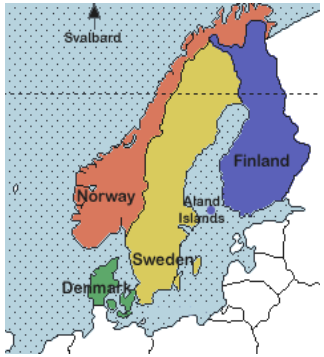
- **Investment/construction**
- Conversion of DH boiler houses to biomass
- Biomass CHP
- Waste power plants
- Wind power plants
- Solar PV plants (utility scale and residential)
- Biogas plants
- Small hydropower plants

- **Technology production**
- Biomass boilers (residential and medium scale (up to 20 MW)
- Biomass CHP technology
- Solar PV panels
- Solar collectors
- **Operation**
- Biomass supply chain
- Operation of power plants and boiler houses

LITHUANIA

Mistakes, lessons

Way of thinking of majority of politicians



"Scandinavian"

External benefits (green jobs, added value to economy, etc.) and external cost (climate change, pollution) are considered

Goal: lowest share of energy expenditures (incl. external cost) in all incomes in long term perspective

"Eastern Europe"

EU directive requirements are considered

Goal: lowest price of energy today

Lesson

- Understanding of benefits of renewable energy development should be increased among population as well as among politicians:
- Impact of renewable energy development on:
  - Energy Prices (increase because of additional payment of consumers to public service fund as well as decrease due to merit order effect-decrease imported power price)
  - Green jobs
  - Added value created
  - Additional incomes to state budget
  - Reduction of external cost (GHG, local emissions)

Main message:
Renewable energy should be developed, investment in to energy efficiency should be supported
- Not because somebody (EU?) requires
- Not because that is fashionable

BUT JUST BECAUSE THAT GIVES ECONOMICAL BENEFIT TO YOUR COUNTRY!

Lesson

- Macroeconomic analysis of renewable energy development should be carried out
- Preparation of long term renewable energy development scenario which should be represent most added value to national economy

Mistakes/Lessons

- **Over-motivation**

- Too high feed-in tariffs
- Subsidised investment which is profitable without subsidies

- Renewable energy support scheme must equally split benefit of renewable energy development to investors and society (system where every consumer and investor is motivated to behave in the way what is most beneficial for the society)

Example:
Feed-in tariff for small solar power plants was set as high as 521 EUR/MWh in 2011.
Reason: Pricing commission estimation was based on cost of solar power in 2009. Then the feed in tariff for new power plants could not be changed more often then just once a year according the law.
That led to "solar burble" situation in Lithuania

Main message:
Over-motivation for renewable energy is not only bad for economy and energy consumers,
It is bad also for renewable energy business as spoils image of renewable energy

Mistakes/Lessons

- **Bureaucracy, lengthy procedures**
- Decisions on support takes a long time
- Non transparent procedures triggers legal actions

- Support schemes should be as clear and specific as it is possible

Mistakes/Lessons

- **Motivation of wrong investments (looking from long term perspectives)**

- For example – support schemes promote investment into heat only biomass boilers in DH systems, loosing cogeneration potential

- Support schemes should be set after long term renewable energy development plan is approved

Mistakes/Lessons

- **Frequent changes in support schemes, retroactive measures**

- Support schemes should be carefully planned

Main message:

It is better to spend more time for planning, discussion and considerations then try to be very fast on decisions even if that could seen as procrastination

Thank you for attention

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