



Enabling conditions for renewable energy Case of Lithuania

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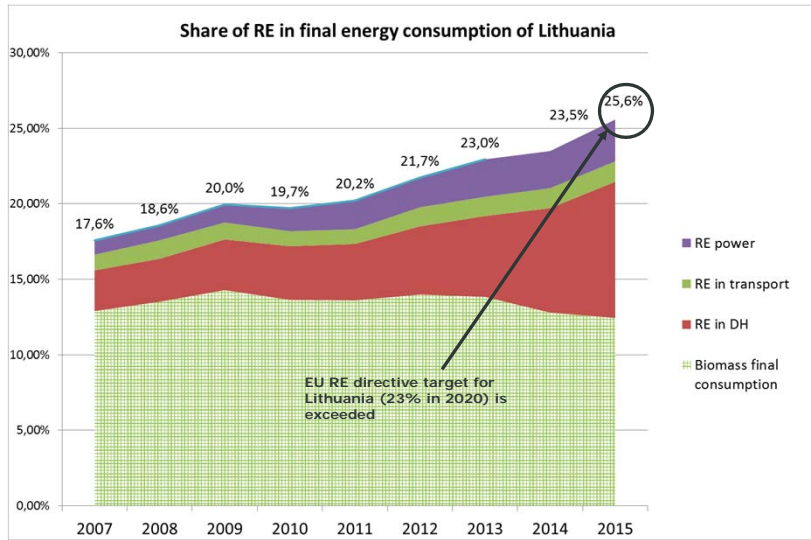
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LITHUANIA Data on renewable energy generation

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Top 10 EU Member States wind markets relative to their power consumption
(ratio installed capacity in 2016/average 2016 power consumption)

| RANKING | COUNTRY | RATIO |
|---------|-------------|-------|
| 1 | Lithuania | 15.7% |
| 2 | Ireland | 12.8% |
| 3 | Germany | 10.0% |
| 4 | Netherlands | 7.1% |
| 5 | Finland | 6.2% |
| 6 | Denmark | 6.0% |
| 7 | Portugal | 4.8% |
| 8 | Greece | 4.1% |

| RANKING | COUNTRY | RATIO |
|---------|---------|-------|
| 9 | Poland | 3.6% |
| 10 | Sweden | 3.2% |

LITHUANIA

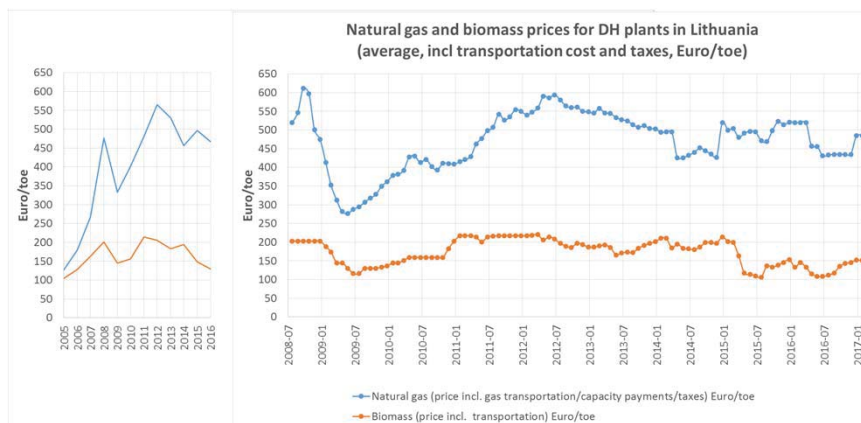
IS THE EU MEMBER STATE WITH MOST 2016 INSTALLATIONS RELATIVE TO ITS POWER CONSUMPTION

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LITHUANIA Experience

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Average prices of biomass and n.gas for boilerhouses and CHP plants in Lithuania (including transportation, Euro/toe)



Company which made largest influence on the process of conversion from use of natural gas to use of biomass in Lithuania:



Renewable energy support schemes



- **Investment subsidies** (EU funds, budget, climate fund)
 - Subsidized 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

- **Mistake to avoid - Over-motivation**
 - Subsidised investment which is profitable without subsidies
- **Biurocracy, lengthy procedures**
 - Decisions on support takes a long time

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Renewable energy support schemes

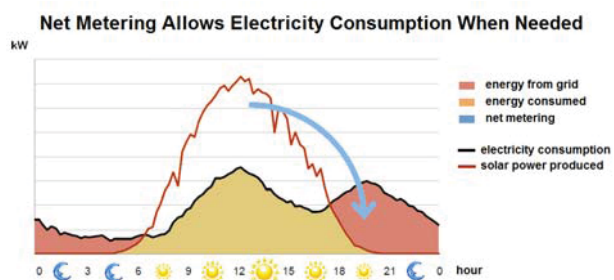
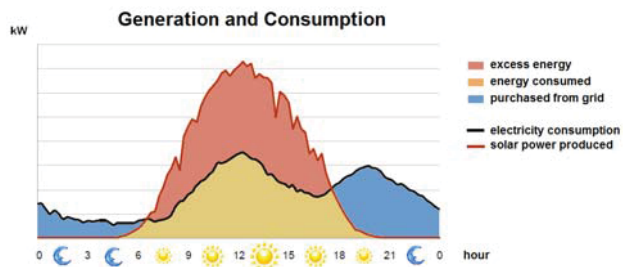


- **Feed-in tariff for green power**
 - For power produced in hydro power plants, solar PV plants, biomass CHP plants, biogas plants, wind power plants
 - Valid for 12 years from start of production
 - Difference between fixed price and market price is payed to producers from public service fund is is 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) (**Mistake to avoid – over-motivation – too high feed in tariff**)
 - Auctions – pricing comitee establishes ceiling for feed-in tariff, then investors which proposes least feed-in tariff are selected

Mistake to avoid - Frequent changes in support schemes, retroactive measures

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Net metering scheme



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) compared to incomes of business and population in long term perspective

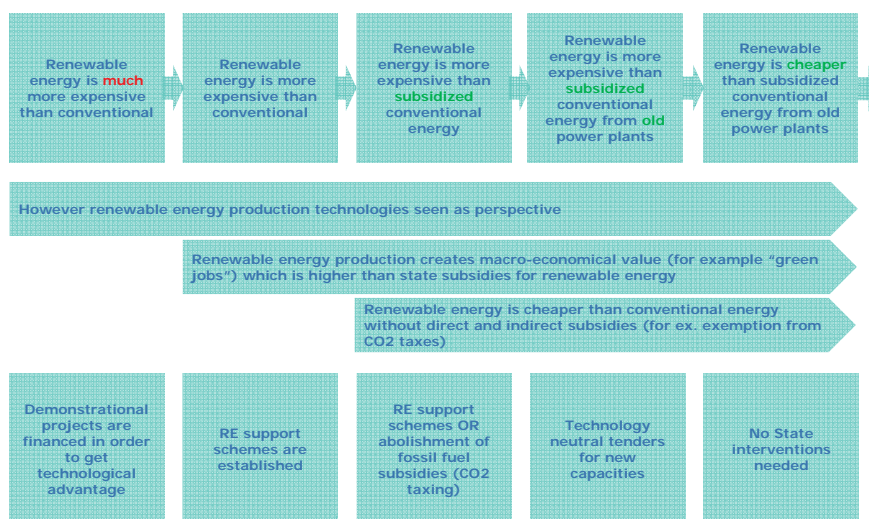


“Eastern European”

EU directive requirements are considered

Goal: lowest price of energy today

Renewable energy penetration stages



Economic Rationale for Renewable Energy development in oil and gas rich countries



- **Short term goals:**

- Gaining technological experience
- Increase of fossil fuel export revenues without substantial investments
- Achievement of climate change reduction goals (goal for international diplomacy)

- **Long term (2050-2070) goal**

- Transition to no fossil fuel use world!

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Thank you for your attention!

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