Workshop on the EU Directives and legally binding obligations in the area of sustainable energy under the Energy Community Treaty

Implementation of EU RES legislation in Lithuania and some other CEE countries

V. Jankauskas
Energy regulatory expert

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Newly installed capacities in EU in 2012

Total 44,6 GW

- Wind: 26%
- Gas: 23%
- PV: 38%
- Biomass: 3%
- Coal: 7%
- Hydro: 1%
- CSP: 2%
- Other: 0%
Installed and decommissioned capacities in EU during 2000-2012

GW

- gas
- wind
- PV
- biomass
- hydro
- waste
- coal
- nuclear
- fuel oil

installed
decommissioned
RES COST TRENDS

ct/kWh

1990 2000 2010

PV

Wind

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Tasks to MS according to the RES Directive

- BE: 2.2% to 13%
- BG: 9.4% to 16%
- CZ: 6.1% to 13%
- DK: 5.8% to 30%
- DE: 5.8% to 18%
- EE: 3.1% to 18%
- IE: 3.1% to 16%
- EL: 6.9% to 18%
- ES: 8.7% to 20%
- FR: 10.3% to 23%
- IT: 5.2% to 17%
- CY: 2.9% to 13%
- LV: 0.6% to 15%
- LT: 4.3% to 23%
- LU: 0.6% to 11%
- HU: 0.3% to 13%
- MT: 0% to 10%
- NL: 2.4% to 14%
- AT: 7.2% to 23%
- PL: 7.2% to 15%
- PT: 7.2% to 20.5%
- RO: 17.8% to 24%
- SI: 16% to 25%
- SK: 6.7% to 14%
- FI: 6.7% to 28.5%
- SE: 6.7% to 39.8%
- UK: 1.3% to 15%

RES share in 2005 and RES share in 2020.
Different RES potential in the Member States

EU27: up to 40% of electricity demand in 2020
RES support schemes

- Feed-in tariff
- Quota / TGC
- Feed-in tariff and Quota / TGC
- Tax incentives /
- Investment grants
- Other system
Lithuania: National renewable energy action plan

- Energy from fossil fuel
- Renewable energy

Share of energy from renewable sources in gross final consumption of energy.
Forests in Europe

Source: European Forest Institute.
Lithuania: biomass usage in district heating
Wind power plants in Lithuania

Licenses are issued for more than 1700 MW
RES Law in Lithuania

- Passed in April 2011
- The main RES support principles:
  - Feed-in-tariffs
  - Obligatory purchase
  - Compensation of connection to the network expenses
  - Support for agricultural products used for biofuel production
  - Support for investments into RES technologies
Support for RES electricity production

- By applying feed-in-tariffs and obligatory purchase
- Fixed tariffs for the power plants with capacities less than 30 kW
- Auctions for the bigger power plants
- Different feed-in-tariffs for different technologies, capacities of power plants, geographical regions
- The tariffs are fixed for 12 years
- Tariffs for newly built plants are calculated every year and will be lower
RES Law has defined the limits until 2020

- Wind power plants connected to the grid – up to 500 MW
- Solar PV plants – up to 10 MW
- HPP – up to 141 MW
- Biomass power plants – up to 350 MW

Such capacities are supported by the Government. When the set limits exceeded, the Government decides on the further development principles.
Problems with Solar PV tariffs

- The feed-in-tariff for solar electricity (plants with capacity less than 30 kW) was set by the Regulator at 0.47 €/kWh.
- The Solar panel prices in the market went down more than twice during one year.
- It caused a real boom: investors flooded the Ministry of Energy asking for the permits.
- The Ministry issued more than 11000 permits for 350 MW capacity.
- Parliament was forced to amend the Law abruptly.
Implementation of EU RES Directive in Poland

In 2020 – 15% of RES in the final energy consumption

- 20% in electricity generation
- 15% in heat generation
- 10% in fuels

10 GW new plants in RES electricity generation and 30 GW in RES heat production

It will cost about 100 bln PLN (25 bln €)

It will create dozens of thousands of work places
Plans for RES-electricity development in Poland

MW

- Biomass
- Biogas
- Wind off-shore
- Wind on-shore

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Poland: support for RES electricity

- Green certificates system
- Energy companies selling electricity to end users are obliged to obtain and present for redemption to the Energy Regulator a specified number of certificates of origin of energy generated from RES
- These certificates can be traded either on bilateral basis or on the Warsaw Commodity Exchange
- A penalty of 130% of the substitution fee is applied in case of failure to comply with this legislation
RES support schemes in Hungary

► Feed-in-tariffs
  ◆ tariffs depend not only on technology, capacity of the plant, but also on the time of day, i.e. there are peak and off-peak tariffs

► EU funds for RES
  ◆ KEOP 2009/4.4.0 Heat and/or electricity production from renewable sources
  ◆ KEOP 2009/4.2.0 Local heat and cooling supply from renewable sources

► National Energy Programme
  ◆ The Government subsidises clean energy usage and energy efficiency for households
Additional support mechanisms: the example of Hungary

Support Scheme

- Tax exemption
- Investment subsidy
- Production support

- KIOP (2004-2006)
- KEOP (2007-2013)

- Obligatory taking over of RES-E and feed-in-tariff

Renewable Energy Sources
- Bio fuels
- Heat generation
- RES-E generation

Until 2007
Estonia: target for 2020

- Data for 2005-2008 are from Eurostat.
- Indicative trajectory from NREAP.
- Share of renewable energies, %
- Minimum value for the indicative trajectory pursuant to Annex I B of the Directive, %
Estonia: RES electricity generation

GWh


Wind  CHPs  Hydro

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Estonia: measures to promote RES electricity

- Premium tariff support scheme (premium tariff 53.7 €/MWh + market price ~50 €/MWh), available for 12 years
  - for RES-E generation in CHPs unlimited support
  - for wind, support is available until 600 GWh is generated during the calendar year

- Investment support schemes
  - for installation of wind energy capacities, first call of proposals ~30 MW;
  - for small CHPs (biogas, biomass) less than 2 MWel

- Wind energy support scheme extensions probably needed for additional 300 MW, in total 650 MW needed
Estonia: RES in heat generation

22% from RES

43% from RES

GWh

Boilerhouses
Heat from CHPs