LITHUANIAN NATIONAL ENERGY INDEPENDENCE STRATEGY – A ROADMAP FOR THE FUTURE

2023-05-22
ENERGY INDEPENDENCY – KEY NATIONAL GOAL SINCE 1990

**Oil Terminal**
At 1999 Butingé Oil Terminal becomes operational

**LNG Terminal**
From 2014 – diversification from Russian gas

**Power Links**
In 2015 connection with Poland and next year with Sweden

**Biomass for DH**
Transition from gas to biomass
NEXT STEP – MORE LOCAL POWER GENERATION

Power generation in Lithuania 1990-2021

- Closure of Ignalina NPP
- Gap that needs to be filled
LITHUANIAN GREEN TRANSITION TARGETS

Final energy consumption

- **2020**
  - RES electricity 20%
  - RES heating 50%
  - 27.36%

- **2030**
  - RES electricity 90%
  - RES heating 90%
  - RES transport 15%
  - 50%

- **2050**
  - RES electricity 100% (2045)
  - RES heating 100%
  - RES transport 50%
  - 100%
RENEWABLE GOALS

- **Offshore**
  - 1,4 GW 2030
- **Onshore**
  - 1,8 GW 2025
  - 3,6 GW 2030
- **Solar**
  - 2 GW 2025
  - 4 GW 2030

Installed renewable generation capacity – 9 GW in 2030
RENEWABLE GROWTH IN LITHUANIA

Installed amount of renewable energy resources in the network (MW)

- Wind
- Solar
- Total

Prosumers in Lithuania

- 2015: 63
- 2018: 1097
- 2020: 8640
- 2021: 14281
- 2022: 33149
- 2023: 39734
- 2023 03: 44683
- 2023 05: 44683

MINISTRY OF ENERGY
OF THE REPUBLIC OF LITHUANIA
TRANSPORT SECTOR GOALS

Biofuels
1st generation biofuels is the main source of renewable fuels in Lithuania. 1st and 2nd generation biofuels so far are the most efficient way for transport sector decarbonization. The goal for 2nd generation biofuels set at 3.5% level by 2030.

Electricity
Electrification is increasing each year and in a near future it will be a main source of renewable energy in transport sector. Lithuania supports the deployment of charging infrastructure and electric vehicles. The goal is to have 16% share of electric vehicles in car park by 2030.

Renewable gases
Domestically produced biomethane and hydrogen will play a strong role in public and heavy duty transport decarbonization so infrastructure is being prepared in advance. It is planned to increase the share of renewable gases in the transport sector by 5% until 2030.
THE TOOL TO REACH THEM – NATIONAL STRATEGY

- Since 2008 – Lithuanian energy policy is guided by comprehensive national energy independence strategy
- Updated every 5 years
- New National Energy Independence Strategy - next year!
- Key objectives:
  ✓ Energy independent by 2050 (or earlier);
  ✓ 100% decarbonization;
  ✓ Energy costs and affordability for everyone;
  ✓ Become an energy exporter;
  ✓ Pursue industrial growth;
NATIONAL STRATEGY – INPUT FROM MANY SOURCES

Scenarios for the Evolution of Lithuanian Power Sector for 2020 – 2050 (finished)


Lithuanian Energy Transformation 2050 Study (in progress)

“Lithuania 100” study (in progress)

New National Energy Independence Strategy (2024)

Including input from other studies: heating and cooling, hydrogen development, etc.
GRADUAL BUILD-OUT OF HYDROGEN ECONOMY
FLEXIBILITY SOLUTION - P2X

- Excess wind and solar – to hydrogen (and other e-fuels)
- Key player – energy islands
- \( \text{H}_2 \) - power provider during idle seasons
- Export of value-added products
- More cooperation between Baltics – bigger value for everyone
ENERGY STRATEGY – A WAY TO CONNECT EVERYTHING

- Biomass
- Offshore wind parks
- Green gasses
- Seasonal underground storage
- Green hydrogen
- Energy communities
- Solar parks
- Heat generation
- Onshore wind
- Flexible storage
THANK YOU FOR YOUR ATTENTION