Contents
- Current energy consumption and trends
- Latvian energy policy
- Sustainable energy vision for Latvia 2050

Consumption of primary energy sources

Energy imports in 2005

Characteristics and challenges for energy market
- Composition of resources:
  - Relatively large share of renewables in primary energy balance, especially biomass
  - High dependence from import of primary energy sources (29% - gas provided by Gazprom)
  - Increase in the use of fossil fuels both in absolute and relative terms
- Isolation of Baltic energy markets
- Low energy efficiency in whole cycle: production, transmission, distribution and final consumption

Energy policy in Latvia
- Key policy documents:
  - National energy strategy for 2007-2013
  - Renewable energy strategy 2007-2013
  - National energy efficiency plan?
- Commitments towards EU:
  - 49.3% from electricity produced using RES by 2010
  - 5.75% of bio-fuels from the fuel used in transport sector
Energy policy priorities

- Goals:
  - Security
  - Independence (self-sufficiency in electricity production by 2016)

- Tools and action points:
  - External links
  - Diversification of energy sources
  - Increase in energy efficiency

Energy efficiency target

- Reduction of heat consumption in buildings from 235 kWh/m² in 2004 to 150 kWh/m² in 2020

Prospects for primary energy demand

- 20% imported electricity
- 30% hydropower and wind energy
- 10% biomass
- 10% natural gas
- 20% oil products and oil shale
- 20% coal and other solid fossil fuels
- Self-sufficiency

Electricity demand

- High efficiency: 5922, 7000, 7700, 8800, 10000, 11200
- Low efficiency: 5800, 7250, 8300, 11500, 14500, 18100

Electricity production

- Condensation power plants (coal-solid biomass)
- Coal burners
- Condensation power plants (gas-heavy fuel oil)
- Cogeneration power plants
- Hydro power plants

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Sustainable energy vision for Latvia 2050
- Made within the project “Baltic-Nordic cooperation for sustainable energy”
- Partners: Inforse (Denmark), Green Liberty (Latvia), Latvian Green Movement
- Vision includes a transition of the energy supply and demand with phase-out of fossil energy and energy imports over a 50-year period.

A sustainable energy vision for Latvia, proposals until 2020
- **Windpower** - 600 MW
- **Better biomass** use (clean and efficient)
- **Straw use and energy plantations** (180,000 ha for liquid + 220,000 ha for solid fuel)
- **District heating** and **CHP plans**, 1150 MWe CHP
- **Strategies for:**
  - Biofuels in transport
  - Biogas, solar, geothermal, hydro
  - **Energy efficiency** for heating, electricity, service sector, transport

Some assumptions for Latvia
- **Developments from 2000**
  - Housing: increase to 41 m²/person in 2050 (+40%)
  - Service sector: 3.3 times increase till 2050
  - Electric appliances: three times increase in housing and 5 times in service sector till 2050
  - Car use: Western European level (EU-15)
  - Bus transport: 1.5 times increase till 2050
  - Road freight: 4 times increase till 2010, 6 times increase till 2050
  - Rail freight: 2.2 times increase till 2010, 3 times till 2050

Primary Energy Supply
- **Renewable Energy Supply**
- **Sources of Electricity**
- **Renewable Energy Supply (PJ)**
- **Latvian electricity supply divided by sources**

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Latvia’s vision for Sustainable energy 2050 by Alda Ozola-Matule, Latvian Green Movement.

**Fossil fuels**

<table>
<thead>
<tr>
<th>Year</th>
<th>Gas import (PJ)</th>
<th>Gas domestic (PJ)</th>
<th>Oil import (PJ)</th>
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<th>Coal import (PJ)</th>
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**Power sector proposals**

Possible expansion of CHP plants in Latvia, 2000 – 2020

<table>
<thead>
<tr>
<th>Site</th>
<th>CHP nominal electric capacity (MW-elect)</th>
<th>CHP nominal heat capacity (MW-heat)</th>
<th>Electric efficiency</th>
<th>Electricity / heat ratio</th>
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**Power costs**

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<th>Possible Biomass Power plants</th>
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**Opportunities for Latvia**

- Phase out electricity import by 2010
- Reduce gas use by 40% by 2020
- Phase out fossils by 2050
- Electricity costs 3-6 €cent/kWh (below nuclear)

Follow-up of the vision 2050

- Presentation to the energy experts
- Communication on vision with various stakeholders
- Updating of input data
- Elaboration of proposals for activities that would lead towards vision

Thank you!

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