Energy Policy of Slovenia in relation to objectives in the field of RES and Energy Efficiency

Ministry of Infrastructure and Spatial Planning

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SI Alpine Convention contact point
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General objectives of the Slovenian Energy Programme (EPS)

- Security of energy supply and security of energy services
- Competitiveness of the society, economy and of energy supply and energy services
- Environmental Sustainability and climate change combat
- Social Cohesion

Bases in:
- Energy Act
- Public consultation of the Green Book for EPS
- Spatial Development Strategy of Slovenia
- Other Slovenian strategic documents and EU, Council of EU etc.
Priority areas EPS

- Energy Efficiency (EE)
- Increased use of RES
- Electricity distribution network development with introduction of active networks

Due to the benefits, obligations and opportunities for boosting economy

Objectives of EPS

- **Improvement of strategic and operational security of supply:**
  - Decreasing the import dependency in all scenarios
  - Sustaining diversification of the energy sources supply and for electricity production and increase of electricity production coverage in Slovenia
  - Better performance in all indicators of operational liability of electricity supply, increase of production capacities and reserves within the country

- **Retain competitiveness in comparison to neighboring markets:**
  - Decreasing energy intensity
  - Change of structure of energy expenses – increase investment and decrease of gasoline and emission expenses
  - Retaining the competitiveness of electricity production
Declared targets in SI in 2020

- **GHG emissions (non ETS):** +4%
- **Energy Efficiency (EE):** -20%
- **Renewables (RES):** +25%

Expected effects of EPS

**Reducing the emissions:**
Change of trend from constant growth towards long term GHG emission reduction

**Higher energy efficiency:**
Low growth of end energy use (without transport – decreasing for 7% by 2020 and zero growth by 2030)
Moderate growth of electricity use and higher efficiency of transformations

**Higher share of RES**
For 60% in comparison of current use; hydroenergy and wood-biomas count for 95%, other RES will have 35% among RES
Strategies and scenarios of EPS

**Two strategies for RES and EE, cogeneration and local energy supply:**

- **reference:** urgent measures for fulfillments of objectives
- **intensive:** active policy measures

**Three scenarios:**

- **Baseline scenario:** renovation of existing energy production
- **Nuclear scenario** (upgrading the baseline): long term use of nuclear energy
- **Natural Gas scenario** (upgrading the baseline): additional diversification of sources

*One scenario to be chosen as a basis for new EPS (2014)*

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**GHG emissions by sectors**

- **Rast [+5%] 1986-2008**
- **Zmanjšanje [-15%] 2005-2030**
- **-11%**
- **-3%**
- **+202%**
- **+20%**
- **-48%**
- **+8%**
- **-5%**
- **-36%**
- **-68%**
- **-3%**
- **+20%**

*Drugi sektorji (procesne emisije, odpadki, kmetijstvo)*

*Promet*

*Predelovalne dejavnosti in gradbeništvo*

*Transformacije (proizvodnja el. en. in daljinske toplote)*

*Široka raba*

*All emissions, also outside the energy sector*
**RES share target**

![Graph showing RES share target](image)

**RES Targets by sectors by 2020**

<table>
<thead>
<tr>
<th>Sectoral targets [%]</th>
<th>2005</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>realization data</td>
<td>projections RES AP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RES - Heating &amp; Cooling</td>
<td>19.0</td>
<td>25.2</td>
<td>26.4</td>
<td>27.3</td>
<td>24.4</td>
<td>27.3</td>
<td>30.8</td>
</tr>
<tr>
<td>RES - Electricity</td>
<td>28.7</td>
<td>33.8</td>
<td>32.2</td>
<td>30.8</td>
<td>31.1</td>
<td>35.4</td>
<td>39.3</td>
</tr>
<tr>
<td>RES - Transport</td>
<td>0.3</td>
<td>2.0</td>
<td>2.8</td>
<td>2.1</td>
<td>3.1</td>
<td>4.7</td>
<td>10.5</td>
</tr>
<tr>
<td>TOTAL - RES share</td>
<td>16.1</td>
<td>19.1</td>
<td>19.7</td>
<td>18.9</td>
<td>18.7</td>
<td>21.2</td>
<td>25.3</td>
</tr>
</tbody>
</table>

*Vir: AN OVE (2010).*
Role of RES in total primary energy supply (TPES)

Total final consumption (TFC) in Slovenia, 2000-2011 in TJ
Electricity generation from RES in 2011 (%)

Role of RES in electricity production
Electricity production from RES in 2030

1/3 of all RES from big hydro electricity power plants in 2030

<table>
<thead>
<tr>
<th></th>
<th>Production 2030 [GWh]</th>
<th>Growth 2008-2030</th>
<th>Share in total use of electricity 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro PP (bigger – above 10 MW)</td>
<td>5620</td>
<td>+58%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Small hydro PP</td>
<td>684</td>
<td>+50%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Wind PP</td>
<td>753</td>
<td></td>
<td>4.5%</td>
</tr>
<tr>
<td>Solar PP</td>
<td>914</td>
<td>+390%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Other sources</td>
<td>857</td>
<td>+150%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

Vir: Interaktivni scenarij Osnutka NEP

Targets for EE in EPS for 2020

> Improving EE for 20 %
> Reducing of end energy use (without transport) for 7% in comparison to 2008
> Growth of end use of electricity to no more than 5% in comparison to 2008
> 100% share of zero energy buildings among new and renovated buildings by 2020 and in public sector by 2018 (EE Directive)
> Ensuring 3% of renovated buildings in public sector by 2014 (EE Directive)
## Results of EE Action plan 1

<table>
<thead>
<tr>
<th>Energy savings</th>
<th>Target</th>
<th>achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[GWh]</td>
<td>[%]</td>
</tr>
<tr>
<td>End energy savings 2008 – 2016</td>
<td>4.273</td>
<td>9</td>
</tr>
<tr>
<td>Intermediate end energy saving by 2010</td>
<td>1.187</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Savings 2008 – 2010</td>
<td>1.317</td>
</tr>
<tr>
<td></td>
<td>Early activites (1995-2007)</td>
<td>1.097</td>
</tr>
</tbody>
</table>

- Industry: method used for savings calculation „top-down” based on statistical data
- Households and tertiary sector – evaluated on the bases of implemented measures

## Implementing EE Action plan 2

- In 2016 decrease in use of energy for 4.273 GWh
  - means less expenses for energy use on yearly base – for 500 mio EUR
- Approximantely 3.000 direct jobs for implementing measures and investments + indirect jobs
Achieved savings in 2010 and 2016 by sectors

<table>
<thead>
<tr>
<th>EE Measures in households, supported by SI ECOFUND</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Realisation</th>
<th>One/two family houses</th>
<th>Apartment houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>916</td>
<td>618</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>5,840</td>
<td>6,186</td>
<td>4,755</td>
</tr>
<tr>
<td>2010</td>
<td>7,385</td>
<td>14,022</td>
<td>14,813</td>
</tr>
<tr>
<td>2011</td>
<td>11,618</td>
<td>14,022</td>
<td>14,813</td>
</tr>
<tr>
<td>2012</td>
<td>15,250</td>
<td>14,813</td>
<td>14,813</td>
</tr>
<tr>
<td>2008-2012</td>
<td>41,009</td>
<td>34,208</td>
<td></td>
</tr>
</tbody>
</table>

*The numbers: number of the households X number of finished measures for particular households

25 million EUR for EE use in 2012 by SI ECOFUND
Changes in EE Action plan 2

- Financial frame doubled in comparison to EE Action plan 1 due to new EE in buildings Directive and demanding targets in the field of RES within EE Action plan 2.
- Measure for combating energy poverty was improved
- Enhanced measures in industry in the field of energy audits and feasibility studies and promotion of new product development for EE
- Due to EE Directive the energy companies will need to increase energy savings at the level of end users from 1 to 1.5%
- Fostering of measures in public sector (where the biggest delays are) in:
  - energy saving through energy contracting in the framework of PPP
  - promoting energy audits in state owned buildings and systems for energy management
  - Setting up a public buildings energy use register
- Energy efficient spatial planning (legislative adaptation needed, guidelines for planners, urban planners, infrastructure for electric vehicles)

Expected Energy savings in 2016 (in GWh)
Energy efficient spatial planning

- Legislative adaptation foreseen
- Preparation of planning and technical guidelines for spatial and urban planners
- Legislative proposals for stimulating setting up infrastructure for electric vehicles

Local energy concepts:
- Responsibility of Directorate for Energy on the basis of Energy Act
- Compulsory for municipalities → prepared for single or more municipalities
- Using targets from EE Action plan 2 at local level
- Thorough analysis of local energy supply, possible EE improvements in different sectors
- Concrete proposals for improvements
- → inputs for local spatial plans
- → proposals for different energy projects

Sustainable Transport plans

- Responsibility of Directorate for transport
- Promoting integrated approach – involvement of different sectors, stakeholders, awareness raising...
  - Not only bigger cities (Ljubljana – 100,000 daily commuters), also small cities in rural area (use of public transport more difficult)

- → inputs for local spatial plans: improving organization of transport in urban area and in inner cities
- → proposals for different energy projects in urban areas
Benefits of EE policy

- Reducing household expenses
- Reducing energy poverty
- Reducing public spending / expenses of public sector
- Investments in construction sector (energy improvements in buildings - refurbishment) have multiplicative effect in economy
- Involve mainly SMS in construction sector
- Investments in EE mean 3-4 times more employment than investments in energy supply
- Measures in EE supported by the EU finances – meaning “cheaper” measures
- Represents the highest potential for reducing GHG emissions and the cheapest way of their reduction
- Reducing the import of fossil energy sources
- Technologies and innovative solutions in the direction of EE → business opportunities already now, more so in the future
- Visible benefits of integrated approach to spatial and urban development

HVALA ZA POZORNOST!
Thank you!

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