Serbian Climate Strategy (and Action Plan)

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26.11.2018
Serbian Academy of Science and Arts

A project implemented by a consortium led by
Content of the presentation

1. GHG Emissions in Serbia
2. The potential long term impacts on the energy system in Serbia
3. The challenges ahead to bring Serbian Practices and by-laws close to EU standards
4. The structure and contents of the Climate Strategy and Action Plan
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GHG emissions in Serbia: 1990, 2015 and two (non-EU integration) baseline scenarios for 2050

-14,2%  
+16,1%  
-19,5%  
+9,0% 

-80% (1990)
Emissions by sectors in 2015 and 2050

Serbia's GHG Emissions (2015/per gasses)
- IPPU: 7%
- Agriculture: 9%
- Energy sector: 80%
- Waste: 4%

Serbia's GHG Emissions (2050/per gasses)
- IPPU: 12%
- Agriculture: 8%
- Energy sector: 77%
- Waste: 3%
### Top 10 key emissions sectors in 2015 (level)

<table>
<thead>
<tr>
<th>No.</th>
<th>CRF</th>
<th>CRF Name</th>
<th>Fuel / Fuel</th>
<th>Gas</th>
<th>1990</th>
<th>2015</th>
<th>L=2015</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.A.1.a</td>
<td>Public Electricity and Heat Production</td>
<td>Solid fuels</td>
<td>CO2</td>
<td>40410,54</td>
<td>31231,55</td>
<td>51,80%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>2</td>
<td>1.A.3.b</td>
<td>Road transport</td>
<td>Liquid fuels</td>
<td>CO2</td>
<td>4469,75</td>
<td>5823,74</td>
<td>9,66%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>3</td>
<td>5.A.1</td>
<td>[5. Waste][5.A Solid Waste Disposal][5.A.1-]</td>
<td>CH4</td>
<td>CO2</td>
<td>2789,80</td>
<td>1944,01</td>
<td>3,22%</td>
<td>IPCC WASTE MODEL</td>
</tr>
<tr>
<td>4</td>
<td>1.A.1.a</td>
<td>Public Electricity and Heat Production</td>
<td>Gaseous fuels</td>
<td>CO2</td>
<td>1407,22</td>
<td>1399,89</td>
<td>2,32%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>5</td>
<td>2.C.1.a</td>
<td>[2. Industrial Processes and Product Use][2-]</td>
<td>CO2</td>
<td>CO2</td>
<td>1527,63</td>
<td>1394,30</td>
<td>2,31%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>6</td>
<td>1.B.2</td>
<td>Fugitive Emissions from Fuels / Oil&amp; Natural gas</td>
<td>CH4</td>
<td>CH4</td>
<td>1365,91</td>
<td>1228,36</td>
<td>2,04%</td>
<td>Linked to Primes TPES</td>
</tr>
<tr>
<td>7</td>
<td>1.A.2</td>
<td>manufacturing industry and construction</td>
<td>Solid fuels</td>
<td>CO2</td>
<td>1535,70</td>
<td>1151,49</td>
<td>1,91%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>8</td>
<td>3.A.1.a</td>
<td>[3. Agriculture][3.1 Livestock][3.A Enteric fermentation]</td>
<td>CH4</td>
<td>CH4</td>
<td>2284,43</td>
<td>1063,04</td>
<td>1,76%</td>
<td>CAPRI</td>
</tr>
<tr>
<td>9</td>
<td>1.A.2</td>
<td>manufacturing industry and construction</td>
<td>Gaseous fuels</td>
<td>CO2</td>
<td>1878,30</td>
<td>1045,97</td>
<td>1,73%</td>
<td>PRIMES</td>
</tr>
<tr>
<td>10</td>
<td>1.B.1</td>
<td>Fugitive Emissions from Fuels / Solid Fuels</td>
<td>CH4</td>
<td>CH4</td>
<td>970,42</td>
<td>1003,44</td>
<td>1,66%</td>
<td>Linked to Primes TPES</td>
</tr>
</tbody>
</table>
# Top 10 emissions sectors that increased or decreased more between 1990 and 2015

<table>
<thead>
<tr>
<th>CRF</th>
<th>CRF Name</th>
<th>Fuel / Fuel group</th>
<th>Gas</th>
<th>1990</th>
<th>2015</th>
<th>Txt</th>
<th>contribution to the trend</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.A.3.b Road transport</td>
<td>Liquid fuels</td>
<td>CO2</td>
<td>4.469,75</td>
<td>5.823,74</td>
<td>0,031</td>
<td>0,169</td>
<td>0,169</td>
</tr>
<tr>
<td>2</td>
<td>1.A.2 manufacturing industry and construction</td>
<td>Liquid fuels</td>
<td>CO2</td>
<td>3.703,31</td>
<td>994,44</td>
<td>0,021</td>
<td>0,117</td>
<td>0,287</td>
</tr>
<tr>
<td>3</td>
<td>1.A.1.a Public Electricity and Heat Production</td>
<td>Solid fuels</td>
<td>CO2</td>
<td>40.410,54</td>
<td>31.231,55</td>
<td>0,017</td>
<td>0,092</td>
<td>0,378</td>
</tr>
<tr>
<td>4</td>
<td>1.a.4 Domestic</td>
<td>Gaseous fuels</td>
<td>CO2</td>
<td>2.317,49</td>
<td>710,60</td>
<td>0,012</td>
<td>0,067</td>
<td>0,446</td>
</tr>
<tr>
<td>5</td>
<td>3.D.1.1 [3. Agriculture][3.D Agricultural Soils][3.D.1 Direct N2O Emissions From Managed Soils]</td>
<td>Liquid fuels</td>
<td>N2O</td>
<td>102,00</td>
<td>975,69</td>
<td>0,011</td>
<td>0,061</td>
<td>0,506</td>
</tr>
<tr>
<td>6</td>
<td>1.B.2 Fugitive Emissions from Fuels / Oil &amp; Natural gas</td>
<td>Liquid fuels</td>
<td>CO2</td>
<td>1.498,21</td>
<td>290,32</td>
<td>0,010</td>
<td>0,055</td>
<td>0,561</td>
</tr>
<tr>
<td>7</td>
<td>1.A.1.a Public Electricity and Heat Production</td>
<td>Liquid fuels</td>
<td>CO2</td>
<td>1.755,12</td>
<td>648,88</td>
<td>0,008</td>
<td>0,044</td>
<td>0,605</td>
</tr>
<tr>
<td>8</td>
<td>3.A.1.a [3. Agriculture][3.1 Livestock][3.A Enteric Fermentation]</td>
<td>Liquid fuels</td>
<td>CH4</td>
<td>2.284,43</td>
<td>1.063,04</td>
<td>0,008</td>
<td>0,042</td>
<td>0,647</td>
</tr>
<tr>
<td>9</td>
<td>1.a.4 Domestic</td>
<td>Solid fuels</td>
<td>CO2</td>
<td>1.889,04</td>
<td>926,24</td>
<td>0,006</td>
<td>0,032</td>
<td>0,678</td>
</tr>
<tr>
<td>10</td>
<td>1.A.1.a Public Electricity and Heat Production</td>
<td>Gaseous fuels</td>
<td>CO2</td>
<td>1.407,22</td>
<td>1.399,89</td>
<td>0,004</td>
<td>0,024</td>
<td>0,702</td>
</tr>
</tbody>
</table>
Emissions by gases in 2015 and 2050

Serbia’s GHG Emissions (1990/per gasses)

- CH4: 13%
- N2O: 4%
- SF6: 0%
- CO2: 83%

Serbia’s GHG Emissions (2050/per gasses)

- CH4: 10%
- N2O: 7%
- SF6: 0%
- CO2: 82%
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4. The structure and contents of the Climate Strategy and Action Plan
Serbia's estimate split of GHG emissions in 2015

- ETS: 67%
- non-ETS: 33%

Serbia's estimate split of GHG emissions in 2030 (B2 scenario)

- ETS: 66%
- non-ETS: 34%

Emissions covered by the EU Emissions Trading System in 2015 and 2030
Trends in Serbia’s ETS emissions compared to EU-ETS Cap

Trends in Serbia's ETS EUA demand vs EUA supply
(Baseline Scenarios)

- ETS Emissions trend in Serbia-B1
- ETS Emissions trend in Serbia-B2
- EU-ETS cap

A project implemented by a consortium led by
GFA Consulting Group

Republic of Serbia
Ministry of Environmental Protection

Project funded by the European Union
Trends in Serbia’s ETS emissions compared to EU-ETS Cap – a focus on the energy sector

Serbia’s Energy Sector emissions vs estimated amount of allowances (EUA) allocated to Serbia for auctioning (Baseline Scenarios)

- Energy sector emissions B1
- Energy sector emissions B2
- Serbia’s estimated amount of EUA for auctioning
R2-Results overview – non ETS
A few relevant socio-economic indicators (i)
A few relevant socio-economic indicators (ii)
Conclusion:

- Baseline scenarios allow Serbia to increase its NDC’s under the Paris agreement (currently -9,8% compared with 1990 levels)
- Serbia’s GHG Emissions are having a wrong trend
- In the ETS sector current gap between national ETS emissions and allocated emission allowances to Serbia is increasing (cca 15-20Mio€/y ... cca 300-400Mio€/y)
- In the ESD sector the gap between ESD limitation and ESD emissions is closing and Serbia will be completely unprepared to meet EU emission reductions requirements after 2030
- Baseline scenarios indicators for 2050 shows a big structural gap between Serbia and average EU28.
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4. The structure and contents of the Climate Strategy and Action Plan
Current policy framework requires significant adjustments to ensure cost-effective compliance with climate policy in an EU integration scenario.

Institutional capacity is a key constraint, in particular on what policy implementation is concerned.
Assessment of Current Policy and Institutional Framework – Overall findings

Low levels of implementation mostly due to lack of instruments, including regulatory and financial

- **Forest policy**
  - Innovative sources of financing, but not enough funding available - Budget Forest Fund

- **Waste policy**
  - Low waste fees
  - No waste tax
Assessment of Current Policy and Institutional Framework – Overall findings

Institutional Framework

General level of resources in Serbian institutions not conducive to efficient and effective policy planning and implementation.
Recommendations

Most recommendations are aimed at addressing the lack of institutional capacity, including in relation to human/technical and financial resources to promote policy planning and implementation.
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4. The structure and contents of the Climate Strategy and Action Plan
Draft Structure of the Strategy

1 INTRODUCTION

2 BACKGROUND POLICY FRAMEWORK AND STAKEHOLDER ENGAGEMENT

3 CLIMATE CHANGE IN SERBIA
   3.1 Emissions
      3.1.1 Baseline scenario
      3.1.2 Mitigation scenarios
   3.2 Impacts, Vulnerability and Adaptation
      3.2.1 Climate change scenarios
      3.2.2 Impact risk assessment

4 STRATEGIC GOALS AND OBJECTIVES

5 POLICY MEASURES AND MECHANISMS FOR THEIR IMPLEMENTATION
   5.1 Mitigation
   5.2 Adaptation

6 IMPACT ASSESSMENT

7 MONITORING PLAN

8 REGULATIONS
Draft Structure of the Action Plan

1. INTRODUCTION
2. CLIMATE STRATEGY GOALS AND OBJECTIVES
3. POLICY MEASURES, ACTIVITIES AND PROJECTS
   3.1 Mitigation
   3.2 Adaptation
6. IMPACT ASSESSMENT
7. MONITORING PLAN
8. REGULATIONS
Hvala na pažnji!

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