



## ECRAN Regional Training Seminar on National Systems for GHG inventories (and projections)

### Experience and capacities in Serbia

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## Current GHG Inventories

- The Republic of Serbia has realized in 2010 its 1st National Communication (INC) as a Non Annex 1 Party to the UNFCCC. This first inventory concerned two years of reporting, 1990 and 1998 and 2015 for projections.
- The GEF/UNDP BUR (including the Inventory chapter) is in draft and should be adopted and submitted to the UNFCCC by the end of 2015.
- At the same time, the Republic of Serbia is currently working on its GHG Inventory for the GEF/UNDP Second National Communication (SNC), which is expected to be published in 2016.
- The BuR and SNC GHG Inventory was developed by SEPA, and later reviewed and further improved by the Faculty of Mechanical Engineering (University of Belgrade).
- The Republic of Serbia has the challenging goal to be prepared for the Annex 1 reporting. The SNC and the BUR will report 1990 – 2013 GHG emissions consistent with the IPCC 2006 Guidelines in terms of methodology.
- Projections and mitigation programme for the period till 2020, 2030 is being prepared by Faculty of Mechanical Engineering and using relevant model (LEAP model). Long-term framework mitigation strategy by 2020/2030/2050, following the EU Roadmap 2050, will be prepared.

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## Institutional arrangements

- Ministry of Agriculture and the Environmental Protection is a National Focal Point for *UNFCCC*, while Inventory preparation is under responsibility of Serbian Environment Protection Agency (SEPA).
- Establishment of a National GHG Inventory is required by Article 50 of the Law on Air Protection in order to monitor emissions and removals of greenhouse gases.
- National inventory is conducted by the Environmental Protection Agency (SEPA).
- In accordance with the obligations under this section in the Department of National Register of polluters sources of the Agency, in 2012 began with the establishment of the National inventory of emissions of greenhouse gases.

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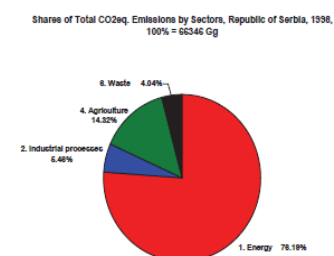
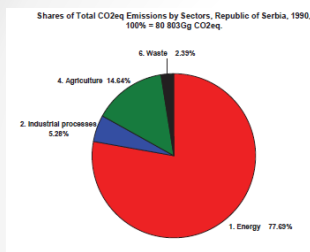
## Institutional arrangements

- Other institutions which are relevant contributors for the GHG Inventories are:
  - The Statistical Office of the Republic of Serbia (SORS) which is publishing sectorial statistics for the Republic of Serbia (energy, industry, transport, agriculture, forestry, etc.). It is also in charge of producing the annual Serbian Energy Balance (EB) and reports those data to Eurostat and International Energy Agency (IEA).
  - Ministry of Mining and Energy (MME) – Strategy Planning Office: Based on their own survey to energy suppliers and transformation operators, this section of the MME carries out annually a three years energy balance containing data from the previous year, the current year and a forecast for the following year. The Strategy Planning Office is also in charge of the Energy strategy.
  - Ministry of Internal Affairs - Police: The Serbian Police is responsible of the vehicle registration and maintain the related database.
  - Customs Office.
  - Public enterprises (PE EPS, etc).

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# INC Inventory (2010)



- The validation of input data/outputs was performed by specifically appointed experts, while final control of inputs and calculated data was performed during integration of the results into the overall GHG inventory using IPCC software (<http://www.ipcc-nggip.iges.or.jp/public/gl/software.htm>).
- For the uncertainty of the GHG calculations for 1990 were used IPCC Good Practice Guidance and Uncertainty Management in National GHG Inventories, Tier 1 Method.
- Emission level for 1990 was 80 803 Gg CO<sub>2</sub>eq, not taking into account removals by forestry. Total GHG emission level in 1990, taking into account amount of CO<sub>2</sub> removed by forest was 74 138 Gg CO<sub>2</sub>eq.
- Emission level in 1998 was 66 346 Gg CO<sub>2</sub>eq without estimated amount of removed CO<sub>2</sub> by forestry and 57 685 Gg CO<sub>2</sub>eq taking into account removed CO<sub>2</sub> by forestry.

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## GHG projections

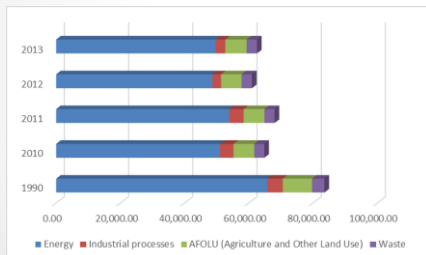
- The first preliminary projections were made for a purpose of support to the **Copenhagen Accord**. The INC included projections until 2012 and 2015.
- Under the GEF projects: "Second National Communication (SNC) of the Republic of Serbia to the UNFCCC" and "First Biennial update report (FBUR) under the UN Framework Convention on Climate Change" that are on-going, for the first time **GHG modeling is conducted**. Projections will be made for the period 2020, and 2030 and overall 2050.
- Moreover, preparation of these GHG projections will be a basis for the preparation of Climate change strategy, with Action plan (CCSAP). CCSAP shall be developed under IPA 2014 project.
- **Currently, there is no legally defined responsibility of specific institution(s) for projections, while this as well as QA/QC procedures will be defined and legally prescribed under the IPA 2013 project: "Establishment of mechanism for the implementation of MMR". The project has begun in May 2015.**

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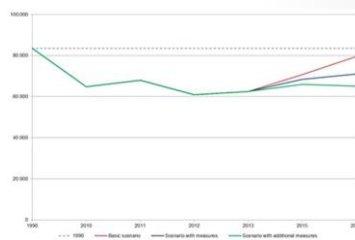
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# BuR Inventory and mitigation

GHG emissions by sectors,  
1990, 2010-2013  
(Gg CO<sub>2</sub> eq)



Aggregated GHG emission  
trend and projections 1990-  
2020 for three scenarios (Gg  
CO<sub>2</sub> eq)



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## SNC and BuR Inventory

- Under the activity 2.6. of the IPA 2012 project: "Establishment of a monitoring, reporting and verification system necessary for the effective implementation of the EU emissions trading system (EU ETS)", analysis on compliance of National GHG inventory's preparation with the EU and UNFCCC requirements was conducted. Main conclusions are "even SEPA is already going further than its current requirements (Serbia is non-Annex I), further activities will be necessary to fill in some gaps between the works currently carried out and Annex I countries obligations; Based on recommendations it is needed to:
  - Improve the completeness and the transparency in order to fulfil completely the requirements of an Annex I country,
  - Develop of a detailed description of the methodologies applied, presenting input data, justification of the parameters' selection, assumption,
  - Provide explanations for dips and gaps in the emissions time series for all the calculations realized outside the IPCC Tool,
  - Present the planned improvements in the inventory reports.

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## INDCs

- INDCs include the reduction of GHG emissions resulting from the "scenario with measures". This scenario is based on the reference scenario of the draft Energy Strategy by 2025, with projections by 2030. In the industry sector, this scenario took into account the Strategy and the policy of development of industry sector in the Republic of Serbia from 2011 to 2020, while correcting the part relating to GHG emissions, again according to the draft Energy Strategy. Emissions from agriculture are calculated on the basis of the draft Strategy of Agriculture and Rural Development of the Republic of Serbia (2014-2024), as well as the experience of EU member states. The part concerning waste and wastewater management takes into account the National Waste Management Strategy for the period 2010-2019 as well as new analyses to be incorporated into the revised strategy.
- In addition to information on the GHG emissions, the INDCs of RS contains basic information relating to the observed and expected changes in climate, their current and expected impacts on national priority sectors (water resources and hydrology, agriculture and forestry) and the estimated priority activities and needs related to adaptation to climate change. These information are the result of official data and analyses prepared for the purposes of drafting the Second National Communication.

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## INDCs

✓ **The aforementioned documents and analyses show that total national GHG emission level in 2030, will be - 9.8% compared to emissions in 1990.**

- Moreover, the **Climate change strategy and Action plan** that should be developed under the IPA 2014, will provide detailed analysis of possibilities, options and reachable targets for the period 2020 and 2030. The Strategy will cover and identify mitigation potentials/targets for sectors included in Effort Sharing Decision (ESD).
- MAEP initiated the IPA 2013 project: "**Establishment of mechanism for the implementation of MMR**" which main aim is transposition and preparation for implementation of Regulation (EU) No 525/2013 of on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC (MMR) and Effort Sharing Decision - Decision 406/2009/EC (ESD) and their following legal acts.
- ***The main aim of the project practically means establishment of institutional and procedural arrangements, legal framework and administrative and institutional capacities of the relevant bodies for the implementation of MMR and ESD.***

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## Twinning project: Establishment of a mechanism for implementation of MMR



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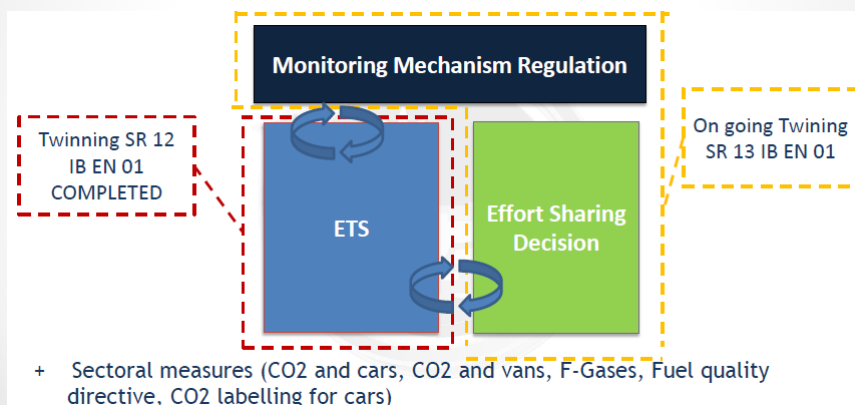


- Twinning partner: French Republic
- Starting date: May 2015
- Duration: 24 months
- Budget: 1,2Mio€ (IPA2013) of which 1,0Mio€ represents EU donation
- Project Components
  - Institutional and procedural arrangements for implementation of MMR and Decision 406/2009 established
  - Legal framework for implementation of the Regulation (UE) 525/2013 and the monitoring and reporting requirements of Decision 406/2009/EC established
  - Administrative and institutional capacities of the relevant bodies in the field of climate change strengthened
- More than 500 man-days of expertise will be provided
- Serbia established a special MMR working group involving all the relevant governmental institutions and stakeholders

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## Twinning project: Establishment of a mechanism for implementation of MMR



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