



РЕПУБЛИКА СРБИЈА  
Министарство  
заштите животне средине  
REPUBLIC OF SERBIA  
Ministry of  
Environmental Protection



DEVELOPMENT OF CLIMATE CHANGE  
MONITORING, REPORTING AND  
VERIFICATION (MRV) SYSTEM

## OVERVIEW OF 8 MODULES OF THE MRV –IT TOOL – DATA FLOWS, REPORTING FORMATS, INTER-INSTITUTIONAL COLLABORATION

DECEMBER 14, 2021

ELISABETH RIGLER, TEAM LEADER

# SERBIAN MONITORING, REPORTING AND VERIFICATION (MRV) SYSTEM

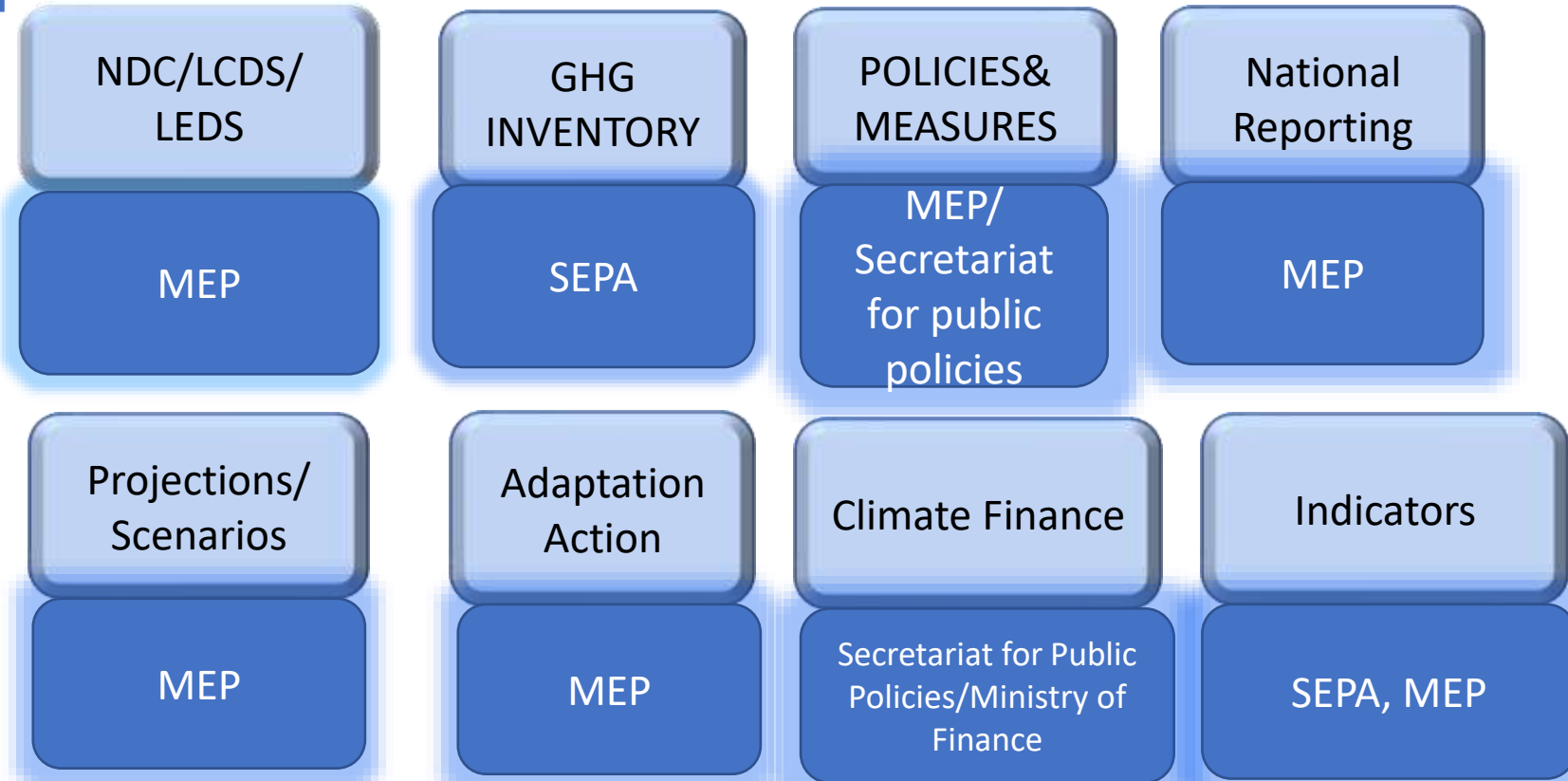


- Robust, efficient and purposeful MRV reporting system that fulfils the Paris Agreement transparency requirements and ensures the basis for EU reporting
- Anchored in two national documents – Climate Change Law and the draft Climate Strategy with Action Plan
- Governance structure consists of eight reporting modules –
  - GHG Inventory,
  - NDC,
  - Projections and Scenarios,
  - Policies and Measures (PAMs),
  - Adaptation to Climate Change,
  - Climate Finance,
  - National Reporting and
  - Indicators

# MODULES OF FRAMEWORK FOR MONITORING, REPORTING AND VERIFICATION AT THE NATIONAL LEVEL



## MRV-IT system



# MRV-IT TOOL SERVES FOR:



1. Preparation and monitoring of implementation of low carbon strategies;
2. Iterative process of NDC planning, monitoring and reporting
3. Reporting of policies, measures and projections of GHG emissions, adaptation to climate change and climate finance;
4. Establishing a national inventory system for estimating anthropogenic GHG emissions by sources and removals by sinks not controlled by the Montreal protocol, and for reporting and archiving inventory information;
5. Reporting to the UNFCCC and to the EU at the later stage.

# Based on UNFCCC, EU and Serbian regulatory frameworks:



## UNFCCC:

- Decision 18/CMA.1 – Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement

## EU:

- Regulation (EU) 2018/1999 on EU Governance and the
- Implementing Regulation (EU) 2020/1208 on structure, format, submission process and review of information pursuant to Regulation (EU) 2018/1999 (EU) 749/2014.

## SERBIA:

- Zakon o klimatskim promenama (Law on Climate Change)

**MPG**

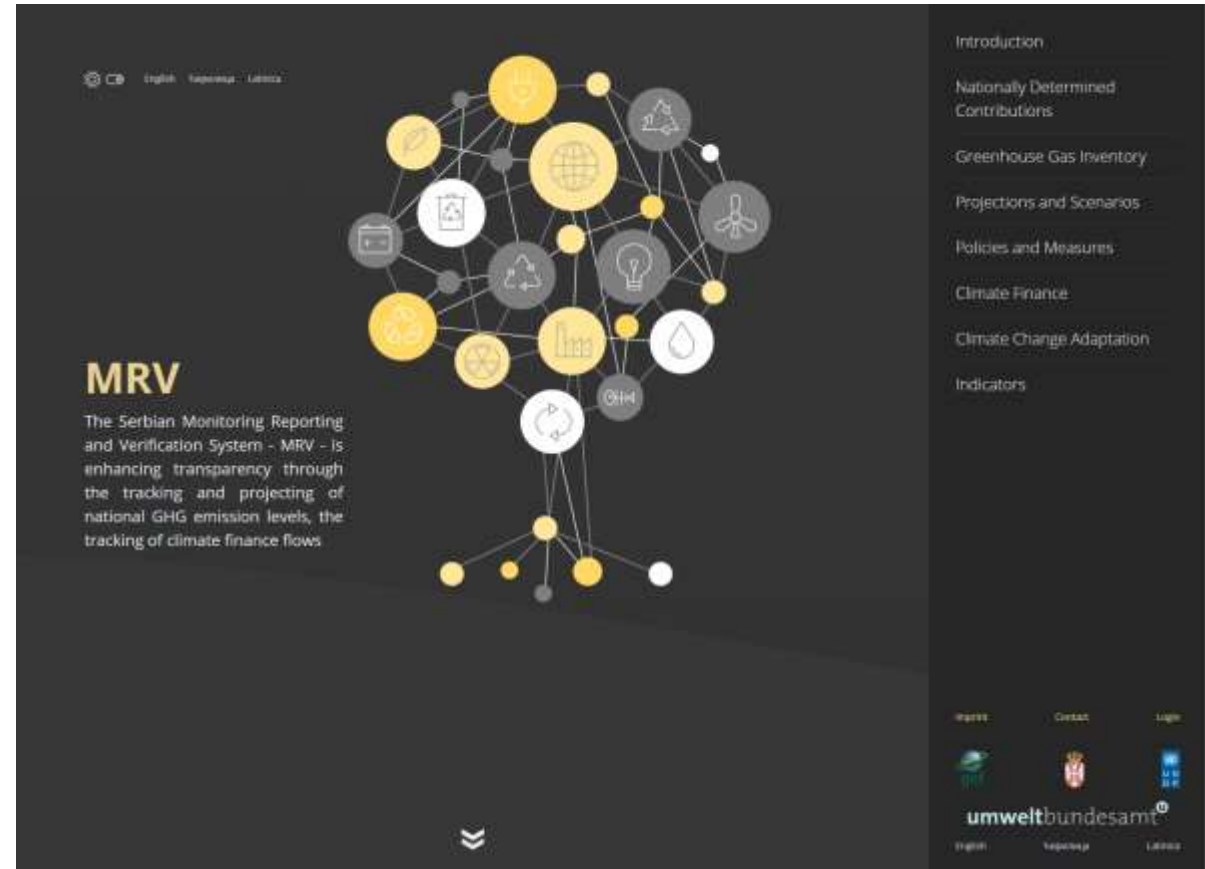
**Implementing  
Regulation**

**By-laws**

# Based on UNFCCC, EU and Serbian regulatory frameworks the MRV IT tool has a role to:



- be used as a reporting tool
- track progress towards meeting climate change related targets
- data storage and exchange
- information of newly stored data
- collect documents and reports of MRV-relevance (comprehensive document repository)

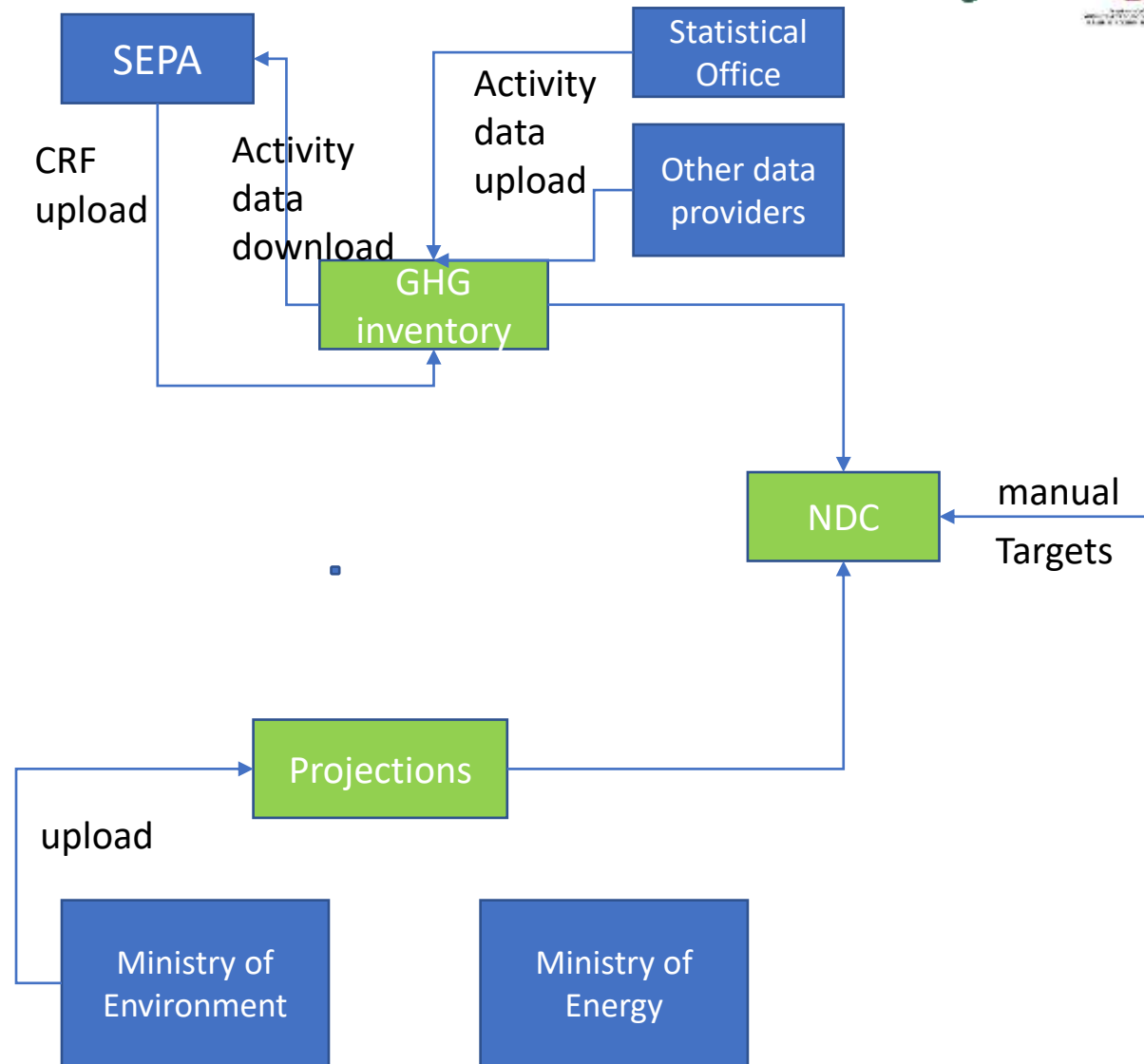
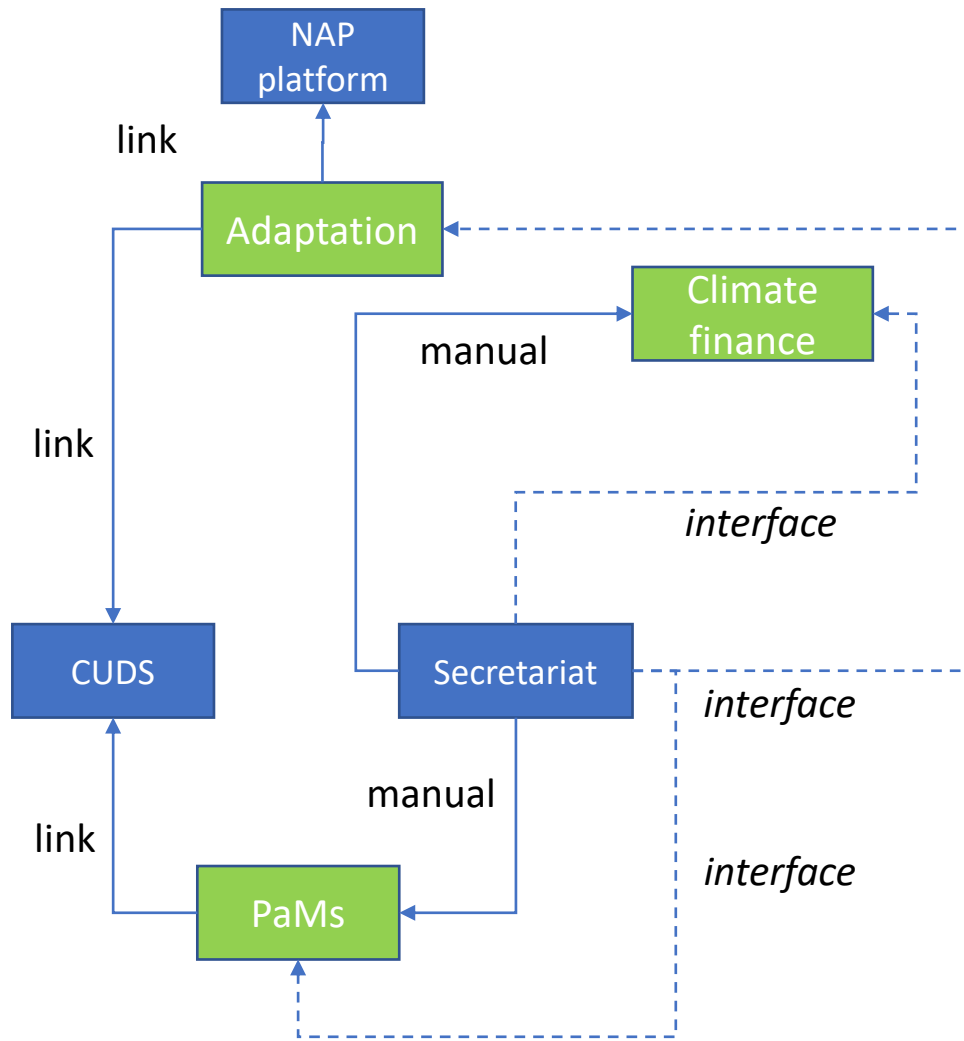


# MRV IT tool will, through its components, enable:



- Data Acquisition Component: data processing
- Reporting Component: reporting; reporting function to provide data in tables and graphs for use in word document, PDF and spreadsheet reports; templates provided an partly pre-filled
- Collaboration Component: chats, emails, files
- Administration Component: administration and maintenance

# DATA FLOWS





# INTER-INSTITUTIONAL COLLABORATION



- The MRV-IT tool enables **raising the awareness about the reporting obligations** towards the UNFCCC, the EU and the Serbian Climate Change Law
- It also raises **awareness about the MRV system and the opportunities for improved sectoral cooperation, better informed policy making and public participation**
- This particularly refers to other public institutions with climate-relevant policies and measures as well as IT systems that are already reporting on climate-relevant actions, such as the Secretariat for Public Policies, but also Institute for Statistics, Institutes for Nature Protection, Institute for Public Health, Hydrometeorological Institute, etc.
- Central role of the Environment Agency, in charge of the GHG Inventory
- Ministries of environment, energy, agriculture, transport, finance, interior, health, national and local administration contribute through the Secretariat or the Institute for Statistics
- Other actors, such as regional and local Institutes and bodies, also those involved with Covenant of Mayors, Chamber of Economy, Industry and public companies (waters, forestry, etc.), NGOs and Standing Conference of cities and towns have their role either as data providers or users

# INTER-INSTITUTIONAL COLLABORATION

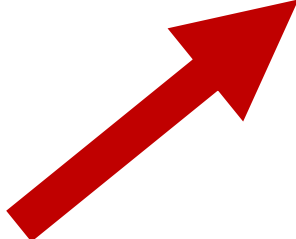


MoEP and other ministries (scenarios, adaptation, PaMs, climate finance, NDC)

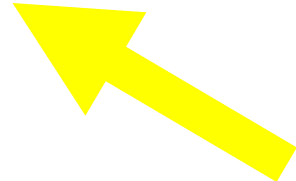
SEPA  
(GHG inventory)



Secretariate of Public Policies



Data providers



Local policies

Other projects and databases (e.g. NAP)

# SUMMARY



- MRV IT tool brings different actors of climate change related policy together and encourages cooperation and understanding of each other
- It contains all relevant information on MRV of climate change and is therefore a valuable depository for data, reports and other relevant documents
- It assists in fulfilling reporting obligations by providing relevant guidance and templates and by creating templates and graphs
- It tracks Serbia's progress in meeting its climate targets by presenting trends of past and projected emissions and indicators
- ....AND....
- **...it is the only such tool we know of in Europe 😊**

# **GHG Inventory Module**

# PURPOSE:



- To collect and merge information on historic GHG emissions from 1990 onwards
- To enable Serbia to:
  - fulfil its international reporting obligations according to the UNFCCC (MPGs) and the EU Governance and its Implementing Regulation
  - perform a ex-post evaluation of its climate change policy by the use of indicators
- To provide list of activity data used for inventory preparation
- To visualise historic emissions trends (total and (sub-)sectoral)
- To make historic emission trends publicly available

# GHG INVENTORY MODULE



- Prepared according to the principles set out in [2006 IPCC Guidelines](#) for National Greenhouse Gas Inventories, transparency, accuracy, consistency, comparability, and completeness on biennial basis by the Serbian Environment Protection Agency (SEPA).
- Covers the [period 1990-2019](#), with 1990 as the base year for the estimation and reporting of inventories
- Greenhouse gases reported on - [CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFC, SF<sub>6</sub>, NF<sub>3</sub>](#)
  - Also four indirect [GHG: SO<sub>2</sub>, CO, NMVOC, NO<sub>x</sub>](#)
  - IPCC sectors: [Energy, Industrial Processes and Product Use \(IPPU\), Agriculture, Land Use, Land-Use Change and Forestry \(LULUCF\), and Waste.](#)

# GHG INVENTORY MODULE REPORTING REQUIREMENTS - SUMMARY



- **UNFCCC:**

- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- MPGs para. 17–58: **National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases:** GHG Inventory (data set) and National Inventory Report (NIR)

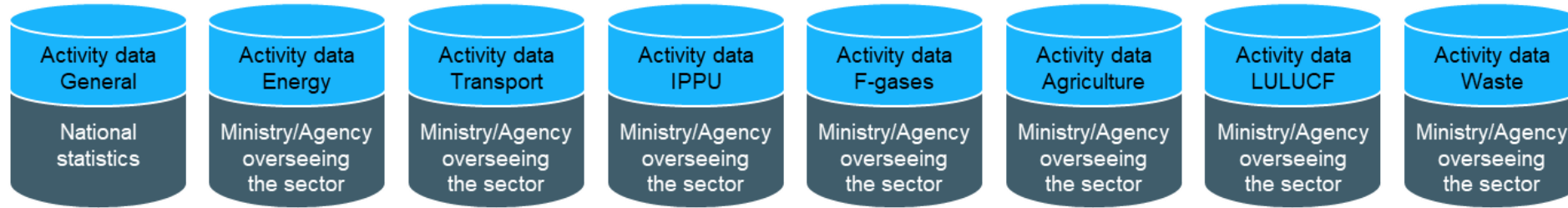
- **EU:**

- Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208):
  - **Article 26: Annual reporting**
  - **Article 37: Union and national inventory systems**
- are fully in line with the Paris Agreement and MPGs

- **Serbian Climate Change Law**

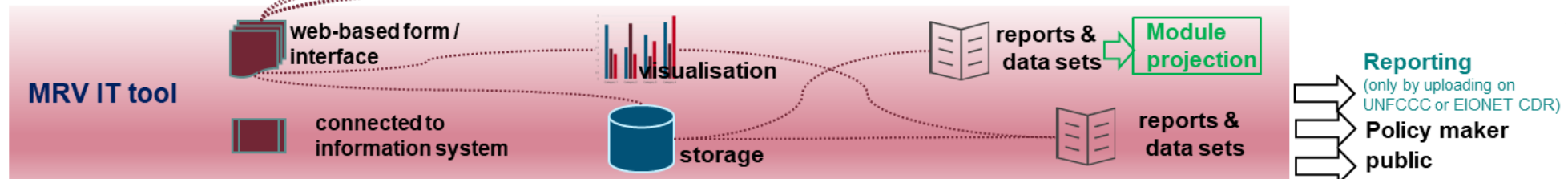
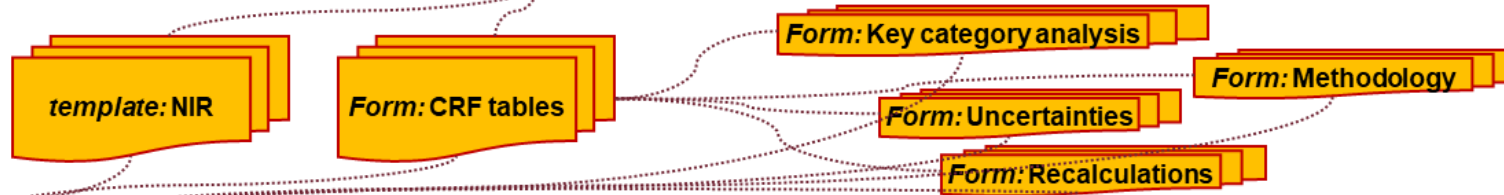
- Article 57-61 GHG Inventory
  - Articles 62 to 65: A system for reporting on policies, measures and GHG projections shall be set up, kept, continuously improved and reported to the UNFCCC Secretariat

# Emission data (inventory) to MRV IT tool: **GHG Inventory**



**forms / templates  
ACTIVITY DATA**

Emission calculation files								
1A1a-Public elect-heat prod.xlsx	1A3b-Road transport.xlsx	1A4b-Residential.xlsx	1D2-Multilateral operations.xlsx	2B1-Ammonia.xlsx	2C4-Magnesium.xlsx	2D3-Solvent use_other.xlsx	3D-3I-Agriculture Crops.xlsx	5A-Landfilling.xlsx
1A1b-Petroleum refining.xlsx	1A3c-Railways.xlsx	1A4c-Agriculture forestry fishing.xlsx	2A1-Cement.xlsx	2B2-Nitric acid.xlsx	2C5-Lead.xlsx	2F1-Refrigeration.xlsx	4-Burning.xlsx	5B-Biological treatments.xlsx
1A1c-Manufacture of other fuels.xlsx	1.A.3.d. Domestic navigation.xls Navigation.xlsx	1A5-Other.xlsx	2A2-Lime.xlsx	2B8-Petrochemicals.xlsx	2C6-Zinc.xlsx	2F2-2F5-2G1-Other Fgases.xlsx	GainsLosses.xlsx	5C1-Waste incineration.xlsx
1A2 Manufacturing Industries&construction.xlsx	1A3e-Pipelines.xlsx	1B-Fugitive Emissions.xlsx	2A3-Glass.xlsx	2B10- Other chemicals.xlsx	2D1-Lubricant.xlsx	3A-3B-Livestock.xlsx	HWP estimations.xlsx	5C2-Open burning.xlsx
1A3a-1D1a-Civil Aviation.xlsx	1A4a-Commercial Institutional.xlsx	1C-CO2 Storage and Transport.xlsx	2A4-Other use of carbonates.xlsx	2C1-Iron and steel.xlsx	2D2-Paraffin wax.xlsx	3C-Rice cultivation.xlsx	StockVariations.xlsx	5D-Wastewater treatment.xlsx





# PROJECTIONS & SCENARIOS MODULE

# PURPOSE



- To collect and merge information on climate mitigation projections and scenarios
- To assist and enable Serbia to fulfil its international reporting obligations according to the UNFCCC (MPGs) and the EU Governance and its Implementing Regulation
- To visualise projected emissions trends (total and sectoral)
- To make projections and scenarios publicly available

# PROJECTIONS & SCENARIOS MODULE



## Input data:

- Scenarios (B2, M1-M4) as reported in Serbia's long-term strategy
  - GHG emissions
  - Economic parameters (GDP, labour force, GVA, consumption expenditure per household)
  - Costs by policy/measure
- Modelling parameters

## Output files:

- EU Reporting templates, partly prefilled with available information

Graphs: total and sectoral trends/scenario

# PROJECTIONS & SCENARIOS MODULE

## REPORTING REQUIREMENTS - SUMMARY



- **UNFCCC:**

- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- paras 92–102: **Projections of greenhouse gas emissions and removals**

- **EU:**

- Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208):
  - **Article 39: Reporting on national projections**
  - **Annex XXIII of the Implementing Regulation**
- are fully in line with the Paris Agreement
- reporting by 15<sup>th</sup> March 2021 and every two years thereafter; substantial changes to the information shall be communicated annually

- **Serbian Climate Change Law**

- Articles 62 to 65: Projections of greenhouse gas emissions and removals, and reporting

# **POLICIES AND MEASURES (PAMS) MODULE**

# Purpose

- collect and merge information on climate mitigation policies and measures
- enable Serbia to:
  - fulfil its international reporting obligations according to the UNFCCC (MPGs) and the EU Governance and its Implementing Regulation
  - monitor its progress towards its targets through a linking with the GHG inventory, the projections and the NDC module
- make policies and measures publicly available

# POLICIES AND MEASURES (PAMS) MODULE IMPLEMENTATION



- Online questionnaire
  - according to Article 37 and Annex XXIV of the Implementing Regulation (2020/1208)
  - with predefined mandatory and optional fields
  - additional national relevant fields (e.g. responsible person, comments, implementation roadmap, access to information - open to public or restricted etc.)
- Links within the MRV tool
  - to projections: within the PAMs questionnaire it must be indicated whether the measure is considered within an emission scenario (e.g. WEM or WAM); a query e.g. of WEM or WAM measures only is possible

# POLICIES AND MEASURES (PAMS) MODULE REPORTING REQUIREMENTS -SUMMARY



- **UNFCCC:**

- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- paras 80–90: Mitigation policies and measures

- **EU:**

- Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208)
- are fully in line with the Paris Agreement
- reporting by 15.March 2021 and every two years thereafter; substantial changes to the information shall be communicated annually
- The EU templates for reporting on Policies and Measures can be found under the Annex 9.8 of Impl. Regulation

- **Serbian Climate Change Law**

- Article 63 - 65: A system for reporting on policies, measures and GHG projections shall be set up, kept and continuously improved



# ADAPTATION MODULE

# PURPOSE

- To collect and compile information on adaptation to climate change that can be used for:
- fulfilling Serbia's international reporting obligations towards the UNFCCC (MPGs) and the EU Governance and its Implementing Regulation
- Evidence-based decision-making process
- make information on adaptation vulnerability, impacts and action publicly available

# ADAPTATION MODULE



## PUBLICLY AVAILABLE DATA AND INFORMATION:

- Historical and projected climate data (National and Sub-national level) - NAP project
  - EEA Indicators
- PAMs Adaptation + Adaptation Indicators (in Indicator part will be also)
- NDC Adaptation – aa NDC document in NDC module
- Link with CSUD project
- Link with Loss&Damages – DES\_Inventar
- Documents: NAP, NC\_Adaptation, LAPs, etc
- Templates: indicators and PAMs (planning&reporting)

# ADAPTATION MODULE – REPORTING REQUIREMENTS - SUMMARY



- **UNFCCC:**
- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- **IV. Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement (para. 104-117)**
- Also includes loss and damage
- **EU:**
  - Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208)
  - are fully in line with the Paris Agreement
  - Reporting on adaptation actions: from March 2021, every 2 years, Annex VIII, Part 1.
- **Serbian Climate Change Law**
- Art. 6, and specifically Art. 13-15

# CLIMATE FINANCE MODULE

# PURPOSE

- To collect and compile information on climate finance that can be used for:
  - Fulfilling Serbia's international reporting obligations according to the UNFCCC (MPGs) and the EU Governance and its Implementing Regulation
  - Evidence-based decision-making process
  - Making information on climate financing publicly available

# CLIMATE FINANCE MODULE



**Article 9** of the **Paris Agreement** stipulates that **developed country Parties shall provide financial resources** to assist developing country Parties.

This support has to be **reported transparently**:

- developed country Parties **shall**
- other Parties are **encouraged** to



provide **transparent and consistent information** on support for developing country Parties *provided* and *mobilised* through public interventions **biennially**.

- developing country Parties **should**



provide (transparent and consistent) **information** on support *needed* and *received* **biennially**.

# CLIMATE FINANCE MODULE DOCUMENT REPOSITORY

- Share all available information on climate finance, e.g.
  - List of support needed from the Second National Communication / First Biennial Update report (available)
  - Analysis of climate-related expenditure in Serbia in the years 2016-2018 (available)
  - Future reports to the UN and the EU on support needed and received / provided
- Publish selected documents (transparency)



# CLIMATE FINANCE MODULE – REPORTING REQUIREMENTS - SUMMARY



- **UNFCCC:**
- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- **VI. Information on financial, technology development and transfer and capacity-building support needed and received under Articles 9-11 of the Paris Agreement (para. 130-145)**
- **EU:**
  - Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208)
  - are fully in line with the Paris Agreement
  - Currently not relevant for Serbia as requirements only refer to financial support (and technology development and transfer and capacity building) provided
- **Serbian Climate Change Law**
- Does not specifically mention this.

# NDC MODULE

# PURPOSE



- To monitor and visualise progress towards 2030 targets
- To make current version of NDC publicly available

# NDC MODULE (INPUT PARAMETERS)



The NDC module combines

## Data:

- Historic GHG emissions trends (1990-) from GHG emission module
- GHG emission scenarios (B2, M1-M4) from projection module
- NDC targets (relative, conditional)

and tracks Serbia's progress towards meeting its NDC target.

## Reports:

- NDC report

# NDC MODULE

## REPORTING REQUIREMENTS - SUMMARY



- **UNFCCC:**

- The modalities, procedures and guidelines (MPGs) for the transparency framework for action and support, referred to in Article 13 of the Paris Agreement are defined in **Decision 18/CMA.1**.
- MPGs para. 59-103: III. Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement
- Additionally, Decision 4/CMA.1, Annex I – clarity on NDC and Annex II – accounting for NDC and Decision 6/CMA.1 – common timeframe for NDCs and 9/CMA.1 on adaptation are also relevant

- **EU:**

- Governance Regulation (EU 2018/1999) and Implementing Regulation (EU 2020/1208):
- are fully in line with the Paris Agreement and MPGs

- **Serbian Climate Change Law**

- Only generally in Art. 3 on implementation of the Paris Agreement

# NATIONAL REPORTING MODULE

# PURPOSE



- To display NR-relevant policies and measures
- To display NR-relevant climate change adaptations



**Thank you for your attention**

**Contact: Elisabeth Rigler, Team Leader ([Elisabeth.rigler@umweltbundesamt.at](mailto:Elisabeth.rigler@umweltbundesamt.at))**

**Ivana Mijatovic, Transparency Expert ([imijatovic005@gmail.com](mailto:imijatovic005@gmail.com))**