



REPUBLIC OF BULGARIA  
MINISTRY OF ENVIRONMENT AND WATER  
EXECUTIVE ENVIRONMENT AGENCY

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## **Implementation of the Monitoring Mechanism Regulation (525/2013/EU) in Bulgaria**

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

**Tirana, 8 – 9 March 2016**



### **Key objectives of MMR**

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- To ensure the timeliness, accuracy, completeness, consistency, comparability and transparency at the EU and the MS level;
- To reflect the reporting obligations arising from the UNFCCC and the Kyoto Protocol;
- To ensure effective development and implementation of the EU policies;
- To meet mitigation commitments and implement the Climate and Energy package.



## MONITORING MECHANISM REGULATION

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### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### National inventory systems (Article 5)



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### National inventory system (Article 5 of MMR)

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#### Reporting on national inventory system

- Requirement to establish, operate and seek to continuously improve national inventory systems in accordance with UNFCCC requirements
- Information on **general legal framework to compile the GHG inventory** (responsibility of the institution involved, collecting data, QA/QC plan, processes for approval of the inventory) relevant on the UNFCCC Decision 19/CMP.1.



## Chapter 3: Reporting on historical greenhouse gas emissions and removals

### National inventory system (Article 5 of MMR)

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Competent inventory authority must have access to:

- data and methods reported for activities and installations under Directive 2003/87/EC (ETS Directive);
- data collected through the reporting systems on fluorinated gases in the various sectors, set up pursuant to Article 6(4) of Regulation (EC) No 842/2006 (F-gas regulation);
- emissions, underlying data and methodologies reported by facilities under Regulation (EC) No 166/2006 (E-PRTR);
- data reported under Regulation (EC) No 1099/2008 (energy statistics regulation);

to be able to make consistency checks with relevant datasets under EU legislation.



## Chapter 3: Reporting on historical greenhouse gas emissions and removals

### National inventory system (Article 5 of MMR)

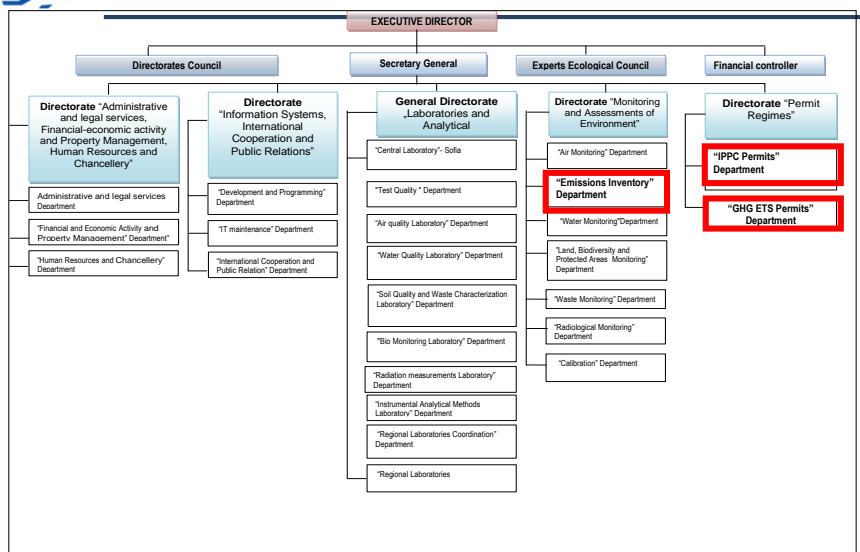
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#### Additional requirements:

- Report **names/contact details of competent authorities** for reporting under the EU ETS, F-gas regulation, E-PRTR and Energy statistics regulation;
- Describe **agreements that ensure access** to the data and methods reported under the EU ETS, F-gas regulation, E-PRTR and Energy statistics regulation including **timing of the data access**, the **level of disaggregation** and **completeness of the data** provided.



## Bulgarian National Inventory System Executive Environment Agency



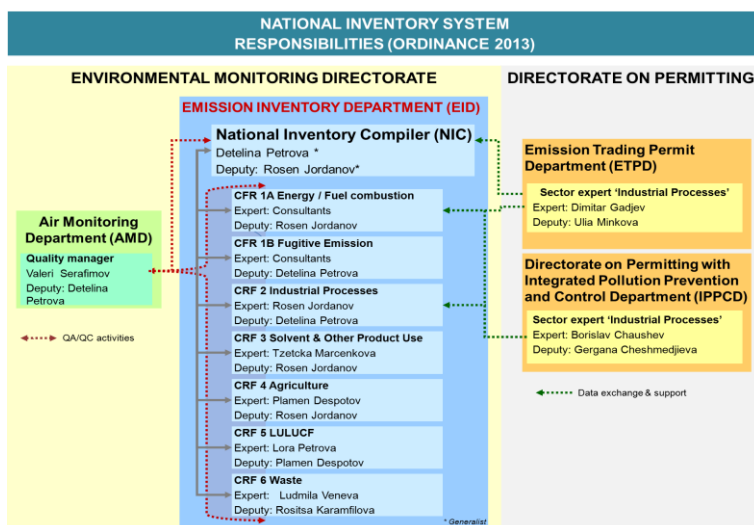
## Bulgarian National Inventory System Legal aspects

### Order № 150/01.07.2013 by the Executive Director of ExEA:

- to increase the capacity in ExEA for adequate planning, preparation and management of emissions inventory;
- to **define the names and responsibilities** of experts from different departments within the ExEA, which are engaged in preparation of National GHGs emission inventory (**IPPC Permits and GHG ETS Permits Department**).



## Bulgarian National Inventory System Executive Environment Agency



## Bulgarian National Inventory System Legal aspects

**Regulation of the Council of Ministers 216** (State Gazette No. 21.09.2010; last amendment 5 September 2014) which establish and maintain the institutional, legal and procedural arrangements of the BGNIS required:

- **Ministry of Environment and Water** and there Reginal Environment Inspectorates to provide **data reported under the F-gas Regulation**;
- **National Statistics Institute** to provide **data reported under energy statistics regulation**.



## MONITORING MECHANISM REGULATION

### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventories (Article 7)



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1) of MMR)

MMR	Reporting requirement
7(1)a	Anthropogenic emissions
7(1)b	Emissions of CO, SO <sub>2</sub> , NO <sub>x</sub> and VOC consistent with NEC and UNECE reporting
7(1)c	Emissions and removals from LULUCF in accordance with UNFCCC
7(1)d	Emissions and removals from LULUCF in accordance with Decision No 529/2013/EU and with the KP
7(1)e	Any changes to the information referred to in points (a) to (d) and indicating reasons for changes
7(1)f	Information on indicators
7(1)g	Information from national registry
7(1)h	Concluded transfers pursuant to Article 3(4) and (5) of Decision No 406/2009/EC
7(1)i	Information on the use of flexible mechanisms
7(1)j	Information on improvements in response to review recommendations



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7 of MMR)

MMR	Reporting requirement
7(1)k	Allocation of EU ETS emissions to source categories
7(1)l	Results of checks performed on the consistency of EU ETS emissions with GHG inventory
7(1)m	Results of checks performed on the consistency of GHG inventory with NEC inventory, F-gas regulation and Eurostat energy data
7(1)n	Description of changes to national inventory system
7(1)o	Description of changes to national registry
7(1)p	Information on QA/QC plan, uncertainty assessment, completeness, trends description, description of methodologies and emission factors used



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)b of MMR)

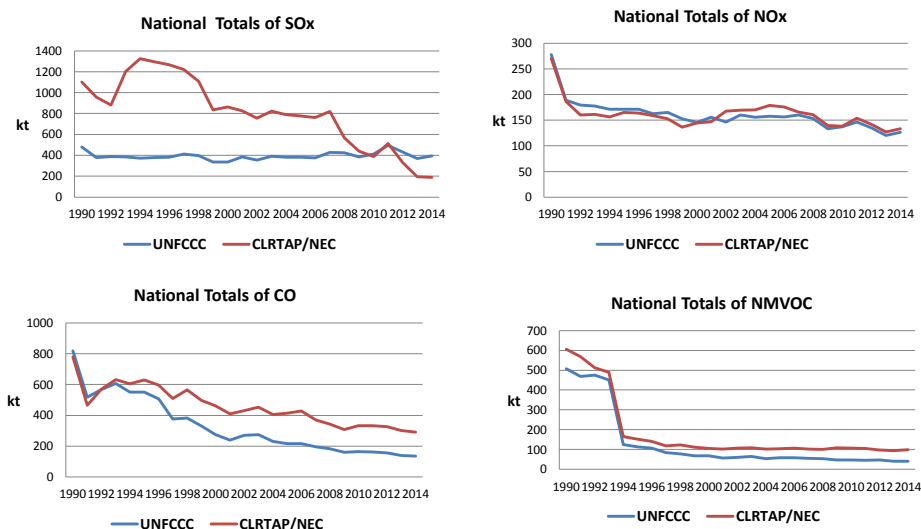
#### Emissions of CO, SO<sub>2</sub>, NO<sub>x</sub> and VOC consistent with NEC and UNECE/CLRTAP reporting

- The air pollutants CO, SO<sub>2</sub>, NO<sub>x</sub> and VOC are reported under the MMR/UNFCCC as well as under NEC and CLRTAP;
- Inconsistencies between the air pollutants emissions reported in the GHG inventory and the data reported under the air pollutant inventory should be explained.



## Chapter 3: Reporting on historical greenhouse gas emissions and removals

### Greenhouse gas inventory (Article 7(1)b of MMR)



## Chapter 3: Reporting on historical greenhouse gas emissions and removals

### Greenhouse gas inventory (Article 7(1)b of MMR)

#### Identified problems

- Split responsibility between different institutions (NSI and ExEA)
- Different database, level of disaggregation and methods
- Limited access to facility level data due to the confidentiality of the Statistical Law
- Different reporting deadlines





### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)b of MMR)

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##### Lessons learned

- Integrate data for GHGs emissions and air pollutants in one system
- Use the same statistical data, methods and assumptions to estimate emissions for the same sectors in the two emission inventories
- Use the institutional arrangements set up in national system under the Kyoto Protocol for the NEC/CLRTAP reporting



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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##### Use of EU ETS data in the GHG inventory

- GHG permits be issued for the operation of new and existing installations for categories of industrial activities as combustion plants, refineries, ferrous and non-ferrous metallurgy, cement, lime, glass, pulp and paper, ceramic industry, ammonia, nitric acid, soda ash, etc.;
- EU ETS data is verified by independent verifiers;
- EU ETS includes only combustion installations over 20 MW.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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##### Use of EU ETS data in the GHG inventory

In order to ensure consistency of the GHG emissions under the emissions trading scheme and in the national GHG inventories

- Reporting on the actual or estimated **allocation of the verified emissions to the source categories of the national GHG inventory** and the **ratio** of those verified emissions to the total reported greenhouse gas emissions
- Reporting on results of consistency checks of inventory data with the verified emissions under the EU ETS Directive.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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##### Use of EU ETS data in the GHG inventory - Energy sector

- **173 operators** have provided the verified CO<sub>2</sub> emission reports under the EU ETS for the years 2007-2014;
- **country-specific EF** are derived from the verified EU ETS reports from all operators, which have plant-specific EF (mainly for solid fuels);
- **alternative fuels** (industrial waste) provided by the EU ETS reports from the cement plants are used to calculate the GHG emissions from waste incineration.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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#### Use of EU ETS data in the GHG inventory – Industrial processes sector

- emission estimations, activity data and emission factors are compared with the verified EU ETS reports for the years 2007-2014;
- data reported by operators under the EU ETS were used to calculate some plant-specific emission factors;
- CO<sub>2</sub> emissions from plants using mass-balance approach are taken from EU ETS data.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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#### Identified problems

##### 1) comparability between EU ETS and GHG inventory data:

- different level of reporting
- different scope of reporting (the EU ETS includes only combustion installations over 20 MW)
- differences in fuels classification in energy statistics and EU ETS reports
- different allocation of the EU ETS data into the IPCC categories

##### 2) Time series consistency with EU ETS data:

- Lack of detail data before 2007



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)k,l of MMR)

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##### **Lessons learned**

- Data from EU ETS are used mainly for verification in the GHG inventory
- National statistical data are used in the GHG inventory to keep time series consistency
- Ensure access of the National Statistics to the EU ETS activity data



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### **Use of the facility-level emissions reported under EPRTR**

The activities reported under the E-PRTR Regulation cover 65 economic activities within the following 9 industrial sectors:

- energy
- production and processing of metals
- mineral industry
- chemical industry
- waste and waste water management
- paper and wood production and processing
- intensive livestock production and aquaculture
- animal and vegetable products from the food and beverage sector.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### Use of the facility-level emissions reported under EPRTTR

Data on **91 pollutants** summarized the following 7 groups:

- Greenhouse gases
- Other gases
- Heavy metals
- Pesticides
- Chlorinated organic substances
- Other organic substances
- Inorganic substances.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### Use of the facility-level emissions reported under EPRTTR

- Reporting on results of consistency checks of inventory data with the facility-level emissions reported under EPRTTR

EPRTTR system allows the operators to report their annual emissions data. The Regional Inspectorates of Environment and Water verify the reports through the internet. The ExEA then reports the national information to the EC.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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#### Identified problems

- Different level of the reporting requirements of the EPRTTR Regulation (industrial sites) and the MMR (IPCC source categories)
- E-PRTR activities do not separate combustion and process emissions
- E-PRTR do not report activity data
- Scopes of the reporting is different (the facilities report emissions when exceed specific thresholds)



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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#### Reporting on consistency of data reported on fluorinated gases

Ensure that competent inventory authorities, where relevant:

- **make use of reporting systems** established under the F-gas Regulation to improve the estimation of fluorinated gases in the national greenhouse gas inventories;
- are able to undertake the **annual consistency checks**.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### **Reporting on consistency of data reported on fluorinated gases**

- Data on F-gas quantities were obtained from the reports that importers, operators and service companies are required to report each year since 2009 to the Regional Inspectorates of Environment and Water (RIEW);
- Data from 2010 was used for extrapolation back in time to ensure time series consistency.



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### **Identified problems**

- Difficulties to obtain activity data
- Difficult to ensure time series consistency - information gaps for previous years
- Different scope of the reporting (< 3 kg)



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(1)m of MMR)

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##### **Consistency checks with the Energy Statistics Regulation**

- differences of more than  $\pm 2\%$  in the total national apparent fossil fuel consumption with the energy data should be explain
- difference could be due to updates of data, different calorific values and fuel classification



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Greenhouse gas inventory (Article 7(8) of MMR)

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##### **Reporting requirements on systems for cropland management and grazing land management**

- report on the systems in place and being developed to estimate greenhouse gas emissions and removals from cropland management (CM) and grazing land management (GM)
- report on the institutional, legal and procedural arrangements made related to the estimation of CM and GM
- report on how their national estimation methodologies related to the activities CM and GM are in accordance with IPCC methodologies and UNFCCC reporting requirements





## MONITORING MECHANISM REGULATION

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### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Approximated greenhouse gas inventories (Article 8)



### Chapter 3: Reporting on historical greenhouse gas emissions and removals

#### Approximated greenhouse gas inventories (Article 8 of MMR)

##### Requirements

- Same scope of gases and source categories as the annual inventory submission
- Excluding emissions and removals from LULUCF sector
- Reporting the split between emissions EU ETS and emissions not covered by EU ETS (according to Decision No 406/2009/EC)
- Submission deadline – 31 July (X-1)



## Chapter 3: Reporting on historical greenhouse gas emissions and removals

### Approximated greenhouse gas inventories (Article 8 of MMR)

#### Identified problems

- Approximated GHG inventory is out of scope of the current national inventory system
- Approximated GHG inventory is not required from the UNFCCC
- Incomplete activity data from National Statistics
- Problems with the out-sourced sectors



## MONITORING MECHANISM REGULATION

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## Chapter 5: Reporting on policies and measures and on projections

### National system for reporting on policies, measures and projections



## Chapter 5: Reporting on policies and measures and on projections

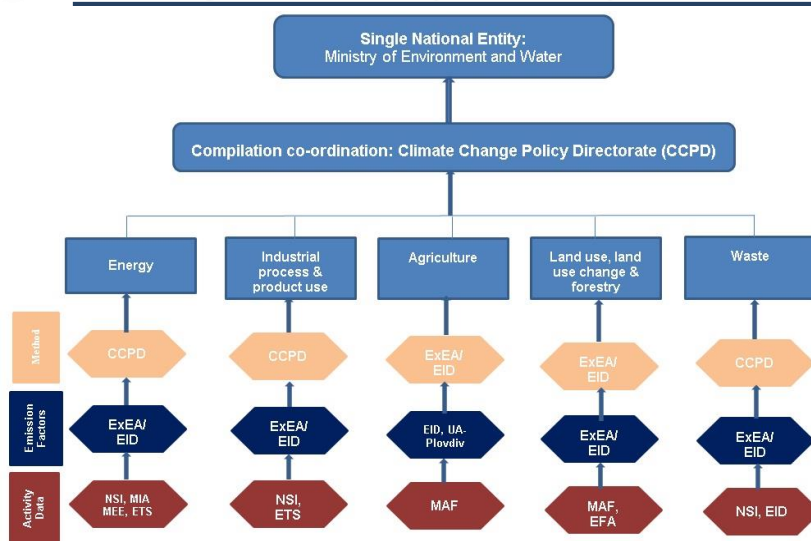
### Reporting on national system

- Requirement to **establish national system** for reporting on projections, policies and measures
- Information on **legal framework for reporting** (responsibility of national entity and various agencies involved, processes for collecting data, selecting assumptions, methodologies and models and QA/QC activities)



## Chapter 5: Reporting on policies and measures and on projections

### Bulgaria's National System for Projections





Bulgarian National Inventory System

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**THANK YOU FOR YOUR ATTENTION!**