Annex V.15 Changes in the National Inventory Arrangements/National System

***Description of the National Inventory Arrangements/National System***

The elements on the Romanian National Inventory Arrangements/National System are described within Chapter 1 of the National Inventory Document..

***Changes in the National Inventory Arrangements/National System***

**Changes implemented after submitting the 2024 NIR**

Starting with November 2024, the implementation of the technical activities related to the Land Use, Land-Use Change and Forestry (LULUCF) Sector is subject to the Governmental Decision no. 1415/2024 for defining the obligations on the administration of the Agriculture subdomain and of the LULUCF subdomain, part of the Climate change domain; based on the mentioned decision, responsibilities of administrating the Agriculture and LULUCF Sector of the inventory were allocated as follows:

- the National Research and Development Institute for Cryogenic and Isotopic Technologies Rm. Valcea:

* in respect to the Agriculture Sector: administrates directly and/or through collaboration with other organizations a series of technical parameters;
* in respect to the LULUCF Sector: is monitoring and estimating/reporting the GHG emissions/removals associated to the Cropland, Grassland, Wetlands, Settlements and Other Land categories, excepting the emissions/removals in soils; the institute is also the technical coordinator of the LULUCF Sector activities.

- National Institute for Research and Development in Forestry “Marin Dracea” is monitoring and estimating/reporting the GHG emissions/removals associated to the Forest Land category;

- National Research and Development Institute for Soil Science, Agrochemistry and Environment Bucharest is monitoring and estimating/reporting the GHG emissions/removals associated to the soils in Cropland, Grassland, Wetlands, Settlements and Other Land categories;

- the National Environmental Protection Agency is implementing a series of technical activities following the receipt of the deliverables from the institutes and administrative activities to allow for a continuous implementation of specific activities;

- the Ministry of Environment is analyzing and approving the consolidated version of the LULUCF inventory and is ensuring, depending on needs, the Romania’s representation in the associated inventory review, together with NEPA and institutes.

The implementation of activities by the three institutes previously mentioned, is based also on the allocation of adequate financial resources through the Environment Fund Administration and on individual contracts with the Environment Fund Administration.

**Changes implemented after submitting the 2023 NGHGI**

Based on the requirement in the Art. 26.3 and Annex V Part 1 (k) of the Regulation (EU) no. 1999/2018, corroborated with Art. 18 of the Regulation (EU) no. 1208/2020, please find below the description of changes to the Romania’s national inventory system compared to the associated description in the previous submission of the national inventory report, changes which occurred after submitting the 2023 NGHGI.

The implementation of the technical activities related to the Land Use, Land-Use Change and Forestry (LULUCF) Sector and subject to the Governmental Decision no. 590/2019 for defining the obligations on the administration of the LULUCF subdomain, part of the Climate change domain, ended; therefore, the following description of the national inventory system is not anymore relevant:

“Based on the Governmental Decision no. 590/2019, beginning with August 2019, the responsibilities of administrating the LULUCF Sector of the inventory were allocated as follows:

- the National Research and Development Institute for Cryogenic and Isotopic Technologies Rm. Valcea is monitoring and estimating/reporting the GHG emissions/removals associated to the Cropland, Grassland, Wetlands, Settlements and Other Land categories, excepting the emissions/removals in soils; the institute is also the technical coordinator of the LULUCF Sector activities;

- National Institute for Research and Development in Forestry “Marin Dracea” is monitoring and estimating/reporting the GHG emissions/removals associated to the Forest Land category;

- National Research and Development Institute for Soil Science, Agrochemistry and Environment Bucharest is monitoring and estimating/reporting the GHG emissions/removals associated to the soils in Cropland, Grassland, Wetlands, Settlements and Other Land categories;

- the National Institute for Aerospace Research “Elie Carafoli” is monitoring the land use and land-use change in a spatial-explicit system, using aero photogrammetry and aerial surveillance technologies, at national level;

- the National Environmental Protection Agency is implementing a series of technical activities following the receipt of the deliverables from the institutes and administrative activities to allow for a continuous implementation of specific activities;

- the Ministry of Environment is analyzing and approving the consolidated version of the LULUCF inventory and is ensuring, depending on needs, the Romania’s representation in the associated inventory review, together with NEPA and institutes.

The implementation of activities by the four institutes previously mentioned, is based also on the allocation of adequate financial resources through the Environment Fund Administration and on individual contracts with the Environment Fund Administration.”.

Based on the Governmental Decision no. 1570/2007 for establishing the National System for the estimation of anthropogenic greenhouse gas emissions levels from sources and removals by sinks, the National Environmental Protection Agency is responsible for the administration of the LULUCF Sector.

**Changes implemented after submitting the 2022 NGHGI and before submitting the 2023 NGHGI**

No changes occurred after submitting the 2022 NGHGI and before submitting the 2023 NGHGI.

**Changes implemented after submitting the 2021 NGHGI and before submitting the 2022 NGHGI**

No changes occurred after submitting the 2021 NGHGI and before submitting the 2022 NGHGI.

**Changes implemented after submitting the 2020 NGHGI and before submitting the 2021 NGHGI**

No changes occurred after submitting the 2020 NGHGI and before submitting the 2021 NGHGI.

**Changes implemented after submitting the 2019 NGHGI and before submitting the 2020 NGHGI**

The changes occurred after submitting the 2019 NGHGI are described below.

The legal, institutional and procedural arrangements associated to the administration of the Land Use, Land-Use Change and Forestry Sector of the National Greenhouse Gas Inventory, both under the United Nations Framework Convention on Climate Change and under the Kyoto Protocol, have been significantly updated aiming to strengthen the national inventory system and improve the quality of the inventory; the updates are part of two legal acts which entered into force in 2019:

* Governmental Decision no. 590/2019 for defining the obligations on the administration of the LULUCF subdomain, part of the Climate change domain;
* Environment Minister Order no. 872/2019 on establishing the eligible expenditures associated to the activities established through the Governmental Decision no. 590/2019 for defining the obligations on the administration of the LULUCF subdomain, part of the Climate change domain.

New roles and associated elements have been established in relation to the administration of specific categories/areas of the LULUCF Sector, as follows:

* the National Research and Development Institute for Cryogenic and Isotopic Technologies Rm. Valcea is monitoring and estimating/reporting the GHG emissions/removals associated to the Cropland, Grassland, Wetlands, Settlements and Other Land categories, excepting the emissions/removals in soils; the institute is also the technical coordinator of the LULUCF Sector activities;
* National Institute for Research and Development in Forestry “Marin Dracea” is monitoring and estimating/reporting the GHG emissions/removals associated to the Forest Land category;
* National Research and Development Institute for Soil Science, Agrochemistry and Environment is monitoring and estimating/reporting the GHG emissions/removals associated to the soils in Cropland, Grassland, Wetlands, Settlements and Other Land categories;
* the National Institute for Aerospace Research “Elie Carafoli” is monitoring the land use and land-use change in a spatial-explicit system, using aero photogrammetry and aerial surveillance technologies, at national level.

The National Environmental Protection Agency is implementing a series of technical activities following the receipt of the deliverables from the institutes and administrative activities to allow for a continuous implementation of specific activities.

The Ministry of Environment is analyzing and approving the consolidated version of the LULUCF inventory and is ensuring, depending on needs, the Romania’s representation in the associated inventory review, together with NEPA and institutes.

The implementation of activities by the four institutes previously mentioned, is based also on the allocation of adequate financial resources through the Environment Fund Administration and on individual contracts with the Environment Fund Administration.

**Changes implemented after submitting the 2018 NGHGI and before submitting the 2019 NGHGI**

No changes occurred after submitting the 2018 NGHGI and before submitting the 2019 NGHGI.

**Changes implemented after submitting the 2017 NGHGI and before submitting the 2018 NGHGI**

No changes occurred after submitting the 2017 NGHGI and before submitting the 2018 NGHGI.

**Changes implemented after submitting the 2016 NGHGI and before submitting the 2017 NGHGI**

No changes occurred after submitting the 2016 NGHGI and before submitting the 2017 NGHGI.

**Changes implemented after submitting version 1 and before submitting version 2 of the 2015 and 2016 NGHGI**

Based on the provisions in the Government Urgency Ordinance no. 9/2016 for modifying and completing the Government Urgency Ordinance no. 195/2005 on the environment protection, as well as modifying Article 3 in the Government Urgency Ordinance no. 32/2015 on the establishment of Forestry Guards and in the Government Decision no. 284/2016 for modifying and completing the Government Decision no. 38/2015 on organization and functioning of the Ministry of Environment, Waters and Forests, as well as other normative acts, starting with 4 July 2016, the competent authority administrating the NIA, NS and NGHGI is NEPA; previously , the competent authority was the Ministry of Environment, Waters and Forests.

No changes occurred after submitting the 2016 NGHGI.

**Changes implemented after submitting the version 1 of the 2014 NGHGI**

Changes implemented to the National system for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, para. 1 of the Kyoto Protocol comprises:

* the implementation of the studies in Table 1 in order to strengthen the NS and to improve the NGHGI, by third party specialized organizations;
* update of the legal acts approving the Procedure on selection of the estimation methods and of the emission factors needed for the estimation of the Greenhouse Gas levels and the Quality Assurance/Quality Control Procedure;
* the change of the title of the national entity with overall responsibility for the national inventory from the Ministry of Environment and Climate Change to the Ministry of Environment, Waters and Forests;
* the QA/QC and verification activities have been enhanced as a result of the implementation of the studies:
  + “Elaboration and documentation of values for the parameters relevant to the National Greenhouse Gas Inventory Sector Industrial Processes and Product Use, values to allow for the implementation of the higher tier greenhouse gas emissions calculation methods for the categories Lime production, Glass production and Ammonia production, according to the IPCC 2006 methodology”;
  + “Elaboration and documentation of values for the parameters relevant to the National Greenhouse Gas Inventory Sector Industrial Processes and Product Use, values to allow for the implementation of the higher tier greenhouse gas emissions calculation methods for the category Iron and steel production, according to the IPCC 2006 methodology”;
  + “Estimation of methane emissions from industrial wastewater according to the IPCC 2006 methodology”;
  + “Administration of the NGHGI Land Use, Land-Use Change and Forestry Sector (CRF Sector 4), according to the obligations in the United Nations Framework Convention on Climate Change, including those in the Kyoto Protocol”.
* continuous consideration of QA, third party support (EU internal reviews, review under Article 8 of the KP);
* KP Annex A sources-ensuring that appropriate methods are used for key categories, improving the inventory accuracy, implementing improvements considering the previous plans and ERT recommendations: based on previously items;
* improvement/further enabling the improvement of the accuracy, completeness and transparency of KP-LULUCF data/information through the implementation of the study “Administration of the NGHGI Land Use, Land-Use Change and Forestry Sector (CRF Sector 4), according to the obligations in the United Nations Framework Convention on Climate Change, including those in the Kyoto Protocol”.
* following the government reorganization, 12 posts are available in the National System for Estimating the GHG Emissions Unit–Climate Change General Directorate in the MEWF, exclusively for administrating the NS/NGHGI; the activity continued in an optimal manner, considering also that the attributions and responsibilities have been reallocated to existing personnel;
* generally, as a result of the implementation of the activities above presented, improving the implementation of the NS general functions:
* ensure sufficient capacity for timely performance of the functions for national systems, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for technical competence of the staff involved in the inventory development process;
* provide information necessary to meet the reporting requirements defined in the guidelines under Article 7 in accordance with the relevant decisions of the COP and/or COP/MOP.
* as a result of the implementation of the activities above presented, improving the implementation of the NS specific inventory preparation functions:
* prepare estimates in accordance with the methods agreed under the KP and ensure that appropriate methods are used to estimate emissions from key source categories;
* collect sufficient activity data, process information and emission factors as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;
* compile the national inventory in accordance with Article 7, paragraph 1, and relevant decisions of the COP and/or COP/MOP;
* implementing the QA/QC and verification procedures in accordance with its QA/QC plan following the IPCC good practice guidance.

***Table 1 Studies implemented for strengthening the NS and improving the GHG Inventory since the submission of version 1 of the 2014 NGHGI***

| **No.** | **Study title** | **Objectives** | **Contractor** | **Year/Status of implementation** |
| --- | --- | --- | --- | --- |
| 1. | “Elaboration and documentation of values for the parameters relevant to the National Greenhouse Gas Inventory Sector Industrial Processes and Product Use, values to allow for the implementation of the higher tier greenhouse gas emissions calculation methods for the categories Lime production, Glass production and Nitric acid production, according to the IPCC 2006 methodology” | Increasing the accuracy of the estimates associated with the Lime production, Glass production and Ammonia production categories | ISPE | 2014/Finalized |
| 2. | “Elaboration and documentation of values for the parameters relevant to the National Greenhouse Gas Inventory Sector Industrial Processes and Product Use, values to allow for the implementation of the higher tier greenhouse gas emissions calculation methods for the category Iron and steel production, according to the IPCC 2006 methodology” | Increasing the accuracy of the estimates associated with the Iron and steel production category | ISPE-University Politehnica of Bucharest | 2014/Finalized |
| 3. | “Estimation of methane emissions from industrial wastewater according to the IPCC 2006 methodology” | Improving the accuracy of estimates associated to the Waste water treatment and discharge category | ISPE | 2014/Finalized |
| 4. | “Administration of the NGHGI Land Use, Land-Use Change and Forestry Sector (CRF Sector 4), according to the obligations in the United Nations Framework Convention on Climate Change, including those in the Kyoto Protocol” | Improving the accuracy, completeness, consistency and transparency of the LULUCF Sector | ICAS | 2014/Finalized |

**Changes implemented after submitting the version 1 of the 2013 NGHGI**

Changes implemented to the National system for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, para. 1 of the Kyoto Protocol comprises:

* the implementation of the studies in Table 2 in order to strengthen the NS and to improve the NGHGI, by third party specialized organizations;
* the QA/QC and verification activities have been enhanced as a result of the implementation of the studies:
  + “Elaboration and documentation of the parameters values relevant to the National Greenhouse Gas Inventory Industrial Processes Sector values to allow for the greenhouse gas emissions calculation methods, higher Tier methods, for the categories: Production of halocarbons and sulphur hexafluoride (HFCs, PFCs and SF6), Consumption of halocarbons and sulphur hexafluoride (actual emissions), Consumption of halocarbons and sulphur hexafluoride (potential emissions)”;
  + “Determination of the biodegradable content industrial wastes amount and of sludge amount from wastewater treatment, deposited in managed landfills (for the period 1989-2012) and in unmanaged landfills (for the period 1950-2012). Determination of incinerated wastes type/amount and of parameters specific to their incineration, for the period 1989-2012. Wastes incineration N2O emissions estimation”;
  + “Determination of emission-removal factors for the pools in forest areas and in areas in conversion from and to forest according with the obligations assumed as a Party to the UNFCCC and to the KP, for the 2014 year reporting”;
  + “Compilation of the National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector for the 2014 year associated reporting, according with the obligations assumed as a Party to the UNFCCC and to the KP”.
* continuous consideration of QA, third party support (EU internal reviews, review under Article 8 of the KP);
* KP Annex A sources-ensuring that appropriate methods are used for key categories, improving the inventory accuracy, implementing improvements considering the previous plans and ERT recommendations: based on previously items;
* improvement/further enabling the improvement of the accuracy, completeness and transparency of KP-LULUCF data/information through the implementation of the studies “Compilation of the National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector for the 2014 year associated reporting, according with the obligations assumed as a Party to the UNFCCC and to the KP” and “Determination of emission-removal factors for the pools in forest areas and in areas in conversion from and to forest according with the obligations assumed as a Party to the UNFCCC and to the KP, for the 2014 year reporting”;
* following the 2013 governmental decision on government restructuration, 14 posts are available in the National System for Estimating the GHG Emissions Unit–Climate Change General Directorate in the MECC, exclusively for administrating the NS/NGHGI; the activity continued in an optimal manner, considering also that the attributions and responsibilities have been reallocated to existing personnel;
* generally, as a result of the implementation of the activities above presented, improving the implementation of the NS general functions:
* ensure sufficient capacity for timely performance of the functions for national systems, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for technical competence of the staff involved in the inventory development process;
* provide information necessary to meet the reporting requirements defined in the guidelines under Article 7 in accordance with the relevant decisions of the COP and/or COP/MOP.
* as a result of the implementation of the activities above presented, improving the implementation of the NS specific inventory preparation functions:
* prepare estimates in accordance with the methods described in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, as elaborated by the IPCC good practice guidance, and ensure that appropriate methods are used to estimate emissions from key source categories;
* collect sufficient activity data, process information and emission factors as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;
* compile the national inventory in accordance with Article 7, paragraph 1, and relevant decisions of the COP and/or COP/MOP;
* implementing the QA/QC and verification procedures in accordance with its QA/QC plan following the IPCC good practice guidance.

***Table 2 Studies implemented for strengthening the NS and improving the GHG Inventory since the submission of version 1 of the 2013 NGHGI***

| **No.** | **Study title** | **Objectives** | **Contractor** | **Year/Status of implementation** |
| --- | --- | --- | --- | --- |
| 1. | “Elaboration and documentation of the parameters values relevant to the National Greenhouse Gas Inventory Industrial Processes Sector values to allow for the greenhouse gas emissions calculation methods, higher Tier methods, for the categories: Production of halocarbons and sulphur hexafluoride (HFCs, PFCs and SF6), Consumption of halocarbons and sulphur hexafluoride (actual emissions), Consumption of halocarbons and sulphur hexafluoride (potential emissions)” | Increasing the accuracy and completeness of the estimates associated with the Production of halocarbons and sulphur hexafluoride and Consumption of halocarbons and sulphur hexafluoride categories | DENKSTAT BULGARIA OOD | 2013/Finalized |
| 2. | “Determination of the biodegradable content industrial wastes amount and of sludge amount from wastewater treatment, deposited in managed landfills (for the period 1989-2012) and in unmanaged landfills (for the period 1950-2012). Determination of incinerated wastes type/amount and of parameters specific to their incineration, for the period 1989-2012. Wastes incineration N2O emissions estimation” | Increasing the accuracy and completeness of the estimates associated with the Solid Waste Disposal on Land and Waste Incineration categories | ISPE | 2013/Finalized |
| 3. | “Compilation of the National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector for the 2014 year associated reporting, according with the obligations assumed as a Party to the UNFCCC and to the KP”. | Improving the accuracy, completeness, consistency and transparency of the LULUCF Sector | ICAS | 2013/Finalized |
| 4. | “Determination of emission-removal factors for the pools in forest areas and in areas in conversion from and to forest according with the obligations assumed as a Party to the UNFCCC and to the KP, for the 2014 year reporting” | Improving the accuracy, completeness and transparency of the LULUCF Sector | ICAS | 2013/Finalized |

**Changes implemented after submitting the version 2 of the 2012 NGHGI**

Changes implemented to the National system for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, para. 1 of the Kyoto Protocol comprises:

* starting with 1 April 2013, the competent authority, which is responsible for administrating the NS/NGHGI, is the Ministry of Environment and Climate Change (MECC). Anteriorly, the competent authority was the National Environmental Protection Agency (NEPA), under the subordination of the MECC.

Based on the GD no. 48/2013, all NEPA climate change related structure, personnel, attributions and responsibilities were took over by MECC, in order to improve the institutional arrangements and capacity within the climate change domain, thus increasing the efficiency in activities implementation also in respect to the NS/NGHGI administration.

Appropriate working space, facilities and necessary IT equipment were provided to the MECC personnel took over from NEPA.

* the implementation of the studies in Table 3 in order to strengthen the NS and to improve the NGHGI, by third party specialized organizations;
* training of NEPA team dedicated to the administration of the NS and the NGHGI and of other partners in the NS on key category analysis and uncertainty analysis related issues was performed in 2012 by the Environment Agency of Austria-University of Graz (EAA-UG) consortium in the general framework of implementation of the study “Environmental Integrated Informational System” (by the SC Asesoft International SA-SC Team Net International SA-SC Star Storage SRL consortium);
* development of the KCA integrated software by the EAA-UG consortium in the context of the study “Environmental Integrated Informational System”, software allowing for:
  + automatic data import from the CRF Reporter application, through the use of CRF Tables;
  + integrate both key category and uncertainty analysis;
  + development of both Tier 1 and Tier 2 analysis;
  + automatic export of results, data and information, within the relevant reporting templates.
* development of the software to support the optimization of data collection from the operators for the Energy Industries, Manufacturing Industries and Construction categories in the Energy Sector and for the Solid Waste Disposal on Land and Waste Water Handling categories in the Waste Sector was implemented subject to the “Environmental Integrated Informational System”; additionally, software to support optimized informational fluxes from/to public institutions and to the general public have been developed;
* development of the uncertainty analysis integrated software by the EAA-UG consortium, in the context of the study “Environmental Integrated Informational System”, software allowing for:
  + automatic data import from the CRF Reporter application, through the use of CRF tables;
  + integrate both key category and uncertainty analysis;
  + development of both Tier 1 and Tier 2 analysis;
  + automatic export of results, data and information, within the relevant reporting templates.
* analyzing/updating the activity data/emission factors related uncertainties values by the EAA-UG consortium following their collection also through interviews with data providers and NEPA, in the context of implementing in 2012 the study “Environmental Integrated Informational System”;
* the QA/QC and verification activities have been enhanced as a result of the implementation of the:
  + Protocol of collaboration no. 3136/MMP/9.07.2012 between Ministry of Environment and Forests, NEPA, RAR and DRPCIV;
  + Protocol of collaboration no. 3029/MMP-RP/3.07.2012 between Ministry of Environment and Forests, NEPA and ICAS;
  + “Compilation of the 2013 National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector both under the UNFCCC and KP obligations” study;
  + “Determination of emission/removal factors for the forest and for conversions from/to forest land associated pools both under UNFCCC and KP obligations” study.
* continuous consideration of QA, third party support (EU internal reviews, review under Article 8 of the KP);
* KP Annex A sources-ensuring that appropriate methods are used for key categories, improving the inventory accuracy, implementing improvements considering the previous plans and ERT recommendations: based on previously items;
* improvement/further enabling the improvement of the accuracy, completeness and transparency of KP-LULUCF data/information through the implementation of the studies “Compilation of the 2013 National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector both under the UNFCCC and KP obligations” and “Determination of emission/removal factors for the forest and for conversions from/to forest land associated pools both under UNFCCC and KP obligations”;
* as a result of the implementation of the activities above presented, improving the implementation of the NS general functions:
* ensure sufficient capacity for timely performance of the functions for national systems, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for technical competence of the staff involved in the inventory development process;
* provide information necessary to meet the reporting requirements defined in the guidelines under Article 7 in accordance with the relevant decisions of the COP and/or COP/MOP.
* as a result of the implementation of the activities above presented, improving the implementation of the NS specific inventory preparation functions:
* identify key source categories following the methods described in the IPCC good practice guidance;
* prepare estimates in accordance with the methods described in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, as elaborated by the IPCC good practice guidance, and ensure that appropriate methods are used to estimate emissions from key source categories;
* collect sufficient activity data, process information and emission factors as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;
* make a quantitative estimate of inventory uncertainty for each source category and for the inventory in total, following the IPCC good practice guidance;
* compile the national inventory in accordance with Article 7, paragraph 1, and relevant decisions of the COP and/or COP/MOP;
* implementing the QA/QC and verification procedures in accordance with its QA/QC plan following the IPCC good practice guidance.

***Table 3 Studies implemented for strengthening the NS and improving the GHG Inventory since the submission of version 2 of the 2012 NGHGI***

| **No.** | **Study title** | **Objectives** | **Contractor** | **Year/Status of implementation** |
| --- | --- | --- | --- | --- |
| 1. | “Development of historical data, for the period 1989-2011, for allowing to estimate direct and indirect GHG emissions from Road Transport using the COPERT 4 model associated to the Tier 2 approach” | Increasing the accuracy of the Road transport estimates, using the COPERT 4 model | DRPCIV, RAR; the study related activities were implemented under the Protocol of collaboration no. 3136/MMP/9.07.2012 between Ministry of Environment and Forests, NEPA, RAR and DRPCIV | 2012/Finalized |
| 2. | “Environmental Integrated Informational System” | Optimizing the informational fluxes related to the NGHGI, including also data collection from the operators for the Energy Industries, Manufacturing Industries and Construction categories in the Energy Sector and for the Solid Waste Disposal on Land and Waste Water Handling categories in the Waste Sector, and data collection from public authorities | SC Asesoft International SA-SC Team Net International SA-SC Star Storage SRL consortium | 2012/Finalized |
| 3. | “Compilation of the 2013 National Greenhouse Gas Inventory Land Use, Land-Use Change and Forestry Sector both under the UNFCCC and KP obligations”  The study is also linked with the Protocol of collaboration no. 3029/MMP-RP/3.07.2012 between Ministry of Environment and Forests, NEPA and ICAS | Improving the accuracy, completeness, consistency and transparency of the LULUCF Sector | ICAS | 2012/Finalized |
| 4. | “Determination of emission/removal factors for the forest and for conversions from/to forest land associated pools both under UNFCCC and KP obligations”  The study is also linked with the Protocol of collaboration no. 3029/MMP-RP/3.07.2012 between Ministry of Environment and Forests, NEPA and  ICAS | Improving the accuracy, completeness and transparency of the LULUCF Sector | ICAS | 2012/Finalized |

**Changes implemented and presented into version 2 of the 2012 NGHGI and into previous than version 2 of the 2012 NGHGI inventories**

Changes implemented to the NS comprises:

* updating the National Environmental Protection Agency NS/NGHGI dedicated structure as a result of:
  + governmental approval during June-July 2011 of establishing a new unit at NEPA having exclusively the responsibilities of administrating the NS and the NGHGI and allowing for an increased staff number, from 5 to 16;
  + employment of additional staff (11 people);
  + ensuring appropriate working space and facilities;
  + ensuring necessary IT equipment through the support of study 4 in Table 4;
  + training of all staff using the UNFCCC Secretariat and GHG management reviewer training courses, the collaboration with the European Environment Agency and the European Topic Centre for Air Pollution and Climate change Mitigation, the collaboration with the Austrian Federal Environmental Protection Agency and the support of study 3 in Table 4;
  + in addition to the planned training measures, the NEPA personnel administrating the NGHGI Energy Sector received technical assistance from the Environment Agency of Austria; the results are incorporated in the NGHGI 2012.
* update of the institutional, legal and procedural arrangements associated to the NS, through modifying and completing, as part of the GD no. 668/2012, the GD no. 1570/2007 for establishing the National System for the estimation of anthropogenic greenhouse gas emissions levels from sources and removals of CO2 by sinks, regulated through the KP, including its Annexes,
  + as outcome of study 3 in Table 4;
  + based on NEPA analysis on improving the institutional and legal arrangements part of the NS, performed during 2011- January 2012;
  + including:
    - an extended list of parameters, including associated institutional arrangements, especially for ensuring the use of higher (Tier) approaches;
    - optimized institutional arrangements:
      * private institutes developing data and information using public funds provide these data and information to NEPA for free;
      * data and information providers to NEPA can request data and information to other organizations;
      * updated arrangements were established on developing data and information not available: NEPA and/or public authorities and institutions,
        + are establishing and implementing the procedures for their inclusion into the Annual Statistical Research Programme, or
        + are establishing procedures for the elaboration of specific studies and the associated responsibilities:
      * new provision on the obligation to ensure consistency for similar data and information provided to several beneficiaries was included.
* update of NEPA’s President Decision no. 24/2009 for approving the QA/QC Procedure related to the NGHGI through the elaboration of NEPA’s President Decision no. 417/2012 on abrogating the NEPA’s President Decision no. 119/2012 (on abrogating the QA/QC Procedure approved through the Decision no. 24/2009 and on approving a updated QA/QC Procedure related to the NGHGI) and on approving a updated QA/QC Procedure related to the NGHGI, based on NEPA’s work following specific recommendations during the 2011 NGHGI “in-country” review and in the Report of the individual review of the annual submission of Romania submitted in 2011, review under KP Article 8;
* the QA/QC and verification activities have been enhanced as a result of:
  + increased number of NEPA NS/NGHGI dedicated staff;
  + training of NEPA and data providers representatives through several training instruments;
  + using a cross-checking QC approach within NEPA;
  + applying on a significantly larger scale sector-specific QC, QA and verification activities;
  + their implementation also in the context of development in 2011 of the NGHGI improvement studies: “Elaboration/documentation of national emission factors/other parameters relevant to NGHGI Sectors Energy, Industrial Processes, Agriculture and Waste, values to allow for the higher Tier calculation methods implementation” and “NGHGI LULUCF both under the UNFCCC and KP obligations”;
  + continuous consideration of QA, third party support (collaborations with Austria and Netherlands, EU internal reviews, review under Article 8 of the KP).
* in the context of the last two points, the QC, QA and verification activities are:
  + automated data validation within the Excel model-validation is implemented on the consideration of any activity data value provided through the Energy Balance and concerning an inventory specific activity, and on the range of the determined country-specific emission factors as defined within the relevant IPCC methodologies; the model is directly linked to the International Energy Agency and Eurostat versions of the Energy Balance provided by the National Institute for Statistics and to the determination of the country-specific or default emission factors spreadsheets (Energy Sector-Stationary Combustion Subsector and Reference Approach);
  + manual checks on all spreadsheets part of the model presented at the previous point (Energy Sector-Stationary Combustion Subsector and Reference Approach);
  + manual checks on all spreadsheets on renewable fuel combustion; the spreadsheets are directly linked to the International Energy Agency and Eurostat versions of the Energy Balance and to the default emission factors spreadsheets (Energy Sector-Stationary Combustion Subsector and Reference Approach);
  + manual checks on all spreadsheets on Fugitive Emissions Subsector; the spreadsheets are directly linked to the International Energy Agency and Eurostat versions of the Energy Balance and to the used emission factors spreadsheets (Energy Sector-Fugitive Emissions Subsector);
  + implementing an analysis on the share of European Union-Emission Trading Scheme to Energy Balance fuel consumption data, in respect to equivalent activity categories (Energy Sector except the Fugitive Emissions Subsector, Reference Approach);
  + checks specific to country-specific emission factors determination, based on background data reported under the European Union Emission Trading Scheme and validated through the reports of Ministry of Economy accredited verifiers (Energy Sector except the Fugitive Emissions Subsector, Reference Approach);
  + checks on the correlation between energy demand and energy resources data in the Energy Balance (Energy Sector except the Fugitive Emissions Subsector, Reference Approach);
  + checks of the outliers on the fuel mix and on the energy consumption data changes, and of double accounting potential cases, together with the Industrial Processes Sector experts (Energy Sector except the Fugitive Emissions Subsector, Reference Approach);
  + check on the potential double accounting cases through the use of carbon balance (Industrial Processes Sector);
  + implement cross-sectoral checks for emissions from categories calculated using tier 1 default emission factors that do not specifically account for the sources of carbon (Industrial Processes Sector);
  + implementing an analysis on the share of European Union-Emission Trading Scheme to National Greenhouse Gas Inventory data, in respect to equivalent activity categories (Industrial Processes Sector);
  + comparison of activity data on the CH4 recovery for valorizing from solid waste disposal on land facilities and on the waste incineration with corresponding data in the Energy Sector (Waste Sector-Solid Waste Disposal on Land and Waste Incineration Subsectors);
  + check the potential occurrence of double accounting cases between the Agriculture and Land Use, Land-Use Change and Forestry Sectors (Agriculture and Land Use, Land-Use Change and Forestry Sectors);
  + implementation of a comparative analysis of country-specific emission factors and associated uncertainties with equivalent international data, mostly from the countries having similar national circumstances (technologies, the same fuels sources) (Energy Sector except the Fugitive Emissions Subsector);
  + comparison of the Enteric Fermentation and Manure Management Subsectors country-specific emission factors data and information with equivalent international data and information, especially in respect with elements available within countries with similar technical conditions (livestock characteristics, Animal Manure Management Systems characteristics) (Agriculture Sector-Enteric Fermentation and Manure Management Subsectors);
  + comparison between Agriculture and Waste Sectors data in the National Greenhouse Gas Inventory and at the level of Food and Agriculture Organization and Eurostat.
* the implementation of the studies in Table 3 in order to strengthen the NS and to improve the NGHGI, by third party specialized organizations;
* administration in 2011 of the Land Use, Land Use Change and Forestry (LULUCF) Sector by the Forest Research and Management Planning Institute, on contractual basis, in the context of the study “NGHGI LULUCF both under the UNFCCC and KP obligations”;
* in 2012-2014 period, the NGHGI LULUCF Sector, both under the UNFCCC and KP, is administrated by ICAS, based on the Protocol of collaboration no. 3029/MMP-RP/3.07.2012 between Ministry of Environment and Forests, NEPA and ICAS;
* on an undetermined period, the preparation of Road transport category estimates based on COPERT 4 model is administered also based on the Protocol of collaboration no. 3136/MMP/9.07.2012 between Ministry of Environment and Forests, NEPA, Romanian Automobile Register and Directorate on Driving Licenses and Vehicles Registration in the Ministry of Administration and Interior;
* establishing in detail the coordinates and advancing the elaboration of elements of updating the informational fluxes related to NGHGI under the study 4 in Table 4, elements aiming to optimize the implementation of the key category analysis, of the uncertainty analysis, of data collection and of public presentation of NGHGI data; additionally, in the context of study 4 in Table 4, in 2012 uncertainty data will be collected also through interviews, based on the collaboration between study contractor, Environment Agency of Austria, data providers and NEPA;
* KP Annex A sources-ensuring that appropriate methods are used for key categories, improving the inventory accuracy, implementing improvements considering the previous plans and ERT recommendations: based on previously items and on items on improving the NGHGI to be further described;
* improvement of the transparency in presenting the adequacy of funding to improve the NS through the planned studies and the specific changes to the NS to ensure its proper functioning, within the NIR part of version 3 of 2011 NGHGI;
* improvement of the accuracy of KP-LULUCF data/information through:
  + the development of Tier 2 estimates for biomass pools and Forest Management activity, based on study 2 in Table 4; estimates have been incorporated in version 3 of the NGHGI 2011. The elaboration of Tier 2 estimates has been supported by an improved land use change matrix (supporting also the consistency between the UNFCCC and KP estimates) developed within the study 2 in Table 4 and by an improved quality management performed by the study contractor and NEPA.
  + finalizing the preparation by NEPA of the Terms of References associated to the study 6 in Table 4; advancing the procurement procedure;
* improvement of the completeness of KP-LULUCF data/information as follows:
* Tier 1 estimates associated to the carbon stock in litter and dead wood pools for Forest Management activity and in mineral soils pool for Revegetation activity, based on study 2 in Table 4 were developed and incorporated in version 4 of the 2011 NGHGI.

***Observation:***

Version 4 of the 2011 NGHGI comprises all elements of the responses provided to the potential problems the ERT has listed in the “Saturday paper” following the 2011 in-country review.

* updating the NEPA NS/NGHGI dedicated structure according to the previously presented relevant elements.
* improvement of the transparency of KP-LULUCF data/information, based on study 2 in Table 4, within the NIR part of version 3 of 2011 NGHGI;
* as a result of the implementation of the activities above presented, improving the implementation of the NS general functions:
* establish and maintain the institutional, legal and procedural arrangements necessary to perform the functions for national systems, as appropriate, between the government agencies and other entities responsible for the performance of all functions;
* ensure sufficient capacity for timely performance of the functions for national systems, including data collection for estimating anthropogenic GHG emissions by sources and removals by sinks and arrangements for technical competence of the staff involved in the inventory development process.
* as a result of the implementation of the activities above presented, improving the implementation of the NS specific inventory preparation functions
* prepare estimates in accordance with the methods described in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, as elaborated by the IPCC good practice guidance, and ensure that appropriate methods are used to estimate emissions from key source categories;
* collect sufficient activity data, process information and emission factors as are necessary to support the methods selected for estimating anthropogenic GHG emissions by sources and removals by sinks;
* compile the national inventory in accordance with Article 7, paragraph 1, and relevant decisions of the COP and/or COP/MOP;
* implementing the QA/QC and verification procedures in accordance with its QA/QC plan following the IPCC good practice guidance.

*Table 4 Studies implemented/in implementation for strengthening the NS and improving the GHG Inventory (determining changes implemented and presented into version 2 of the 2012 NGHGI and into previous than version 2 of the 2012 NGHGI inventories)*

| **No.** | **Study title** | **Objectives** | **Contractor** | **Status of implementation** | **Deadline for providing final results/Year of implementation** |
| --- | --- | --- | --- | --- | --- |
| 1. | “Elaboration/documentation of national emission factors/other parameters relevant to NGHGI Sectors Energy, Industrial Processes, Agriculture and Waste, values to allow for the higher Tier calculation methods implementation” | Improving the accuracy in key categories estimates, as previously presented | SC ISPE SA | Finalized | 31 October 2011/2011 |
| 2. | “NGHGI LULUCF both under the UNFCCC and KP obligations” | Improving the accuracy, completeness, consistency and transparency of the LULUCF Sector | ICAS | Finalized | 31 October 2011/2011 |
| 3. | “Support for the implementation of the European Union requirements on the monitoring and reporting of the carbon dioxide (CO2) and other greenhouse gas emissions” | Strengthening the NS, including in respect to data collection | SC ISPE SA | Finalized | 30 November 2011/2011 |
| 4. | “Environmental Integrated Informational System” | Optimizing the informational fluxes related to the NGHGI, including data collection from the operators for the Electricity and heat production category (Energy) and data collection from public authorities. | SC Asesoft International SA-SC Team Net International SA-SC Star Storage SRL consortium | Finalized | September 2012/2011 |
| 5. | “Development of historical data, for the period 1989-2010, for allowing to estimate direct and indirect GHG emissions from Road Transport using the COPERT 4 model associated to the Tier 2 approach” | Increasing the accuracy of the Road transport estimates, using the COPERT 4 model | DRPCIV, RAR; the study related activities were implemented under the Protocol of collaboration no. 3136/MMP/9.07.2012 between Ministry of Environment and Forests, NEPA, RAR and DRPCIV | Finalized | annualy, until 15 July/2011 |
| 6. | “NGHGI LULUCF both under the UNFCCC and KP obligations” | Improving the accuracy, completeness, consistency and transparency of the LULUCF Sector | PoC between NEPA, ICAS and MEF; on-going Study 6 procurement procedure | Finalized | 31 October 2012/2012 |

Further elements, including on the implementation of studies in Tables of Annex V.15 are presented in Chapter 1 and within the relevant sectorial Sections of the NID.

**Steps taken to improve the estimates**

In order to improve the Greenhouse Gas estimates, several steps have been performed in order to strengthen the National systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, para. 1 of the Kyoto Protocol (NS) and to improve the National GHG Inventory (NGHGI), including through the development of studies in Tables 1-4.

***Elements on strengthening the NS***

In order to strengthen the NS the activities described in the Changes in the National System Section in the current Chapter have been implemented.

***Elements on improving the GHG Inventory***

Improvements of the NGHGI comprise:

***Progresses incorporated into the 2015 NGHGI***

* ***improving the accuracy***
* applying higher/higher Tier methods for the Lime production, Glass production and Ammonia production categories based on IPCC 2006 methodology ;
* applying higher Tier methods for the Iron and steel production category based on the IPCC 2006 methodology;
* applying higher/higher Tier methods in the LULUCF Sector.
* improving the completeness, consistency and transparency of the LULUCF Sector based on the implementation of study 4 in Table 1.

***Progresses incorporated into the 2014 NGHGI***

* ***improving the accuracy***
* extending the use of COPERT 4 model in Road Transport to 1990-2004 period (due to data availability, previously the model was applied to 2005-20011 period; Energy);
* continued determination and use of CO2 country-specific emission factors in Fuel Combustion-Sectoral Approach (for 2012 year, Energy);
* determination and use of country-specific net calorific values in Fuel Combustion-Sectoral Approach (Energy);
* updating the data and information collection and processing and emissions estimation system, and, consequently, improved HFCs, PFCs and SF6 emissions following the implementation of methodological changes, including, for example, the use of a bottom-up Tier 2 estimation method considering the emissions from manufacturing, operation and disposal of equipment for the 2.F.1-2.F.4 and 2.F.8 categories (Industrial Processes-Consumption of halocarbons and SF6);
* updating different parameters based on data derived through the first cycle of the new National Forest Inventory and from other two research projects (Land Use, Land-Use Change and Forestry);
* use of an improved characterization related to the disposal of sludge in the context of the Solid Waste Disposal on Land category (Waste);
* use of improved activity data related to CO2 emissions estimates from Waste Incineration (Waste).
* ***improving the completeness***
* estimation for the first time of N2O emissions associated with Waste Incineration (Waste).
* ***improving the transparency***
* improving the documentation related to the waste with biodegradable content in the context of the Solid Waste Disposal on Land (Waste);
* disaggregation at higher level of the activity data and emissions related to the sludge disposal in the context of the Solid Waste Disposal on Land (Waste);
* disaggregating at higher level the CO2 emissions estimates associated with the Waste Incineration (Waste).

***Progresses incorporated into the 2013 NGHGI***

* ***improving the accuracy***
* beginning of use of COPERT 4 model in Road Transport (Energy);
* continued determination and use of CO2 country-specific emission factors in Fuel Combustion-Sectoral Approach (for 2011 year, Energy);
* update of emission factors (Energy);
* update of activity data mainly following the correction of the Energy Balance (Energy);
* use of improved activity data in Limestone and Dolomite Use and Glass Production (Industrial Processes);
* update of the activity data mainly following the correction of related national statistics data (Land Use, Land-Use Change and Forestry, Kyoto Protocol-Land-Use, Land Use Change and Forestry);
* use of improved activity and emission factors data (Waste).
* ***improving the completeness***
* characterization for the first time of the coke production associated CH4 emissions (Industrial Processes).

***Progresses incorporated into the version 2 of the 2011 NGHGI***

* ***improving the accuracy***

Based on the intermediary results of the study “NGHGI LULUCF both under the UNFCCC and KP obligations”:

* revised estimates associated to the Forest land remaining forest land category based on a revised land use change matrix (LULUCF under the UNFCCC);
* new estimates of emissions/removals associated to the Land converted to Forest Land, Cropland, Grassland, Settlements and Other land categories (LULUCF under the UNFCCC);
* new characterization of the activities pertaining to the Wetlands category (LULUCF under the UNFCCC);
* implementation of a combined Tier 1-Tier 2 approach to estimate the emissions/removals from KP Article 3.4 Forest management activity (LULUCF under the KP).

***Based on NEPA’s work***

* Tier 2 CO2 estimates for Public electricity and heat production (Energy);
* Tier 2 CO2 estimates for Manufacturing industries and construction, Other sectors and Road transport (based on COPERT 3 model use)categories (Energy);
* Tier 3 CO2 emissions estimates and Tier 2 PFC emissions estimates associated to the Aluminium production category (Industrial processes);
* Tier 2 estimates for Managed waste disposal on land category (Waste).
* ***improving the completeness***

Based on intermediary results of study “NGHGI LULUCF both under the UNFCCC and KP obligations”:

* new estimates of emissions/removals associated to the Land converted to Forest Land, Cropland, Grassland, Settlements and Other land categories (LULUCF under the UNFCCC);
* new characterization of the activities pertaining to the Wetlands category (LULUCF under the UNFCCC);
* as a result of implementing the two activities mentioned above, the number of categories whose emissions/removals were not estimated (NE categories) decreased with 111 (from 127, for 2009, within the 2011 version 1.3 NGHGI submission, to 16, for 2009, within the version 2 of the 2011 NGHGI submission).

***Based on NEPA’s work***

* the number of NE categories in the Energy Sector decreased with 20, from 64, for 2009, within the 2011 v. 1.3 NGHGI, to 44, for 2009, within the 2011 v. 2 NGHGI, as a result of an improved characterization of emissions/removals associated to several categories.
* in total, the number of NE categories decreased for 2009 with 131, from 247 within the 2011 v. 1.3 NGHGI submission (April 2011) to 116 within the 2011 v. 2 NGHGI submission (August 2011).
* ***improving the transparency***
* the NIR’s sections relevant for the LULUCF under the UNFCCC and, respectively, under the KP, have been updated by the Forest Research and Management Planning Institute, the contractor of the study “NGHGI LULUCF both under the UNFCCC and KP obligations”, a third party organization with LULUCF advanced expertise, allowing for better transparency.
* ***improving the consistency***
* as a result of the study “NGHGI LULUCF both under the UNFCCC and KP obligations”, the time series consistency and the consistency between the LULUCF under the UNFCCC and the LULUCF under the KP have been improved through revising the land use change matrix associated to the LULUCF under the UNFCCC and the land use change matrix associated to the LULUCF under the KP.

***Progresses incorporated into the version 3 of the 2011 NGHGI***

* ***improving the accuracy***
* development of Tier 2 estimates for biomass associated to the Forest Management activity.
* ***improving the transparency***
* Industrial Processes: improving the emissions and emission factors trend explanations in the NIR;
* Agriculture: improving the activity data trend explanations and the explanations on selection of emission factors in the NIR;
* NS: improve the presentation of funding dedicated to the improvement of the NS and improve the presentation of changes to the NS to ensure its proper functioning in the future, within the NIR;
* KP-LULUCF: improve the transparency of data/information within the NIR, based on the study 2 in Table 4.

***Progresses incorporated into the 2012 NGHGI***

* + ***improving the accuracy***

***Based on study 1 in Table 4***

* Tier 2 in majority/Tier 1 estimates, for 1989-2010 period, for CO2 emissions, and Tier 1 for CH4 and N2O emissions, for Public electricity and heat production, Manufacturing industries and construction, Other sectors (Energy);
* Tier 1a estimates for Ammonia production (Industrial processes);
* Tier 2/Tier 1/default method/Tier 1b with national/default parameter values estimates for Enteric fermentation, Manure management and Agricultural soils (Agriculture);
* Tier 2 estimates for CH4 emissions and CO2 estimates using the default method and national emission factors, for Solid waste disposal on land, and CH4 and N2O emissions estimates using the default method and national/default emission factors, for Wastewater treatment (Waste).

***Based on NEPA work and on study 1 in Table 13.3***

* Tier 2 in majority/Tier 1 CO2 emissions estimates and Tier 1 CH4 and N2O emissions estimates, for Railways and Navigation categories (Energy).
  + ***improving the completeness***
* Energy: improving further the characterization of categories whose associated emissions are not estimated (NEs)-comparing with version 2 of the 2011 NGHGI, the characterization of NEs has been further improved within the 2012 NGHGI, based on NEPA work; the number of NEs decreased with 38 for the last characterized year (2009, associated to the version 2 of the 2011 NGHGI and, respectively, 2010, associated to the 2012 NGHGI), from 44 to 6;
* analyze of improving the characterization of NEs within the 2012 NGHGI, compared to the version 1 of the 2011 NGHGI. As a result the number of NEs for the last characterized year (2009, associated to the version 1 of the 2011 NGHGI and, 2010, associated to the 2012 NGHGI), remained constant.
  + ***improving the transparency***
* Improvement of the Energy Sector transparency, including through the extended use of detailed data in the Energy Balance and through the inclusion in the NIR of the disaggregated data on transport and on other fuels and other petroleum oil, data provided by the National Institute for Statistics;
* Improving the documentation of parameters, on their yearly variation and on envisaged improvements, within the NIR (Waste).

Additionally, all activities related to the NGHGI administration and part of the Greenhouse Gas Inventory preparation plan, GHG Inventory improvement plan (including the prioritization plan for moving to higher tier methods for key categories)-2011-2012 and of the Schedule for training of new staff part of NEPA team dedicated to the administration of the NS and, respectively, the Greenhouse Gas Inventory were implemented.

**Elements pertaining to the studies administration**

The studies in Tables in Annex V.15 have been officially approved by the designated national authority, the Ministry of Environment. The organization having the responsibility of implementing the acquisition procedure pertaining to the studies previously mentioned, including the contracting stage is the Ministry of Environment.

In respect to the provisions in the current Improvement Plan, the studies are meant to strengthen the NS and to improve the accuracy of the GHG inventory through the use of higher Tier/higher methods according to the specific IPCC good practice guidance decision trees provisions, to improve its completeness by allowing for the estimation of all relevant emissions/removals, to improve the consistency of the data series and the associated transparency.

The scope of the studies is to provide additional data/information to the Romanian authorities and to optimize the NGHGI related informational fluxes in order to strengthen the compliance with the reporting obligations under the UNFCCC process and the EU monitoring mechanism. The Romanian authority in charge of the GHG emission reporting is the Ministry of Environment and Climate Change, and thus it ensures that the studies are providing adequate information. The results of the studies are providing the necessary data for the NGHGI to fully comply with the IPCC reporting requirements.

According to the specific provisions within the Romanian legislation, namely the Government Decision nr. 1635/2009, the Ministry of Environment and Climate Change is the responsible institution with implementation of UNFCCC and KP. In addition, MEWF is the coordinator of funds distribution for studies in the field of environment and climate change.

MEWF has also the tasks of the implementation of environment policy and legislation, including the entire responsibility regarding the NGHGI.

Therefore, Ministry of Environment is:

* the contracting authority in charge with the promotion of the different studies and is ensuring the elaboration of relevant documentation necessary for the acquirement of these studies, the formal approval of documents as well as with financial disbursement;
* the beneficiary of these studies and use the results to adequately meet the reporting obligations. MEWF is ensuring the development of the Terms of Reference (ToRs) of the studies, including also drawing up the technical aspects of ToRs, in a way to comply with the needs and the provisions of reporting requirements.

Technical verification of the results of studies is also performed by MEWF which use the results in the inventory preparation and hence the interest of MEWF in participating in the process of contracting the best institution to perform the studies in a professional and timely manner.

The quality management from the initiation, throughout the completion of the studies themselves, and the quality assurance of the findings, is ensured as follows:

* + ***within the initiation phase*** *–* when drawing up the relevant ToRs, MEWF as a contracting authority and as the implementing agency is ensuring that the necessary data and information provided through the studies will support the Romanian authorities to fully comply with the reporting requirements;

The required quality of these studies is assured by the following legal procedure:

* the ToRs for each of these studies are elaborated, using technical elements with the aim to fill the gaps of recent inventory, approved and published by the MEWF;
* the funding is provided by the MEWF;
* the contractor is developing a work plan approved by the beneficiary observing the timeline indicated in ToRs;
* the implementation is carried out in intermediate steps followed by progress reports subject to the approval by MEWF as the main beneficiary of these studies;
* during the implementation phase, the contractor is required to provide MEWF, after the generation of the results, the proper documentation on the scope, methods, assumptions, key parameter values and data sources; further on, MEWF is ensuring the adequate use, archive and storage of the information provided;
* the studies are providing also recommendation for long terms solutions in generating similar information annually.
  + ***during the development phase of the studies***

The organizations/entities selected to develop the studies are performing QC activities through all the stages of the study development, are documenting all the activities performed and are providing MEWF the specific documentation including the relevant methodology. In this respect, the contractor is asked to perform and document the QC activities through all stages of the study development and to provide relevant documentation to the beneficiary.

Also, through the contract, the organization elaborating the study is ensuring the implementation of QA activities in the preparation of the respective studies and is providing MEWF with the relevant documentation.

The implementation of the studies is following the classic procedure: inception phase, progress phases and final phase, and thus offering the possibility to MEWF to monitor closely their development and avoiding in this way the deviation from the initial scope of the studies.

* + ***within the reception phase***

MEWF is making the payments for the contractor only after MEWF’s endorsement of results according to contract. Therefore, the studies are providing quality and useful information for the elaboration of GHG inventories in accordance with reporting requirements.

The entire documentation on the scope, methods, assumptions, key parameter values and data sources for each study is part of the electronic/paper archive stored within the MEWF’s headquarters, and are available for using further by experts and checked by review teams.

Giving its legally assigned task and its designation as the responsible authority for the National System and preparation of the National GHG Inventory management, MEWF is responsible for the incorporation within the NGHGI of all studies results immediately after their delivery.

Sufficient funding to strengthen the NS and improve NGHGI including through the development of specific studies are available.