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# Environment and Climate Regional Accession Network (ECRAN)

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

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28-29 June 2016, Podgorica

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**ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN**

**WORKSHOP REPORT**

**Activity 3.2 (Task 3.2.2B/Task 3.2.3B)**

**REPORT ON THE SECOND REGIONAL TRAINING SEMINAR ON NATIONAL  
SYSTEMS FOR GHG INVENTORIES AND PROJECTIONS**

**Podgorica, 28-29 June 2016**



This Project is funded by the  
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A project implemented by  
Human Dynamics Consortium

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LIST OF ABBREVIATIONS	
ADCP	Annual Data Collection Plan
BUR	Biennial Update Report
CAEN	Croatian Agency for the Environment and Nature
CBCCAM	Coordination Board on Climate Change and Air Management, Turkey
CDR	Central Data Repository
COP	Conference on Parties
CRF	Common Reporting Format
DAFM	Department of Agriculture, Food and Marine, Ireland
DECC	Department of Energy and Climate Change, UK
DG	Directorate General
ECRAN	Environment and Climate Change Regional Accession Network
EEA	European Environment Agency
EIONET	European Environment Information and Observation Network
EPA	Environmental Protection Agency
EPRT	European Pollutant Release and Transfer Register
ER	Emissions Registration
ETC/ACM	European Topic Centre on Air Pollution & Climate Change Mitigation
EtEA	Estonian Environment Agency
EU	European Union
EU ETS	European Union Emission Trading System
F-gases	Fluorescent gases
GHG	Greenhouse Gases
ICC	Intergovernmental Coordination Committee
INC	1st National Communication
IPCC	Intergovernmental Panel on Climate Change
JRC	Joint Research Centre
KP	Kyoto Protocol
LEAP	Long-range Energy Alternatives Planning System
MAEP	Ministry of Agriculture and Environmental Protection, Serbia
MENP	Ministry of Environment and Nature Protection
MMD	Monitoring Mechanism Decision, Decision No 280/2004/EC
MME	Ministry of Mining and Energy, Serbia
MMR	Monitoring Mechanism Regulation, Regulation (EU) No 525/2013
MoE	Ministry of Environment
MOP	Meeting of Parties of the Kyoto Protocol
MOU	Memoranda of Understanding
MRV	Monitoring, Reporting and Verification
MS	Member State
NAEI	National Atmospheric Emission Inventory, UK
NAMA	Nationally Appropriate Mitigation Actions
NIR	National Inventory Report
NS	National System



LIST OF ABBREVIATIONS	
OCLR	Office of Climate Licensing and Resource, Ireland
PAM	Policies and Measures
QA/QC	Quality Assurance / Quality Control
RVO	Netherlands Enterprise Agency
SEPA	Serbian Environmental Protection Agency
SNC	Second National Communication
SNE	Single National Entity
TCCCA	Transparency, Consistency, Comparability, Completeness, Accuracy
UNFCCC	United Nations Framework Convention on Climate Change
WG	Working Group



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## I. Background/Rationale/Legislation covered

Effective monitoring, reporting and verification (MRV) of greenhouse gas (GHG) emissions is critical for tracking progress towards the achievement of emission reduction targets.

As Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, the European Union and Member States are required to report annually on their GHG emissions. They also have to report regularly on their climate change policies and measures through National Communications.

The annual EU GHG inventory report is prepared on behalf of the European Commission by the European Environmental Agency each spring. In line with UNFCCC reporting requirements, each Member State's annual inventory covers emissions up until two years previously.

Regulation (EU) No 525/2013 on mechanisms for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change (hereinafter: Monitoring Mechanism Regulation or MMR) revises and strengthens the EU's greenhouse gas monitoring and reporting framework in order to provide a better platform for EU action to tackle climate change. It fully substitutes the Decision No 280/2004/EC (Monitoring Mechanism Decision or MMD). Its main goals include improving the quality of the data reported, enabling the implementation of the Climate and Energy package through accurately tracking the progress of the Union and EU Member States towards meeting their emission targets for 2013-2020 and taking into account the periodic update at international level of the use of metrics (Global warming potentials) and methodologies (IPCC Guidelines) in the determination of greenhouse gas inventories.

The proposed activities are a follow-up of the activities on the monitoring mechanism implemented in the framework of RENA, the so called "MMD Exercise", which was held in the period 2010 – 2011. The main purpose of the exercise was to start developing better knowledge and capacity and in gradually improving/increasing the technical and institutional ability of the RENA countries to prepare submissions of the National Inventory Reports in the framework of the MMD.

The exercise concentrated on improving the process of the preparation of sound inventories towards a full and harmonised combustion fuel sector GHG inventory using the appropriate guidelines and tools. The focus was on the CRF fuel combustion activities 1A. The project deliverables were:

- A description of the national systems in the beneficiaries with emphasis on activity data flow scheme;
- Status of national energy balances, calculation of CO<sub>2</sub> emissions and first data filled in for fuel combustion activities using the CRF Reporter tool;
- Completing CO<sub>2</sub> emissions estimates from CRF fuel combustion activities.

This activity will build on the experiences and results of the above "MMD exercise" under RENA.

Assistance will now be provided to the beneficiary countries to start developing robust national inventory systems that are capable of preparing complete, accurate and transparent annual greenhouse gas inventories and inventory related chapters of biennial reports and national communications in line with the requirements for UNFCCC Annex-I Parties and the EU Monitoring Mechanism Regulation (MMR).

The following results are expected for this Working Group:

- Improved overall quality of the GHG inventory work in the beneficiary countries;

- Institutional, legal and procedural arrangements identified for a national system which is linked to the planning, preparation and management of the inventory;
- Improvement of the data quality and technical capacity for preparing GHG emissions inventory elements of the biennial reports and national communications.

The Exercise started in October 2015 and is expected to run for one year. **The first training meeting** was held in October 14-16, 2015 in Zagreb. The workshop introduced the tasks ahead of us and the following homework task was formulated:

1. Please revisit the country outputs/indicators of achievement. Are you still happy with them? If not please redefine.
2. We receive a modest budget for the next two years to deliver output. Which activities I will need to implement (possibly in sequential order) to achieve identified outputs.
3. Fill the final results into the log frame matrix.

**The second training meeting** was held on March 8-9, 2016 in Tirana. The workshop provided further guidance towards the assessment and implementation of a National System. This included the introduction of the Knowledge Sharing Platform and National System Portal. The former provided a framework for the documentation of the information required for the log frame matrix. The latter provided a transparent and complete template for a National System, which can be adopted by the countries.

**The third and final training meeting** was held on June 28-29, 2016 in Podgorica. The workshop enabled the countries to share progress, best practices and barriers identified during the implementation of their National System. Experiences from other countries were also shared to provide examples of best practice and practical solutions. The workshop also provided time for the countries to reassess and complete their log forms building on the work they did during and since the second training meeting. This process was supported by a number of international experts.

## II. Objectives of the Training

### Objectives

The aim of this training seminar was to gradually improve/increase technical knowledge and institutional and procedural capacities of the ECRAN countries to prepare submissions of the National Inventory Reports according to the requirements of the MMR.

The training seminar is covering following activities of ECRAN's Working Group 2 on "National inventory systems and the EU Monitoring Mechanism Regulation":

- **Sub-Task 2.2 B:** Regional MMR exercise on selected sector
- **Sub-Task 2.3 B:** Regional Training on various reporting aspects of the MMR

The above sub-tasks will deal with the improvement of national systems and institutional arrangements. This will enable countries to establish a strong institutional platform to build technical capacity in compiling GHG estimates.

The results of this training will feed into assessment report which will include recommendations for short and long-term inventory improvements in relation to applied methodology, activity data and emission factors in the beneficiaries.



This regional training seminar is based on the *2006 IPCC Guidelines for National Greenhouse Gas Inventories and the UNFCCC and MMR reporting requirements*.

### **Expected Results**

The expected results were:

- Make progress with and remove barriers to strengthening the National Systems of participating countries.
- Elaborate recommended and prioritised activities for country fiches focussed on further strengthening of National Systems.
- Knowledge sharing and presentation of progress and solutions.

### **III. Highlights from the Training**

The training meeting took place in Hotel Aurel, Podgorica, Montenegro. Reference is made to Annex I for the agenda. Below only the main elements are highlighted. The presentations are presented in Annex III.

#### **Day 1 (28 June 2016)**

##### **1. Welcome and Introduction to WG2 NS workshop – Imre Csikós**

The welcome and introduction focussed on the aims and objectives of ECRAN summarising the progress of the work plan to date and the activities that have already taken place, and the potential for follow-on work to maintain the forum that has been created through this ECRAN project.

The participants were introduced to the room including brief information regarding the institutional arrangements. New attendees introduced themselves to the group.

##### **2. Introduction to the workshop and homework progress – Justin Goodwin**

The presentation started with a walkthrough of the agenda for the workshop and the objectives and expected results of the proposed work plan for the so called MMR exercise. The need was emphasised to see the building of National Systems as building national centres of excellence.

The objectives of the workshop were discussed:

- The improvement of national systems and institutional arrangements with a strong institutional platform to build technical capacity in compiling GHG estimates;
- Building confidence in developing methods, data sources and assumptions;
- Setting priorities for country-specific short and long-term GHG inventory improvements.

The current status of the Knowledge Sharing Portal was discussed alongside the roles that have been filled in the system, highlighting the current gaps that are present, the consistency of the participants at this workshop, and the then raking participation as shown in the diagram below:



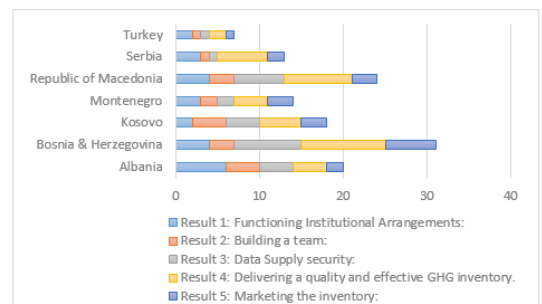


Place	Name	InstitutionName	Country	Role	Participation
1	Ms Ranka Radic	Republic Hidrometeorological Service	Bosnia and Herzegovina	#National System Co-ordinator and Manager	9
	Ms Svjetlana Stupar	Republic Hydrometeorological Service	Bosnia and Herzegovina	#Unknown	9
2	Ms Almira Kapetanovic	FMOIT	Bosnia and Herzegovina	#Unknown	6
	Ms Irena Tadic	EPA Montenegro	Montenegro	#Sector Expert	6
	Ms Ivana Dukic	Serbian Environmental Protection Agency	Serbia	#Sector Expert	6
	Ms Pelin Buzluk	Ministry of Energy and Natural Resources	Turkey	#Sector Expert:Energy	6
	Ms Enkeleda Shkurta	National Environmental Agency	Albania	#Unknown	6
3	Ms Jonila Haxhillari	Ministry of Environment	Albania	#Unknown	5
	Ms Merima Karabegović	JP Elektroprivreda BIH	Bosnia and Herzegovina	#Unknown	5
	Mr Enis Krečinić	Federal hydrometeorological Institute	Bosnia and Herzegovina	#Unknown	5
	Mr Rizah Hajdari	Kosovo Environmental Protection Agency	Kosovo*	#Unknown	5
	Ms Ivana Antonovic	Serbian Environmental Protection Agency	Serbia	#National System Co-ordination- Deputy	5
	Ms Ranka Zarubica	Environmental Protection Agency	Montenegro	#Sector Expert	5
	Mr Afrim Berisha	Kosovo Environmental Protection Agency	Kosovo*	#Sector Expert:Agriculture; #Sector Expert:LULUCF	5

The current progress of the results and actions for each country was presented:

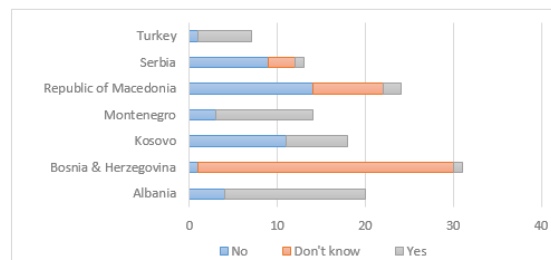
### Number and Distribution of Activities

Count	Colum					Grand Total
Row Labels	Result 1:	Result 2:	Result 3:	Result 4:	Result 5:	
Albania	6	4	4	4	2	20
Bosnia & Herzegovina	4	3	8	10	6	31
Kosovo	2	4	4	5	3	18
Montenegro	3	2	2	4	3	14
Republic of Macedonia	4	3	6	8	3	24
Serbia	3	1	1	6	2	13
Turkey	2	1	1	2	1	7
<b>Grand Total</b>	<b>24</b>	<b>18</b>	<b>26</b>	<b>39</b>	<b>20</b>	<b>127</b>



### Level of Support Required for Activities

Count	Colum		
Row Labels	No	Don't know	Yes
Albania	4		16
Bosnia & Herzegovina	1	29	1
Kosovo	11		7
Montenegro	3		11
Republic of Macedonia	14	8	2
Serbia	9	3	1
Turkey	1		6
<b>Grand Total</b>	<b>43</b>	<b>40</b>	<b>44</b>



As was an indicator for the current status of the National System:

Country	0 General	0 National System	1 Energy	2 IPPU	3 Agriculture	4 LULUCF	5 Waste	6 Other	Memo	% complete
Serbia	100%	75%	100%	100%	100%	100%	100%	100%	100%	97%
Kosovo	90%	75%	100%	88%	100%	100%	100%	100%	13%	85%
Montenegro	100%	0%	100%	100%	100%	100%	20%	0%	100%	69%
Republic of Macedonia	80%	75%	100%	100%	80%	0%	20%	0%	13%	52%
Turkey	0%	0%	0%	0%	100%	0%	0%	0%	0%	11%
Albania	0%	0%	0%	0%	90%	0%	0%	0%	0%	10%
Bosnia & Herzegovina	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Grand Total</b>	<b>53%</b>	<b>32%</b>	<b>57%</b>	<b>55%</b>	<b>81%</b>	<b>43%</b>	<b>34%</b>	<b>29%</b>	<b>32%</b>	<b>46%</b>

A summary of the progress for each country was then provided as well as a summary of the MMR deadlines and the long-term and short-term goals of ECRAN. Relevant terminology for National Systems was explained.



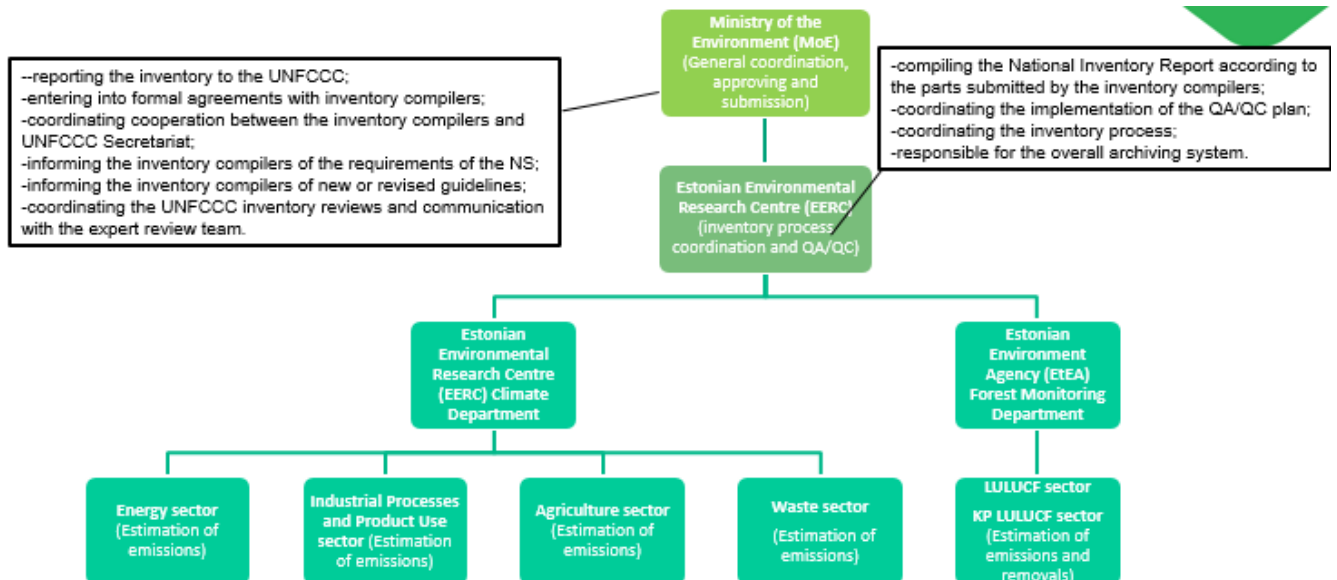
### 3. 2016 MMR reporting, Estonia experience – Merilyn Mols

Estonia’s National System has been established through the preparation of National Inventory Reports (NIR) since 1993. In 1994 an Inter-ministerial Committee of Climate Change was created at the Estonian Government and the Ministry of the Environment organized the compilation of GHG inventories. Financial resources were planned in the State Budget whilst practical work was done on the basis of contracts.

The initial short-comings of the National System included the low awareness of the importance of the GHG inventory in the Estonian Government, uncertainty in the continuity of the tasks and resources, and high personnel turnover rate.

A new contract agreement with the Estonian Environmental Research Centre (EERC) for inventory compilation in the energy, industrial processes and product use, agriculture and waste sectors and for inventory coordination was entered into in 2016 for three years (for the 2017, 2018 and 2019 submissions) to ensure continuity of the inventory compilation.

The following diagram provides a summary of the institutional arrangements for the National System in Estonia:



Regarding data supply, some sectors used largely aggregated activity data, e.g. from national statistics. The access to metadata was based on personal contacts rather than established procedures and agreement between organizations, and there is insufficient collaboration with experts indirectly involved in the inventory preparation. The inventory process for the next inventory cycle will start with an examination of previous years and an analysis of the available datasets in order to improve the inventory.

The main lessons learnt regarding inventory awareness and data supply are to ensure that the inventory team take full advantage of review reports and twinning projects, and acknowledge the importance of compiling a good quality inventory. Involve the appropriate institutions to ensure sustainable data flow and establish legal arrangements to access publicly unavailable data.



During the Twinning Light project 'Improving the quality of Estonia's National Greenhouse Gas Inventory' with Finland in 2009, Estonia updated its QA/QC plan. Each year, once the experts have implemented the QC procedures, they complete the QA/QC checklist for each source/sink category, which provides a record of the procedures performed. According to resources and necessity Tier 2 level QC is conducted focussing on the key categories.

Estonia's GHG inventory is checked annually by independent experts. A public review is also carried out. The draft NIR is uploaded to the MoE website where all interested parties have the opportunity to comment on it. The inventory is also checked by different Ministries and institutions. The inventory is also annually sent to Statistics Estonia for quality checking.

At present the sectoral experts use Excel spreadsheet models that – although easy to modify and fine tune details and has served us well – contains many manual phases, is time-consuming and increases the risk of errors. All the data tables for the CRF reporter are generated manually.

Compilation of the Estonian GHG inventory is a task for 8 persons, which at the moment has proven to be the optimum size of the staff. For an inventory compiler to remain motivated long-term contracts should be in place: ensure time to gain expertise; expert to think long-term and be fully committed (e.g. extensive development projects, answering the review comments); offer the expert training opportunities such as reviewer training and to take part in international development projects and auditing process.

Raising awareness among the policy makers and getting sufficient support has been a key activity for the long-term effectiveness of the National System. Focus on establishing binding legal arrangements to ensure continuity, and clearly distribute roles and ensure there is a sound archiving system. Mapping out all potential activity data resources helps identify potential weak-points of a National System that need to be addressed, whilst multiannual contracts helps to support the longevity and sustainability of the inventory team.

#### **4. MMR National System development in Croatia – Vlatka Palcic**

A presentation was given of the National System for the GHG inventory in Croatia. The Croatian legal acts related to GHG emissions and reporting are:

- Air Protection Act (Official Gazette, No.130/2011, 47/2014) – Chapter VIII of the act is related to monitoring greenhouse gas emissions and measures for mitigating and adapting to climate change;
- Regulation on the Monitoring of Greenhouse Gas Emissions, Policies and Mitigation measures in the Republic of Croatia (Official Gazette, No. 87/2012) - Part II;
- Decision on the adoption of the Plan for the protection of air, ozone layer and climate change mitigation in the Republic of Croatia for the 2013-2017 period (Official Gazette, No. 139/2013);
- Decision on the establishment of the Committee for inter-sectoral coordination for a national system for monitoring greenhouse gas (Official Gazette, No. 6/2014)
- Decision on the establishment of the Committee for inter-sectoral coordination of policies and measures on adaptation and mitigation to climate change (Official Gazette, No. 114/14)

Reporting according to the MMR in **2015** was as follows:



- By 30<sup>th</sup> October, MS submitted to the EU the full final data/inventories for 2015 (under Convention, not KP) including a full final NIR, updated CRF tables, updated XML tables, and relevant MMR Annexes;
- By 15<sup>th</sup> November, MS submitted to the UNFCCC the full final data/inventories for 2015 (under Convention, not KP);
- By 30<sup>th</sup> November, EU submitted to the UNFCCC the EU NIR for 2015 (under Convention, not KP);
- On a voluntary basis participated in ESD review.

Reporting according to the MMR in **2016** was as follows:

- By 15<sup>th</sup> January, MS submitted to the EU preliminary data/inventories for 2016 (under Convention, not KP) including a shortened version of NIR 2016 (preliminary data), CRF tables, XML tables, and relevant MMR Annexes;
- By 15<sup>th</sup> March, MS submitted to the EU full final inventories for 2016 (under Convention, not KP);
- By 15<sup>th</sup> April, MS submitted to the UNFCCC same inventories as ones send to EU by the 15<sup>th</sup> March, EU submitted to the UNFCCC the NIR, CRF tables and SML tables for 2016 (under Convention, not KP);
- Between 3<sup>rd</sup> and 16<sup>th</sup> May, MS submitted to the EU full final inventories for 2016 (under Convention and KP);
- By 15<sup>th</sup> June, MS submitted to the UNFCCC full final inventories for 2016 (under Convention and KP) and Initial Reports.

The review process is being carried out pursuant to the Article 19 of the MMR. The European Commission and the European Environment Agency (EEA) performs the review through the technical expert review team (TERT). There are two review processes: the Annual Review and the Comprehensive Review.

The Annual Review begins with the 1<sup>st</sup> step checks to verify the transparency, accuracy, consistency, comparability and completeness (TACCC) of the submitted information. In cases where inventory data is prepared in a manner which is inconsistent with the UNFCCC guidance documentation or Union rules, the 2<sup>nd</sup> step is carried out. This is a more detailed process and may include additional assessment, analysis, examination, and follow up on the results from the 1<sup>st</sup> step review.

The Comprehensive Review was carried out this year for the first time and is more comprehensive than the Annual Review. It includes checks to verify the TACCC, checks to identify cases where inventory data is prepared in a manner which is inconsistent with UNFCCC guidance documentation or Union rules and, where appropriate, calculates resulting technical corrections to national inventories in consultation with the Member States.

The Review is carried out through an online portal that documents all communications both internally with the inventory team and externally between the Member States and the TERT.

When being reviewed, it is important that a sufficient number of experts are involved. Always check the answers before you send them to the reviewers and note that resources are required to answer and respond to the reviewers. This may include input from those who collect the data as well as the inventory compilers.



## **5. MMR National System development in Croatia – Tatjana Antolic**

A presentation was given of the National System for the GHG inventory in Croatia. There are three steps to a well-functioning National System: create it, work on it and love it, enjoy it.

If you imagine that your NS is a tree, you can draw it, that is, create it. However, the creation of the National System is not simple: it is more complicated and more serious. If you take a pencil and draw your National System it would mean that you define it, define the roles, ensure a legal framework, and find the right people who do this because an inventory is the people. Many countries are in the process of creating their National System.

When creating the National System, Croatia decided that theirs would be characterized as decentralized and out-sourced with clear task breakdown between participating institutions. These Institutions are: MENP, CAEN and competent governmental bodies responsible for providing activity data, Authorized Institution and Committee for inter-sectorial coordination for the NS.

Inventory preparation in Croatia is regulated in legal act in Chapter II of Regulation on the Monitoring of Greenhouse Gas Emissions, Policies and Mitigation measures in the Republic of Croatia (Official Gazette, No. 87/2012). The National System builds on this legal basis.

The Ministry is the national focal point for the UNFCCC with the overall responsibility for the functioning of the National System. Its role includes communication with the UNFCCC and EU, control of inventory methodologies, approval of the GHG Inventory Report, and submission to UNFCCC etc.

The Croatian Agency for the Environment and Nature (CAEN) is responsible for the organization of the GHG Inventory preparation, collection of activity data, development of QA/QC Plan, implementation of QA/QC activities, archiving of all documents used for Inventory planning, and the selection of Authorized Institution.

CAEN is responsible for the Reporting to the EC under MMR.

The Authorized Institution is responsible for preparation of the inventory, which includes emission calculations in line with the methodologies prescribed in 2006 IPCC Guidelines. They are a competent, qualified team and have good experts, and no less important, their team is the combination of experienced and young people.

The Committee was established by a Government decision and includes representatives from various ministries and other public service, with an active role in streamlining activity data collection, providing recommendations for inventory improvement, giving opinions on reports, and participating in the review of these reports.

Once the National System is established, you must work on it all the time: adjust it, improve it, and develop it over time. Establish agreements between institutions, define procedures for data collection, decide who is responsible for what, and establish contacts with stakeholders.

Work on it all time and, of course, love it. Hug your tree: find a way to keep the people; don't cut it and let it grow: find a new people and strengthen your team. Try to enjoy; love what you do. Maybe the job is not the best paid job, but at the end each effort is worth it. Be happy and you and your National System will grow into the strong tree.



## 6. MMR reporting in Austria

A presentation was given of the current status of the National System for the GHG inventory and reporting under the MMR in Austria.

The Single National Entity in Austria is Umweltbundesamt. Since the Austrian Environmental Control Act 1999, Umweltbundesamt has been operating as a private limited company with “basic funding”. This has proved to be good basis for GHG reporting as responsibility regarding the reporting obligation under the UNFCCC/KP and under EC/MMR is clearly handed over to the Umweltbundesamt.

Umweltbundesamt is also designated as the Single National Entity for non-GHG emission estimates, which means that the same inventory team compiles both GHG and non-GHG emission estimates. This maximises the consistency of the inventories whilst minimizing the efforts required to compile them.

The inventory team at Umweltbundesamt includes experts for all sectors (Sector Expert, SE). Inventory experts must understand the reporting requirements and are responsible for the quality of the inventory. The SE has the sole responsibility for choosing the appropriate methodologies.

Technical knowledge may sometimes be bought in – the sector expert is responsible for contracting out studies, and implementing them into the inventory ensuring that all requirements regarding data quality are met. Generally, SE do annual calculations and have full knowledge of methodologies so any subcontracted work must be fully transparent to them.

The diagram below shows the main data providers for the Austrian national GHG inventory, indicating the agreements in place regarding data supply:

<i>Energy - energy balance:</i>	<b>5-year contract</b>
<i>Mobile sources – data on traffic counts:</i>	<b>voluntary</b>
<i>Fugitives – emissions data:</i>	<b>voluntary reporting</b>
<i>Industrial Processes – data from ET:</i>	<b>legal basis: EZG</b>
<i>Product Use – FCs data (some):</i>	<b>legal basis: FC ord.</b>
<i>Agriculture – structural data, stock data:</i>	<b>legal basis statistical law / council regulation 92/3508/EEC; but also voluntary reporting e.g. fertilizers</b>
<i>LULUCF – forest inventory:</i>	<b>legal basis (!?)</b>
<i>Waste – waste disposal:</i>	<b>EDM legal basis?</b>

Inventory preparation has long history with well-established data flows. Basic data were in some cases prepared by an independent institute where there was better trust from industry regarding confidentiality and use of data. It is highly important to create confidence with industry regarding data supply and flow. This can be established by providing procedures regarding use of data and confidentiality, providing examples, and implementing “input data audits”.

Austria’s GHG inventory system is accredited: Accreditation as Inspection Body for Emission inventories (Id.No. 241, Type A) in accordance with the Austrian Accreditation Law (AkkG), by decree of the Minister of Economics and Labour, No. BMWA-92.715/0036-I/12/2005. This accreditation has provided helpful in improving data flow by introducing inventory work and requirements to create an understanding for data quality needs, establishing a contact on expert level, improving data quality on the primary side, and improving data quality on secondary side.



There are also a number of arguments for improving data flow and supply including that PAMs can only be considered if higher Tier methods are applied and higher Tier methods can only be applied if detailed data are available; the detailed data can only be used if in line with IPCC guidelines.

The preference is for data flow to be established on a legal basis, but this is often hard to enforce. However, the 'threat' of a legal basis might open the way for voluntary reporting. There is also the disadvantage of using Tier 1 methodologies for countries because these generally result in higher emissions.

The NIS data links with the MMR are as follows:

- EU ETS (Directive 2003/87/EC, Austrian Implementation EZG 2011) data are made available to Umweltbundesamt for preparation of emission inventories;
- FCs (EC) No. 842/2006 – no data available (only inter EC trade) but some data from Austrian Ordinance HFKW-FKW-SF6-VO are used and Umweltbundesamt is commissioned for data management;
- E-PRTR (EC) No. 166/2006 – Umweltbundesamt has a role in reporting and data are only used for validation;
- Energy Statistics (EC) No. 1099/2008 – contract between environmental ministry and statistical office with very good cooperation on expert level;
- NEC inventory data (NEC Directive 2001/81/EC) Umweltbundesamt is also responsible for NEC (and air pollutant) inventories.

A highly motivated team is essential for the compilation of a high quality inventory. Choosing personnel with self interest in environmental issues and providing benefits beyond money (such as personal responsibility and flexibility) is an important element of building such a team. Other important elements include team building measures, encouraging and respectful human resource management, promoting quality awareness and considering resource needs.

The inventory database is made up of excel spreadsheets: one for every calculation, one for every sector, and also the overall inventory. It was set-up using the SNAP nomenclature.

## **7. Montenegro - National System for GHG inventories (and projections)**

A presentation was given of the current status of the National System for the GHG inventory in Montenegro.

The Government of Montenegro adopted the National Climate Change Strategy by 2030 on 17<sup>th</sup> September, 2015. This defined the long term strategic framework with an Action Plan and INDC. Montenegro has submitted its Second National Communication (May 2015) and first Biennial Update Report (January 2016) to the UNFCCC. Montenegro has a draft National Environment Approximation Strategy.

The Law on Air Protection (Official Gazette of Montenegro 25/10, 43/15) provides the framework of national MMR legislation providing the list of gases and methods for the development of GHG inventories and information exchange and names the EPA as the national institution responsible for the maintenance of Montenegro's national GHG Inventory. The EPA is the Single National Entity.

After consultation with experts through the RENA project, the EPA increased its capacity from one to three GHG inventory experts including one expert for Energy and IPPU, one expert for AFOLU and one

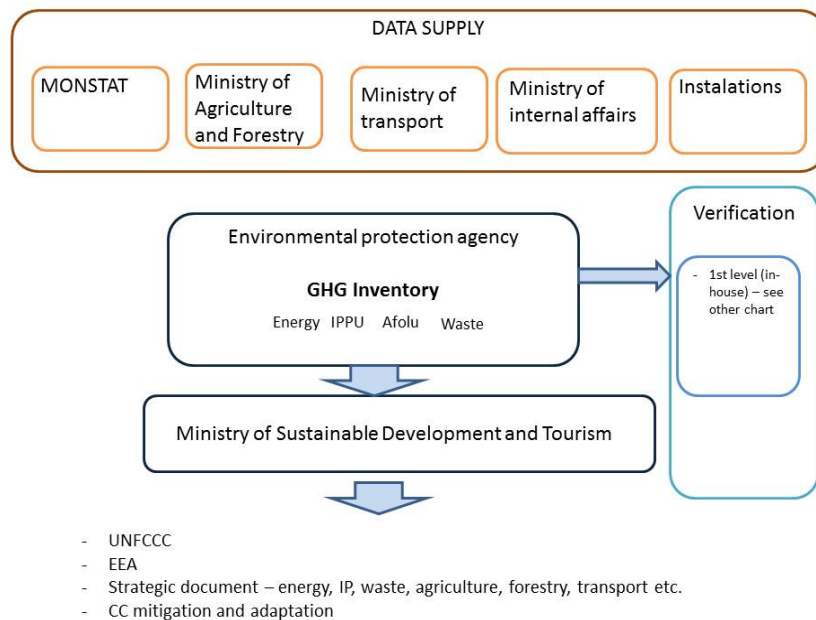


for waste. Training for staff members is being provided through Italian-Montenegrin bilateral cooperation, RENA and ECRAN.

The data collection process is still on a voluntary basis. Although data providers do not have an official obligation to provide these data, cooperation is still good.

An initial assessment of Montenegro’s national MRV system was carried out through the first BUR. The institutionalisation of MRV system is expected to be prepared through the Second BUR to develop and maintain the national MRV system based on UNFCCC requirements, outline the methodologies used for measurement and verification of the reduction of GHG emissions and provide necessary training for relevant national stakeholders.

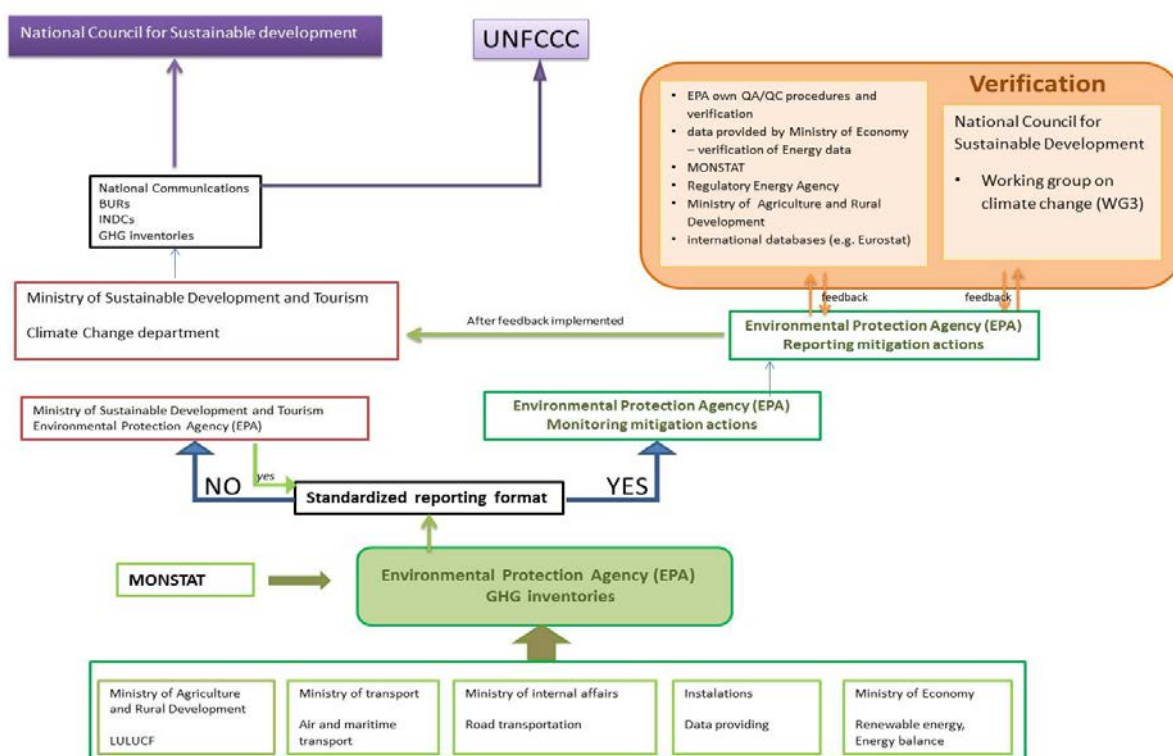
The current arrangement of the GHG inventory preparation process in Montenegro is shown in the following diagram:



The following diagram provides an outline of the proposed institutional arrangements for the MRV system in Montenegro:







There are a number of ongoing actions to support the harmonization with the MMR. These include:

- The development of Montenegro’s Third National Communication to UNFCCC for which a project started in June, 2016;
- A project proposal that has been submitted for the development of the SBUR with focus on MRV, which is pending approval;
- Compilation of the action document for IPA II with MMR as one of the priorities.
- Drafting the MMR Questionnaire for the Progress report, MMR compliance assessment document and improved GHG Regulation with the support of ECRAN experts
- Implementation of the National Environmental Approximation Strategy (NEAS) including a detailed action plan for approximation of EU climate acquis into national legislation.

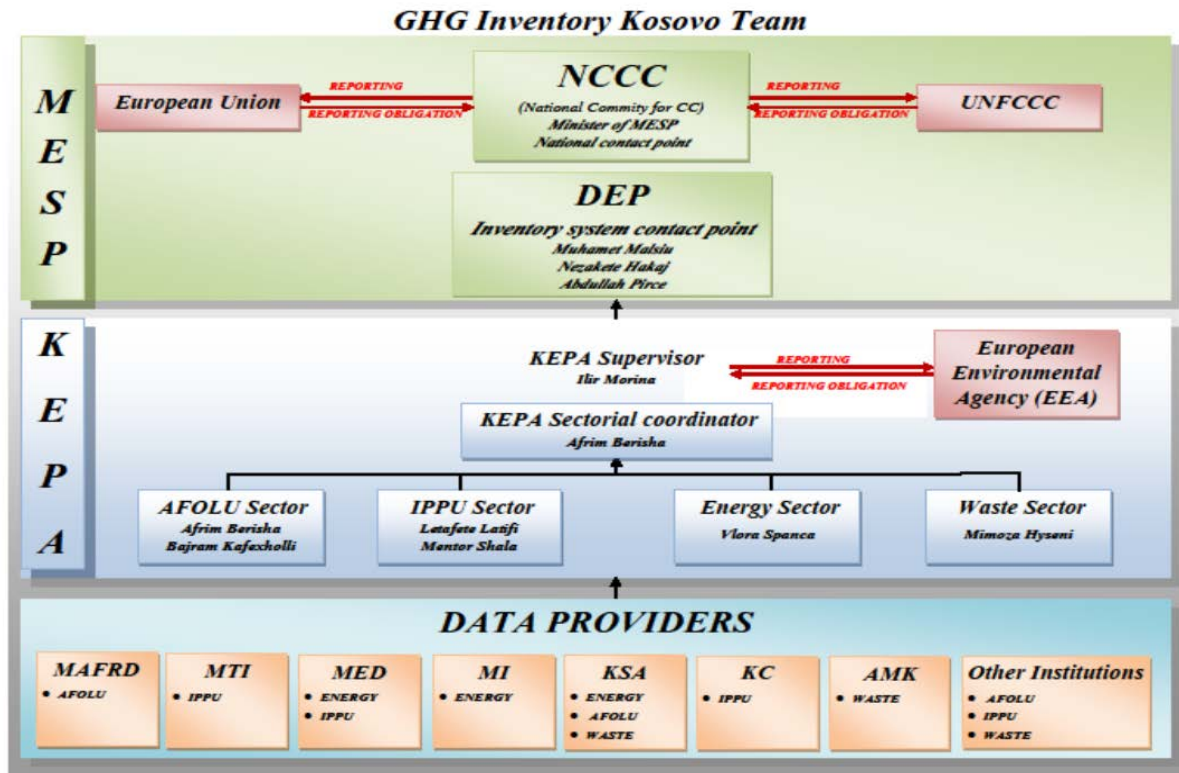
As a result of this process, the EPA expects that the system for emissions calculation will be improved so that the EPA do not depend on external assistance, and to improve QA/QC procedures according to 2006 IPCC Guidelines. The EPA also hopes to have a formal establishment of the National Inventory System.

## 8. Kosovo<sup>1</sup> - National System for GHG inventories (and projections)

<sup>1</sup> The designation is without prejudice to position on status, and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo declaration of independence.



A presentation was given of the current status of the National System for the GHG inventory in Kosovo\*. The Single Entity in Kosovo for the national GHG inventory is the Department of Environmental Protection with the Kosovo Environmental Protection Agency having the responsibility for inventory preparation. The diagram below shows the structure of the National System in Kosovo\*:



There are currently two Administrative Instructions for the implementation of MMR (Regulation (EU) 525/2013): Administrative Instruction GRK-No. 01/2016 on Mechanism for Monitoring Greenhouse Gas Emissions, and Administrative Instruction GRK-No. 09/2015 for Monitoring Greenhouse Gas Emissions. Other applicable legislation and policies are: the Administrative Instruction GRK No.16/2013 for Substances that deplete the ozone layer and fluorinated greenhouse gases; Climate Change Strategy 2014-2024 (Ministry of Environment and Spatial Planning supported from UNDP); the Law on Environmental Protection; and the Law on Air Protection from Pollution.

Currently, Kosovo\* is in the early stages of implementing the AI for MMR. The preparation of the inventory for the year 2014 is currently underway with the identification of potential data providers and the distribution of information regarding roles and responsibilities.

The methods used in the inventory are consistent with the 2006 IPCC Guidelines using the IPCC software. Generally, Tier 1 approaches and IPCC default emission factors are applied. Where applicable, emission factors relevant to Eastern Europe and developing countries are chosen.

The EPA proposed a project fiche for the improvement and enforcement of Kosovo GHG National Inventory System, which would have the following objectives:

- Objective 1: Determination of base year,
- Objective 2: Capacity building for improvement of GHG quality,
- Objective 3: Improve institutional arrangements and activity data quality,



Objective 4: Technical improvement of GHG system.

There have been a number of recent activities related to Kosovo's\* National System. This includes initiating the necessary update of the MoU with KSA and the improvement of activity data and methodologies for many sectors. The Law on Air Protection from Pollution and Climate Change Strategy 2017-2026 are currently under review. The Action Plan for Climate Change is being drafted as is a document for Indicators for monitoring the integration of risks and opportunities from climate change in development policies, strategies and inter-sectorial plans. Kosovo\* continues to participate in EEA/EIONET activities for GHG emissions.

### **9. Serbia - National System for GHG inventories (and projections)**

A presentation was given of the current status of the National System for the GHG inventory of the Republic of Serbia. The Ministry of Agriculture and the Environmental Protection is the UNFCCC National Focal Point, while Inventory preparation is under the responsibility of the Serbian Environment Protection Agency (SEPA).

The establishment of the national GHG inventory of the Republic of Serbia is stipulated by the Law on Air Protection, Article 50, to monitor emissions and removals of greenhouse gases. In accordance with these obligations, the establishment of the National inventory of emissions of greenhouse gases began in 2012.

There are a number of stakeholders that contribute to the national GHG inventory. These institutions include the Statistical Office of the Republic of Serbia (SORS), the Ministry of Mining and Energy (MME) – Strategy Planning Office, the Ministry of Internal Affairs – Police, the Customs Office and public enterprises (PE EPS, etc.).

The Republic of Serbia submitted its 1st National Communication (INC) to the UNFCCC in 2010. This publication included the first national GHG inventory, which reported emission estimates for 1990 and 1998, and projected estimates for 2015.

The Republic of Serbia submitted its first BUR (including the inventory chapter) after its adoption in January, 2016. At the same time, the Republic of Serbia is currently working on its GHG Inventory for the Second National Communication (SNC), which is expected to be published in 2016. The BUR and SNC GHG Inventory was developed by SEPA, and later reviewed and further improved by the Faculty of Mechanical Engineering (University of Belgrade).

The Republic of Serbia has the challenging goal to be prepared for the Annex 1 reporting. The SNC and the BUR will report 1990-2013 GHG emissions consistent with the 2006 IPCC Guidelines in terms of methodology.

The Projections and Mitigation Programme for the period until 2020, 2030 is being prepared by the Faculty of Mechanical Engineering using relevant models (LEAP model), and the Long-term framework mitigation strategy by 2020/2030/2050, following the EU Roadmap 2050, will be prepared.

There is currently a twinning project between Serbia and France: establishment of a mechanism for the implementation of MMR. Serbia established a special MMR working group involving all relevant governmental institutions and stakeholders. The main project components are:

- 1) Institutional and procedural arrangements for implementation of MMR and Decision 406/2009 established



- 2) Legal framework for implementation of the Regulation (UE) 525/2013 and the monitoring and reporting requirements of Decision 406/2009/EC established
- 3) Administrative and institutional capacities of the relevant bodies in the field of climate change strengthened

The institutional and procedural arrangements framework suggested by the project is to increase the resources available at SEPA and MAEP by providing additional staff with defined roles, and additional budget for country-specific studies. The chosen approach for the implementation of a legal framework is to adopt a “parent” law, which would regulate all relevant elements. The Republic of Serbia will adopt an integrated approach to all elements of air emission inventories such as the ETS, CLRTAP, PRTR and GHG inventory.

The timeline for the preparation of the legal acts indicates that the first draft of the Law on Climate Change will be finalised in August, 2016, whilst additional draft legislation for the regulation on National inventory system, ordinance on reporting, GHG projections and LULUCF will be prepared by the end of 2016.

The Republic of Serbia is considering five project fiches through the ECRAN project:

- 1) Agriculture: Moving from Tier 1 to Tier 2 for Enteric fermentation and Manure management;
- 2) Waste: FOD implementation, Moving from Tier 1 to Tier 2;
- 3) F-Gases;
- 4) Transposition and implementation of the EU Decision 529/2013 (LULUCF);
- 5) Capacity building: 4 sectorial experts within SEPA.

Additionally, ECRAN International Experts will check Serbian emissions from Agriculture (Enteric fermentation and Manure management) in order to define possible results differences and gaps. ECRAN International Experts will propose official recommendations for the National System personnel structure.

#### **10. Former Yugoslav Republic of Macedonia – National System for GHG inventories (and projections) - Natasa Markovska**

A presentation was given of the current status of the National System for the GHG inventory of the Former Yugoslav Republic of Macedonia. The GHG inventory is coordinated and reported by the Ministry of Environment and Physical Planning (Law on Environment). RCESD-MASA is responsible for coordinating and supervising (QA) sectorial experts.

Two experts are assigned to each GHG inventory sector. One in the enterer and is responsible for identifying and verifying data sources, collecting, and entering and documenting the input data. The other is the checker, and is responsible for checking and validating the input data and emission estimates, as well as the inventory documentation.

There is also a National Committee on Climate Change that is closely involved in providing recommendations for resolving identified data gaps. This committee includes representatives of different governmental, non-governmental, business and academic institutions.

The Former Yugoslav Republic of Macedonia have implemented the software solution EMI (Emissions Monitoring in Industry) for the industry sector. This is a web based platform that gathers data directly from the industry installations (annual production, feedstock usage, and specific production process



details). The data collection covers the requirements for three inventories from the industry sector: GHG inventory, Air pollutants cadastres and Cadastre of polluters. This means that there is only one user friendly online form that appointed representatives from the industries need to fill in annually. Experts from different departments can have access to the raw data and the reports with a separate administrative account.

A number of relevant stakeholders from public and private sector are involved in the development of the GHG inventory. There has been increased access to information and data relevant for introducing more detailed methodology and development of country-specific emission factors. Direct contact with installations and other national and governmental institutions, including the Chamber of Commerce and the State Statistical Office, proved essential in obtaining unpublished data collected only for internal purposes. Several subsectors have been introduced for the first time (e.g. aviation). Long-term agreement for cooperation and data exchange between the Macedonian Air Navigation Services Provider M-NAV and the MOEPP has been concluded.

Regarding country fiches, there are two aspects: drafting legislation for full MMR implementation, and institutionalising the GHG inventory preparation through the analytical unit. The latter would ensure technical and analytical support of the policy making and strategic planning in the areas of climate change and energy as well as harmonization of the national climate and energy policies and strategies. It would also improve the consistency in the utilized energy statistical data and planning models and tools, as well as a coherent approach towards approximation EU climate and energy targets. It would ensure robust and consistent reporting at national level (energy balances, national climate change statistics) and at EU and international level (UNFCCC, IEA statistics, Energy Community reporting, EU MMR reporting).

Regarding the currently National System in the Former Yugoslav Republic of Macedonia, a GHG inventory database has been developed for the period 1990-2012. The latest 2006 IPCC Inventory Software tool has been used to estimate emissions for six direct gases - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFCs, HFCs and SF<sub>6</sub>, and four indirect gases - CO, NO<sub>x</sub>, NMVOC and SO<sub>2</sub>. Country-specific emission factors for domestic lignite, HFO and natural gas have been introduced whilst higher tier methodologies have been introduced in many subsectors, including the cement industry, aviation and railway transport. A QA/QC plan was developed under the First Biannual Update Report.

The data documenting (activity rate, emission and conversion factor) has been implemented directly in the worksheets of the IPCC software. Below each table in the software links to the appropriate data source included. These practices ensure that the transparency of data collection processes and rationale behind the selection of appropriate emission factors across the inventory.

Key Category analyses have been conducted, and the Uncertainty Approach 2 has been applied for IPPU whilst Approach 1 applied for all others. Training materials for national GHG inventory preparation have been developed.

The GHG inventory team has recently provided technical support to the country expert in preparation for the Facilitative Sharing of Views 'Information Session' in Bonn. They have also supported the national activities under the ETS including a review of the existing Roadmap for ETS Implementation and participation in ECRAN ETS workshop (18 – 19 May, Zagreb). They have also performed a scoping exercise for the Second BUR. The proposed actions from this exercise included:

- Establish competent GHG inventory team that will capitalize on the current technical capacity,



- Implement a QA/QC plan,
- Revise and validate the GHG inventory database for the year 2012,
- Develop the GHG inventory database for the period 2013 -2014,
- Introduce the CRF.

The open issues for the team includes incompatibility between IPCC 2006 Software and the SharePoint tables where help is needed to enter the methods and emissions in SharePoint for the LULUCF tables.

### **11. Turkey – National System for GHG inventories (and projections) – Pelin Buzluk**

A presentation was given of the current status of the National System for the GHG inventory of Turkey. The United Nations Framework Convention on Climate Change (UNFCCC) was ratified by Turkey in May 2004. The Kyoto Protocol was ratified by Turkey in August 2009 (without an emission reduction targets). Turkey submitted its first National Inventory Report and CRF tables for 1990-2004 in 2006.

The Turkish Statistical Institute (TURKSTAT) is the responsible agency for compiling the National Greenhouse Gases Inventory and submitting it to the UNFCCC Secretariat. The legal basis for this is the Climate Change and Air Management Coordination Board established in 2001 as the Climate Change Coordination Board, which was restructured in 2014 as the Climate Change and Air Management Coordination Board (CCAMCB).

TURKSTAT is designated as the single national entity by CCCB Decision in 2009. The QA/QC plan was approved by CCAMCB in 2014 and defines the NIS, roles and responsibilities, QC activities, documentation, and archiving system. Other institutions involved in the GHG inventory include the Ministry of Energy and Natural Resources (MENR), the Ministry of Transport, Maritime Affairs and Communications (MTMAC), the Ministry of Environment and Urbanization (MoEU), the Ministry of Food, Agriculture and Livestock (MFAL) and the Ministry of Forestry and Water Affairs (MFWA).

The national GHG inventory has been based on the 2006 IPCC Guidelines since 2015 using Based Tier 1, Tier 2 and Tier 3.

TURKSTAT is able to collect data due to the Statistical law. Involved institutions can access available data required for estimation. However, no legal documents have been implemented to regulate data exchange and data flow between the institutions on a scheduled manner.

Summary results from the GHG Inventory are publicly available on the TURKSTAT web page.

Future activities include the adoption of a comprehensive legislative framework for establishing the NIS, the introduction of a national GHG inventory approval procedure, ensuring systematic training for national GHG inventory staff, improvement of documentation and the archiving system, and fully implementing the QA/QC Plan, whilst organising QA by international reviewers.

### **12. Bosnia and Herzegovina – National System for GHG inventories (and projections) – Enis Krečinić**

A presentation was given of the current status of the National System for the GHG inventory of Bosnia and Herzegovina. Bosnia and Herzegovina is a sovereign state with a decentralized political and administrative structure. It comprises two entities and one district: Federation of Bosnia and Herzegovina (FBiH), Republic of Srpska (RS), and the Brčko District.

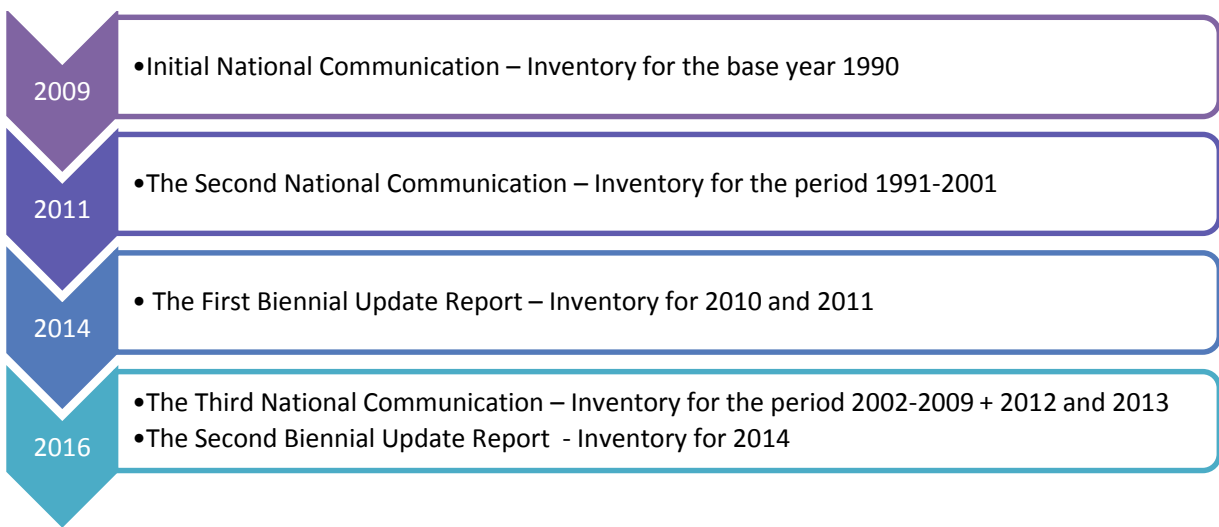
State level Bosnia and Herzegovina is not covered by any legislation regarding the GHG national system. This is also the case for the entity of FBiH and the District Brčko. The entity of RS is covered by



the Law on environmental protection, which states that the Republic hydro-meteorological service is the responsible institution for the GHG inventories for the entity of RS. The Law on air protection for the GHG inventory for RS is currently being drafted. The entity of FBiH hasn't defined an official institution for the GHG inventory, but will probably adopt a similar situation as the Entity of RS giving the role of responsibility to the Federal hydro-meteorological institute.

Bosnia and Herzegovina became a Party of the UNFCCC on the 6<sup>th</sup> December, 2000, and a Party of the Kyoto Protocol on the 15<sup>th</sup> July, 2007. The UNFCCC Focal Point for Bosnia and Herzegovina is Ms. Sveltana Radusin, Assistant Minister at the Ministry of Physical Planning, Civil Engineering and Ecology of RS. Bosnia and Herzegovina receive financial support from GEF and technical assistance from the UNDP.

The diagram below shows the timeline for the reporting of Bosnia and Herzegovina's national GHG inventory:



The preparation of the GHG inventory lies with the Hydro-meteorological services in Bosnia and Herzegovina:

- Federal Hydro-meteorological Institute, Sarajevo,
- Republic Hydro-meteorological Service , Banja Luka.

The GHG inventory teams also receive assistance from more than 30 local experts and relevant institutions including the Statistical offices, Agriculture Faculty and Institute, and Power utility companies.

### **13. Albania - National System for GHG inventories (and projections) – Laureta Dibra**

A presentation was given of the current status of the National System for the GHG inventory of Albania. Albania has not yet determined which institution is responsible for preparing the GHG inventory. The Ministry of Environment (MoE) prepared the GHG inventory through the UNDP, and the MoE is the body responsible for reporting to the UNFCCC. On drafting legislation on climate change, it was provided that inventories are the responsibility of NEA.

The draft National Strategy on Climate Change (NSCC) is under preparation and is expected to be adopted by December 2016; the National Action Plan for Mitigation is being prepared in parallel.



Implementation of the INDC target is fundamental to both the Strategy and Action Plan. Albania signed the Paris Agreement in April and is planning to ratify it by the end of 2016.

Albania is currently finalising its Third National Communication comprising:

- a) An update of the Albanian GHG Inventory for the period 2000-2005, focusing on the sectors/gases that have a significant share of GHG emissions such as the transport and industry sectors;
- b) Developed climate change scenarios, assessing the climate related risks and adaptation with focus on biodiversity, water resources, agriculture, forestry, population and health for the entire coastal region.

Given the current background we propose to carry out the GHG inventory for the period 1990-2014 on the basis of the UNFCCC/Kyoto Protocol relevant decisions and IPCC Guidance. The inventory will be implemented also in accordance with the requirements of Regulation (EU) 525/2013, which provides the legal basis in EU for monitoring and reporting GHG emissions.

In order to be in line with regulation, the GHG inventory should be based on the data available at country level and cover the six direct greenhouse gases under the Kyoto Protocol, namely: Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF<sub>6</sub>). The inventory should focus on the following sectors: Business, Energy Supply, Industrial Processes, Land Use, Land Use Change and Forestry (LULUCF), Residential, Transport, and Waste Management.

In conducting the GHG inventory, Albania intends to bring stakeholders into the inventory development process early on to provide valuable input on establishing a baseline, and to ensure that the inventory is high quality and that it is accurate, complete, consistent, and transparent as far as possible. The methodological approach will be in line with the approved IPCC Guidance.

All activity data concerning each sector are obtained from national datasets. The main data providers are the Ministry of Environment, Ministry of Transport and Infrastructure, Ministry of Energy and Industry, National Agency for Natural Resources, Ministry of Agriculture and Rural Development, Extractive Industries Transparent Initiative, and the INSTAT, although they did not provide activity data for GHG inventory purposes according to the IPCC nominations.

Other data providers include the Bank of Albania, General Directory of Customs and different data bases, surveys and studies assisted by international organizations (like the World Bank, UNDP, EBRD, EIB, FAO, EU, etc.), public/private universities and different NGOs. As regards to the emission factors, they are represented by default factors provided by the IPCC 1996 Revised Guidelines.

The country fiche will establish a mechanism for implementation of MMR. The overall objective is, therefore, to assist Albania to meet Climate Change Acquis through institutional building and improvement of Climate Change infrastructure. More specifically, the objective is to ensure alignment with EU climate change Acquis and fulfilment of the UNFCCC requirements through introduction of a mechanism for monitoring and reporting GHG emissions and other information relevant to climate change on a regular basis.

**14. Panel discussion on donor involvement in follow up – Elisabeth Rigler and Dubravka Bosnjak, Ivana Mijatovic Cernos (DG CLIMA)**





Information was provided and a discussion was held regarding potential donor involvement for follow-up work from this ECRAN programme. Information was provided regarding Austrian Climate Finance and GIZ.

The Austrian Climate Finance Budget has funding available for capacity building projects in Western Balkan countries. The European Commission bridging project for ECRAN covers MMR, EU ETS and Climate policy (Paris, INDC, Energy Union, 2030 framework, Climate Mitigation). There was emphasis on the requirement to build a dialogue platform to share concerns and legislative solutions and a focus on support for implementation of legal frameworks. It is also important to ensure strong ties between climate and energy reporting.

GIZ acknowledged ECRAN's achievements and discussed activities in the region on bilateral projects with a regional programme and fund for energy efficiency. GIZ discussed supporting country efforts and their initiatives to improve energy efficiency.

DG CLIMA provided an update of the planning under the IPA II – a bridging 500,000 EURO project financed from IPA 2016 to support the implementation of the Paris Agreement and countries' INDCs, to be implemented in 2017. Additionally, CLIMA is also preparing project fiche for the multi-annual regional climate project to be financed from IPA 2017 envelope – to continue supporting climate action in the countries with a budget of some 3 million EURO. Additionally, Commission stressed that the above support needs to be carefully coordinated, synergies identified and duplication avoided to fully use the funding available.

## *Day 2 (29 June 2016)*

### **1. Quality Management System (QMS) of the Austrian GHG Inventory – Elisabeth Rigler**

The Austrian inventory has Accreditation according to EN ISO/IEC 17020 (since 2005), which provides evidence of:

- An efficient quality management system (ISO 9001),
- Technical competence of the involved staff,
- Independence, impartiality, and integrity of the involved staff.

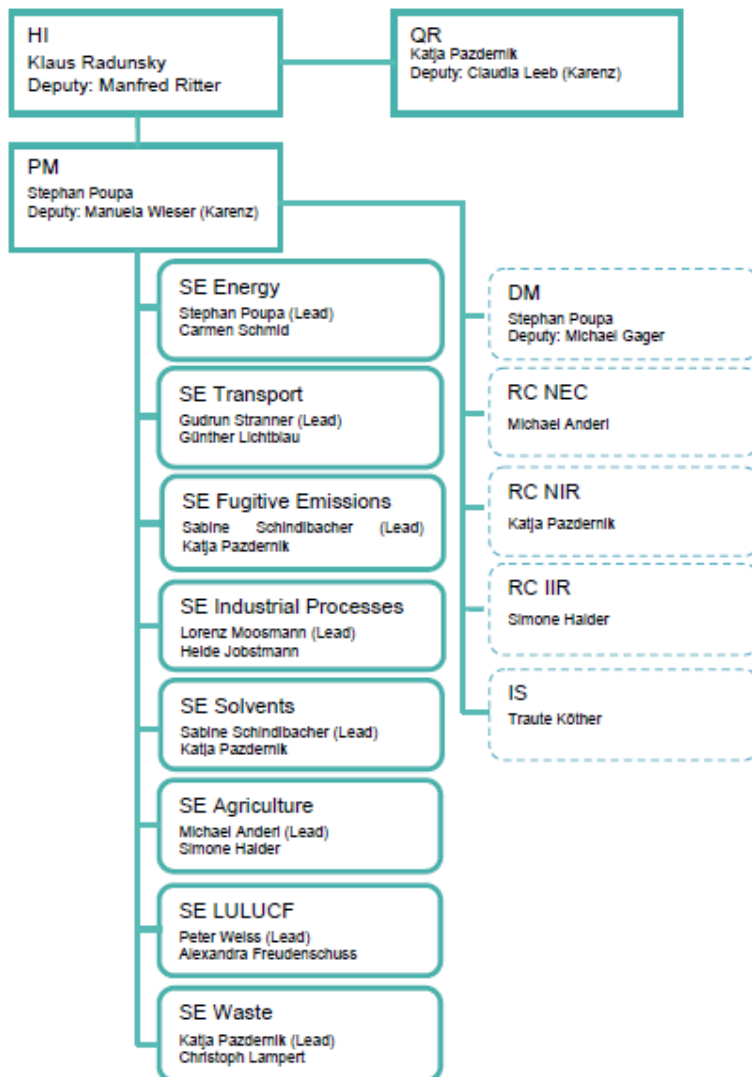
The system ensures that the staff receives initial training and formal authorization, as well as continuous training (such as the basic course for reviewer). It also ensures participation in international technical and political processes and the transfer of knowledge through, for example, regular meetings.

The elements of the Accreditation are the impartiality and independence of the system, confidentiality of the system and the structural, resource, process and management requirements.

Each year there is a review of the performance of the previous year, including the QMS, which results in an inventory improvements plan, a QMS improvements plan, and the annual IBE Management Review Report.

The roles and responsibilities with the IBE are shown in the diagram below.





Key functions:

- HI ... Head of Inspection
- QR ... Quality Representative
- SE ... Staff Emissions („Sector Expert“)
- SL ... Sector Lead

Supporting functions:

- PM ... Project Manager
- DM ... Data Manager
- RC ... Report Coordinator
- IS ... Inventory Support

Tier 1 and Tier 2 QC activities are carried out as well as QA activities such as internal audits (QM specific), input data audits, and expert peer reviews. The QA/QC Plan includes the inventory improvement plan and procedures for the documentation and archiving of the inventory. These procedures are written down in the Quality Manual. Resource intensive activities are planned in the frame of the Management Review.

**2. Improvements of the Bulgarian National Inventory System – Detelina Petrova**

Bulgaria undertook an extensive and quick Improvement of the Bulgarian National Inventory System for compliance with commitments under Article 5.1 of the Kyoto Protocol. This presentation outlined the processes that were undertaken during this improvement project.

A high priority for this improvement was the extension of the staff involved in planning, preparation and management of the emissions inventory. A training programme for Bulgarian inventory experts within the Twinning project BG/07/IB/EN/07 with the Federal Environment Agency of Austria was set-up. The program covered all inventory sectors in a series of workshops realised in the period December 2009 to September 2010. Online training by the UNFCCC and GHG Management Institute were also used.



Another high priority was the improvement of the institutional arrangements. Agreements between MoEW and the following key players were signed in 2010: National Statistical Institute (February 2010), Ministry of Agriculture and Food (March 2010), Ministry of Economy and Energy (June 2010) and Ministry of Internal Affairs/Road Control Department (June 2010).

The legal basis for the inventory was also a high priority. Regulation of the Council of Ministers was put in place to establish and maintain the institutional, legal and procedural arrangements necessary to perform the functions of BGNIS, as defined in Decision 19/CMP.1, to reinforce the institutional agreements by specifying the roles of all data providers, and to specify QA/QC activities.

Collaboration with external experts was also a high priority with the outputs of the subsequent project Main outputs of the project to improve transparency, completeness, consistency, including recalculations and time-series and comparability of national emission inventory; to improve the technical competence of the staff within the BGNIS; to eliminate the differences in reported national totals for non GHGs pollutants between inventories under UNFCCC and UNECE/CLRTAP; to develop the basic calculation models of emissions.

Other high priority activities to ensure compliance with commitments under Article 5.1 of the Kyoto Protocol, was the improvement of the archiving system and the QA/QC procedures. A project for “Improvement of National Quality Management System for GHG Inventories” was performed together with the Austrian Environmental Agency. The purpose of the projects was to analyse and review the current QMS and then propose improvement items. The project also included training for the quality manager and the sectoral experts (within the QMS) according to 2006 IPCC Guidelines Chapter 6 and following the ISO 9000 standards.

### **3. Overview of log forms – Imre Csikós**

An explanation and overview of the log forms was given to the participants to help the completion of these forms during the progression clinics. The requirements and reasons for the sections were given.

### **4. Progression Clinics**

Country break out groups were formed to elaborate required activities to the pre-defined results. Each break out group was facilitated by an international expert. The following tasks were performed.

- Task 1: Update the activities for each of the five results;
- Task 2: Fill in the log forms.

The results are visible in the ECRAN online ECRAN MMR national Systems tool as per [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/Lists/Objectives%20and%20Results/Summary.aspx](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/Lists/Objectives%20and%20Results/Summary.aspx) .

Each country provided a summary of the progress they were making during the workshop indicating the activities that they had identified and the metadata they had assigned to each one.

### ***Follow up work***

Beneficiaries are requested to deliver the following until the next workshop (in July 2016). Reference is made to material on the online tool for ECRAN National System [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/)

1. Identification of the **key contacts for ongoing work on the NS** representing National Government, national focal point for the GHG inventory, Lead person in the co-ordinating organisation/s responsible for the technical co-ordination and QA/QC, Lead/key sectoral



experts responsible for the sectoral estimates by updating the "Participant Role" here [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/Lists/ECRAN%20Contact%20List%202/AllItems.aspx](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/Lists/ECRAN%20Contact%20List%202/AllItems.aspx)

2. Complete Country GHG **National System Objectives, Results and Activities** (with review from International Experts) Add activities that will contribute to the successful achievement of the 5 results here: [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/Lists/Objectives%20and%20Results/Summary.aspx](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/Lists/Objectives%20and%20Results/Summary.aspx)
3. **Compile country Fiches** for National Systems Development projects building on highlighted activities above.
4. **Complete and maintain the "National System Progress" list** to highlight strengths and weaknesses with the current estimates. [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/Lists/CountryMethods/AllItems.aspx](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/Lists/CountryMethods/AllItems.aspx)
5. Implement some easy activities that do not need a project support. (International experts to track). Improve table of links to projects.



## IV. Evaluation

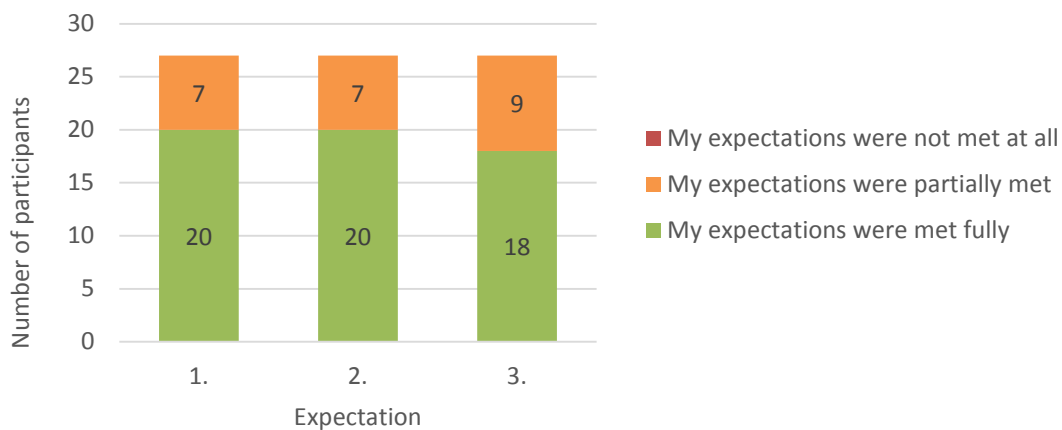
Reference is made to Annex IV for the detailed evaluation.

In the evaluation of the workshop **over two thirds** of participants indicated that their **expectations were fully met** in the areas of increased understanding of the requirements to establish national systems for GHG estimations, the identified priorities for short and long-term GHG inventory improvements, the elaboration of a country specific plan for improving the national system for GHG estimations.

**Over 95%** of the evaluation scores regarding the quality aspects of the workshop (such as achieved objectives, overall quality, practical work, presentations, facilitators) obtained the marks 'excellent' to 'good'. Over 95% of all participants indicated that they found the workshop 'time well spent'.

### My Expectations

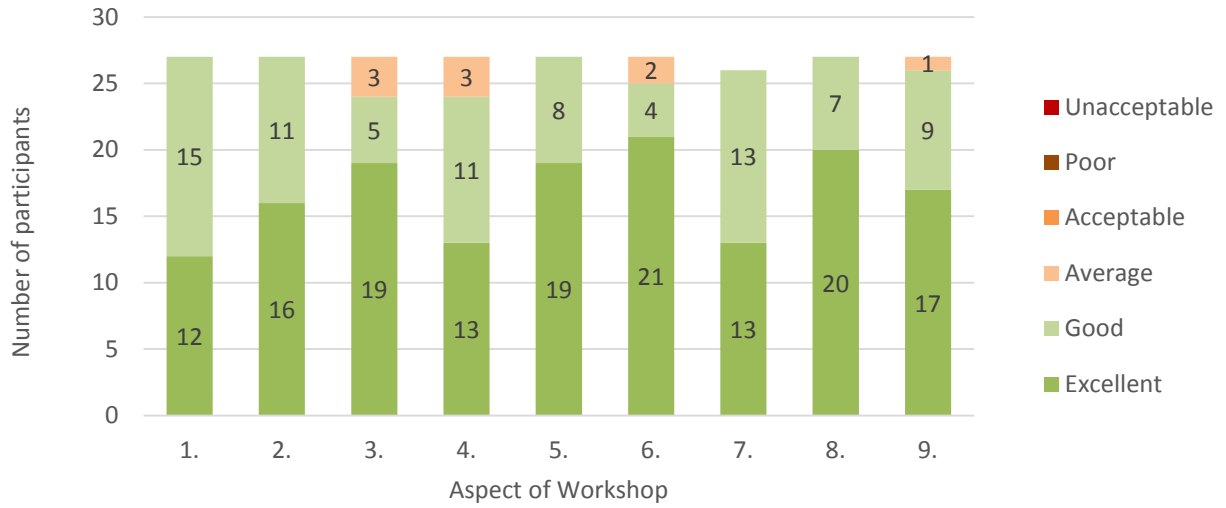
1. We made progress with and we start to remove barriers to strengthening the National Systems of participating countries
2. We managed to elaborate recommended and prioritised activities for country fiches focussed on further strengthening of National Systems
3. Improved knowledge sharing and presentation of progress and solutions



### Aspect of Workshop

1. The workshop achieved the objectives set
2. The quality of the workshop was of a high standard
3. The content of the workshop was well suited to my level of understanding and experience
4. The practical work was relevant and informative
5. The workshop was interactive
6. Facilitators were well prepared and knowledgeable on the subject matter
7. The duration of this workshop was neither too long nor too short
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory
9. Attending this workshop was time well spent





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A project implemented by Human Dynamics Consortium

## ANNEX I – Agenda

<b>Day 1: Tuesday 28 June, 2016</b>				
<b>Topic: National Systems for GHG estimation</b>				
<b>Chair and Co-Chair: Imre Csikós, Justin Goodwin</b>				
Start	Finish	Topic	Speaker	Sub topic/Content
<b>08:30 09:00 Registration</b>				
09:00	09:15	Welcome and Introduction to WG2 NS workshop.	Imre Csikós, Moderator	Programme outline and logistics
09:15	10:15	- Introductions (Round table) - Overview of Homework progress	Justin Goodwin, ECRAN	
10:15	10:45	2016 MMR reporting, Estonia experience	Merilyn Mols, Estonia	Key experiences, lessons learned and activities for future improvement.
10:45	11:15	2015 MMR National System development Croatian experience	- Vlatka Palcic, Croatia - Tatjana Antolic, Croatia	Update on progress with National System strengthening, MMR and UNFCCC reporting 2016 and ESD review activities.
<b>11:15 11:30 Coffee Break</b>				
11:30	12:00	2016 MMR reporting, Austrian experience	Elisabeth Rigler, UBA	Key experiences, lessons learned and activities for future improvement
12:00	13:15	Presentation beneficiary 3 countries: (20 min each) plus 15 minutes discussion/questions = 75 min)	- Montenegro - Kosovo* - Serbia	- Shape of National System - Progress with activities and outlines of country fiche activities. - The current status of the National System and methods used for estimating GHGs. - Experience with recent activities - Key questions for discussion at the WS.
<b>13:15 14:40 Lunch Break &amp; Administration</b>				
14:40	15:30	Presentation beneficiary 2 countries	- The former Yugoslav Republic of Macedonia - Turkey	See 11:30 – 13:00 subtopic suggestions.
<b>15:30 15:45 - Coffee Break</b>				
15:45	16:35	Presentation beneficiary 2 countries	- Bosnia and Herzegovina - Albania	See 11:30 – 13:00 subtopic suggestions.
16:35	17:00	Panel discussion on donor involvement in follow up. Facilitated by Imre Csikós	- Elisabeth Rigler, UBA - Dubravka Bosnjak, GIZ - Ivana Mijatovic Cernos, EC	- Activities required for follow up - Austria/Germany follow up options - EC (DG CLIMA) on the follow to ECRAN and support for the Paris Agreement/NDC implementation
17:00	17:30	Wrapping up Day 1	Justin Goodwin	Overview of day 1 activities and insight into Day 2.



## Day 2: Wednesday 29 June, 2016

**Topic: National Systems for GHG estimation**

**Chair and Co-Chair: Imre Csikós, Justin Goodwin**

Start	Finish	Topic	Speaker	Sub topic/Content
<b>08:30</b>	<b>09:00</b>	<b>Registration</b>		
09:00	09:30	Summary of Day 1 & priorities for Workshop Discussion	Justin Goodwin	- Brief summary of day 1.
09:30	10:30	Closer look at emerging solutions and successes.	Justin Goodwin with support from: Tinus Pulles Suvi Monni Emma Salisbury Elisabeth Rigler, Merylin Mols, Detelina Petrova, Croatian expert team	- Presentation of a series of relevant tools and templates. Steered by discussion in the forum and individual support provided to countries to date.
<b>10.30</b>	<b>11.00</b>	<b>Coffee Break</b>		
11:00	11:15	Progression Clinics Introductions	Justin Goodwin	- Who, What, how long and where.
11:15	13:00	Progression Clinics: Session 1: Working on activities and plans/country fiches etc.	Lead by: Tinus Pulles Suvi Monni Emma Salisbury Elisabeth Rigler, Merylin Mols, Detelina Petrova, Croatian expert team	- Country Clinics (7 groups) - Progression activities and elaborating plans for further improvement
<b>13.00</b>	<b>14.00</b>	<b>Lunch Break</b>		
14:00	15:00	Progression Clinics: Session 2:	As above	As above
15:00	15:30	Reporting back, sharing views/progress	Country representatives	- Countries report back on progress with their plans and activities
<b>15.30</b>	<b>15.45</b>	<b>Coffee Break</b>		
14:00	15:00	Progression Clinics: Session 2:	As above	As above
16:15	17:00	Wrap-up & close	Justin Goodwin/ Imre Csikós	Conclusions and Next steps





## ANNEX II – Participants

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### **ANNEX III – Workshop materials (under separate cover)**

Additional Workshop materials including presentations and exercises, can be downloaded from <http://www.ecranetwork.org/Events/175>.



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## ANNEX IV – Evaluation

### Statistical Information

1.1 Workshop Session

Activity 3.2.2 B/Act 3.2.3 A/B – ECRAN workshop  
National Systems and the EU MMR  
28-29 June 2016, Podgorica, Montenegro

1.2 Facilitators name

As per agenda

1.3 Name and Surname of  
Participants (evaluators)

As per participants' list

### Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	Partially	Not at all
1. We made progress with and we start to remove barriers to strengthening the National Systems of participating countries			
2. We managed to elaborate recommended and prioritised activities for country fiches focussed on further strengthening of National Systems			
3. Improved knowledge sharing and presentation of progress and solutions			



### Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1 The workshop achieved the objectives set						
2 The quality of the workshop was of a high standard						
3 The content of the workshop was well suited to my level of understanding and experience						
4 The practical work was relevant and informative						
5 The workshop was interactive						
6 Facilitators were well prepared and knowledgeable on the subject matter						
7 The duration of this workshop was neither too long nor too short						
8 The logistical arrangements (venue, refreshments, equipment) were satisfactory						
9 Attending this workshop was time well spent						



### Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

#### **Workshop Sessions:**

- Very useful (2x)
  - Good
- 

#### **Facilitators:**

- Very good facilitators
  - Excellent (2x)
  - Good
  - Tatjana Obucina, excellent presentation
  - Justin is the best
- 

#### **Workshop level and content:**

- Excellent (2x)
  - Good
- 

