

Regional Training Seminar part 3 on  
National Systems for GHG inventories  
(and projections)

Merged Sub-task 3.2.2.B and 3.2.3A and 3.2.3B related to regional technical training seminars on GHG inventory national systems in the framework of the MMR/Minimum legal and institutional requirements

Financed by the TAIEX Instrument

in the Framework of the implementation of the

Environment and Climate Regional Accession Network

Environment and Climate  
Regional Accession Network

ECRAN

Venue :

Hotel Aurel,  
Bulevar Josipa Broza Tita bb, Stari Aerodrom  
Podgorica, Montenegro  
28-29 June 2016

Beneficiaries :

Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Kosovo\*, Montenegro, Serbia and Turkey

Justin Goodwin



Day 1: Tuesday 28 June 2016

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Topic: National Systems for GHG estimation			
Chair and Co-Chair: Imre Csikós, Justin Goodwin			
Start	Finish	Topic	Speaker
08:30	09:00	Registration	
09:00	09:15	Welcome and Introduction to WG2 NS workshop.	Imre Csikós, Moderator
09:15	10:15	- Introductions (Round table) - Overview of Homework progress	Justin Goodwin, ECRAN
10:15	10:45	2016 MMR reporting, Estonia experience	Merylín Möls, Estonia
10:45	11:15	2015 MMR National System development	- Tatjana Obucina, Vlatka Palčić, Croatian experience
11:15	11:30	Coffee Break	
11:30	12:00	2016 MMR reporting, Austrian experience	Elisabeth Rigler, UBA
12:00	13:15	Presentation beneficiary 3 countries: (20 min each) plus 15 minutes discussion/questions = 75 min)	- Montenegro - Kosovo* - Serbia
13:15	14:40	Lunch Break & Administration	
14:40	15:30	Presentation beneficiary 2 countries: (20 min each) plus 10 minutes discussion/questions = 50 min)	- The former Yugoslav Republic of Macedonia - Turkey
15:30	15:45	Coffee Break	
15:45	16:35	Presentation beneficiary 2 countries: (20 min each) plus 10 minutes discussion/questions = 50 min)	- Bosnia and Herzegovina - Albania
16:35	17:00	Panel discussion on donor involvement in follow up: Facilitated by Imre Csikós	• Elisabeth Rigler, UBA • Dubravka Bosnjak, GIZ
17:00	17:30	Wrapping up Day 1	Justin Goodwin

Day 2: Wednesday 29 June 2016

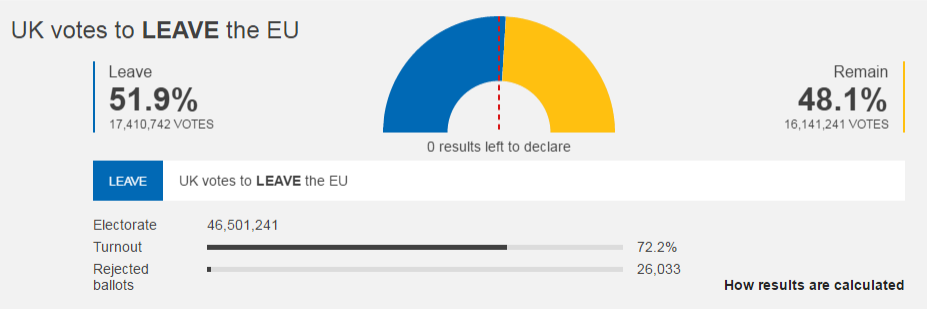
Topic: National Systems for GHG estimation			
Chair and Co-Chair: Imre Csikós, Justin Goodwin			
Start	Finish	Topic	Speaker
08:30	09:00	Registration	
09:00	09:30	Summary of Day 1 & priorities for Workshop Discussion	Justin Goodwin
09:30	10:30	Closer look at emerging solutions and successes.	Justin Goodwin with support from: Tinus Pulles, Suvi Monni, Emma Salisbury Elisabeth Rigler, Merylín Mols, Detelina Petrova, Croatian expert team
10:30	11:00	Coffee Break	
11:00	11:15	Progression Clinics Introductions	Justin Goodwin
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, Merylín Mols, Detelina Petrova, Croatian expert team
13:00	14:00	Lunch Break	
14:00	15:00	Progression Clinics: Session 2:	As above
15:00	15:30	Reporting back, sharing views/progress	Country representatives
15:30	15:45	Coffee Break	
15:45	16:30	Introduction to peer review and analysis activities.	Justin Goodwin/Suvi Monni
16:15	17:00	Wrap-up & close	Justin Goodwin/ Imre Csikós

But first.. Brexit

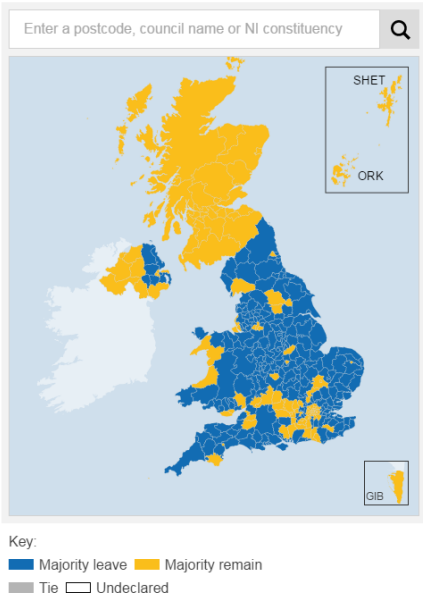


Brexit ☹️

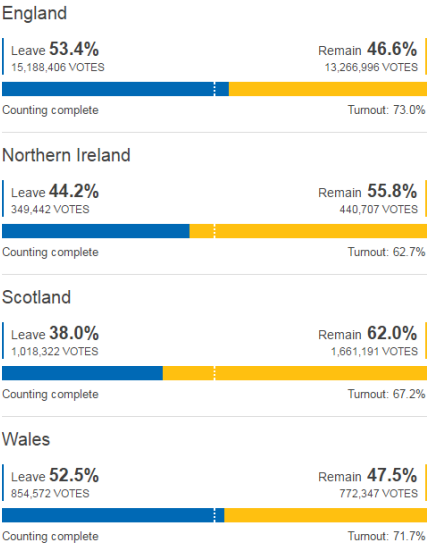
Results



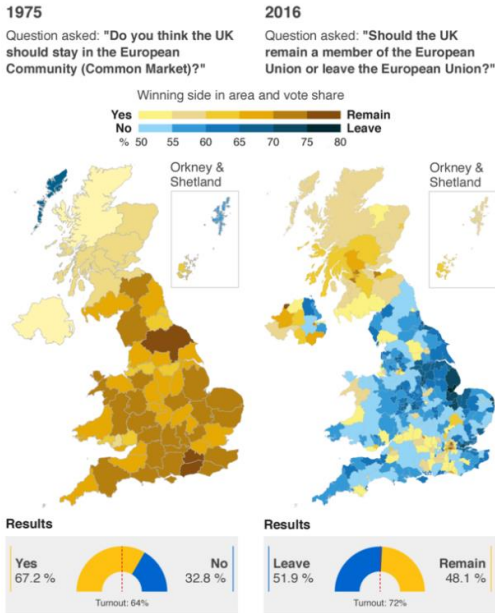
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Nation results



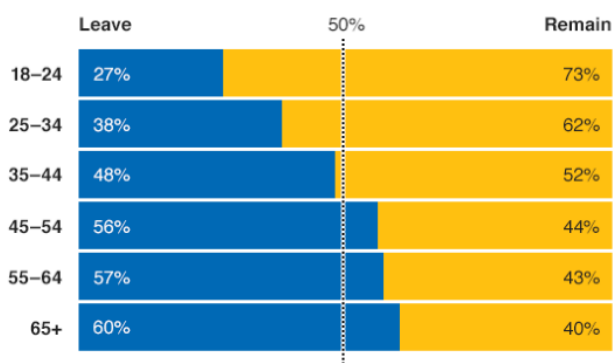
Europe referendum 1975 v 2016



Source: British Electoral Facts 1885-1975, district councils



### How different age groups voted



Source: Lord Ashcroft Polls

BBC

But turnout in areas with a higher proportion of younger residents tended to be lower.

## ECRAN/Workshop Objectives

- The improvement of national systems and institutional arrangements.
  - 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. (Fiches/Activities)

## Overview of ECRAN WG2: National Systems

- Participants and roles
- Activities and Actions
- National System Progress
  - Status of estimates and General

## NS Knowledge Sharing Portal



- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2>

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This list contains all participants and contributors to the ECRAN project WG2. The columns on the right show a "1" where the individual has participated in the different workshops. The "Participant Role" column is important. It highlights the main role played by the participants in the ECRAN project. Beneficiary participants with key roles in their GHG estimation National System should be assigned one or more National System roles. Supporting experts such as "International Experts" from Member States are also included as well as the "Local Experts" who live in the beneficiary countries and provide support to the development of the National Systems.

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Making list	Participant Role	Formal Title	First Name	Family Name	Institution Name	Country	Email	Agriculture WG June 2018	NS Workshop 4/5 June 2018	NS WG 2 March 8-9 2018	GHG Waste, Nov 2015, Santiago	NS, Dec 2012
Yes	National Observer (Public/Industry)	Mr	Semra	Cent	NSD HADIS	Turkey	semra.cent@memm.gov.tr					
	Sector Expert Agriculture	Mr	Abdulkadir	Beltay	Turkish Statistical Institute	Turkey	kadirbeltay@tsk.gov.tr				1	
	Sector Expert Energy	Mr	Abdurrahman	Durmaz	Science Industry and Technology Ministry	Turkey	abdurrahman.durmaz@sanayi.gov.tr				1	
Yes	National System Co-ordinator and Manager/National System Co-ordination	Ms	Aynur	Tokel	Turkish Statistical Institute	Turkey	aynur.tokel@tsk.gov.tr					
	Deputy Sector Expert/Manager	Mr	Eray	Özdemir	General Directorate of Economy	Turkey	eray.ozdemir@ogm.gov.tr					
Yes	Sector Expert	Mr	Eren	Anlar	Ministry of Transport	TURKEY	eren.anlar@bttb.gov.tr	1			1	
Yes	Sector Expert Energy	Mr	Engin	KOC	Ministry of Energy and Natural Resources	Turkey	engin.koc@enerji.gov.tr					
Yes	Sector Expert	Mr	Emrah	UNAL	National Statistical Institute	TURKEY	emrah.unal@tsk.gov.tr					
Yes	Sector Expert Waste	Ms	Fatma Betül	Demirok	Turkish Statistical Institute	Turkey	betul.beygoren@tsk.gov.tr					
		Ms	Hilal	Sarıyıldız	Ministry of Food Agriculture	Turkey	hilal.sariyildiz@tarim.gov.tr				1	

ECRAN Participant Roles

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Participant Role

Single National Entity

Role 2

Participants National Co-ordinator

First Name

Last Name

Formal Title

Ms

Family Name

DBRA

Institution Name

Ministry of Environment

Department

Directorate of Environment

Position

Head of Air, Climate Change and Chemicals Sector

Street1

Street2

Postal Code

Norbert Jold Str. ish ATSH, Tirana, Albania

City

Albania

Country

Albania

Email

elona\_jaureta@yahoo.com , Laureta.Dibra@coe.gov.al

Telephone

Select : Participant Role

National System Stakeholders

Single National Entity

National System Co-ordinator and Manager

QA/QC manager

Sector Expert

Data Provider

Data user

External International Expert

External Local Expert

Support

International Observer

Select >>

Single National Entity

OK

Cancel

National System Role ( and Number of people)	Country							Capacity Engaged with ECRAN
	Kosovo*	Albania	Turkey	Bosnia and Herzegovina	Serbia	former Yugoslav Republic of Macedonia	Montenegro	
#Single National Entity	1	1			1		1	4
#Single National Entity Deputy					2			2
#Legal Advisor							1	1
#National System Co-ordinator and Manager				1	1	1	1	4
#National System Co-ordination- Deputy			1		1			2
#QA/QC manager			1			1		2
#Sector Expert	2	1			1	4	3	11
#Sector Expert:Agriculture	2	2						4
#Sector Expert:Energy	1	5			1			7
#Sector Expert:IPPU	2	2			2			6
#Sector Expert:LULUCF	2	3						5
#Sector Expert:Waste			1	1	3			5
#Data Provider						5	1	6
#National Observer (Public/Industry)		1	1					2
#External Local Expert	1	1		1	1	1	1	6
#Unknown	14	21	6	16	3		2	62
Capacity Engaged with ECRAN	25	24	23	19	16	12	10	129

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## ECRAN WG2 NS roles Identified.

- Roles
- Number of People

National System Role ( and Number Participants)	Country							Capacity Engaged with ECRAN
	Albania	Bosnia and Herzegovina	Kosovo*	Turkey	former Yugoslav Republic of Macedonia	Serbia	Montenegro	
#Single National Entity	1		1			0	1	3
#Single National Entity Deputy						1		1
#Legal Advisor							1	1
#National System Co-ordinator and Manager		1			0	1	1	3
#National System Co-ordination- Deputy				0.3		1		1.33
#QA/QC manager				0.3	1			1.33
#Sector Expert			2	0.5	4	1	3	10
#Sector Expert:Agriculture			1	0.5				1.5
#Sector Expert:Energy			1	2.3		0		2.83
#Sector Expert:IPPU			1	1		0		2
#Sector Expert:LULUCF			1	1				2
#Sector Expert:Waste		1		1		2		4
#Data Provider					3		1	4
#National Observer (Public/Industry)	1			1				2
#External Local Expert	1	1	1		1	0	1	5
#Unknown	17	12	8	3		2	0	42
Capacity Engaged with ECRAN	20	15	15	11	9	8	8	86

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## ECRAN WG2 Participants

- Participating in 1 or more workshops

# ECRAN Participant Leaders

Place	Name	InstitutionName	Country	Role	Participati
1	Ms Ranka Radic	Republic Hydrometeorological Service	Bosnia and Herzegovina	#National System Co-ordinator and Manager	9
	Ms Sveltana 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
	Ms Jonila Haxhillari	Ministry of Environment	Albania	#Unknown	5
3	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

- Agriculture WS June 2016
- NS workshop #3 June 2016
- NS WS 2 March 8-9 2016
- GHG Waste, Nov 2015, Sarajevo
- NS, Oct 2015, Zagreb
- ALOFU, Apr 2015, Sarajevo
- CRF, Mar 2014, Zagreb
- CRF, Nov 2014, Zagreb
- CRF, Jul 2014, Podgorica

## Overview National Systems Actions

- [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)
- Share progress and highlight successes and remaining problems.
- Developing (Action Documents) for future larger country specific projects under IPA or other support activities.



# NS Knowledge Sharing Portal

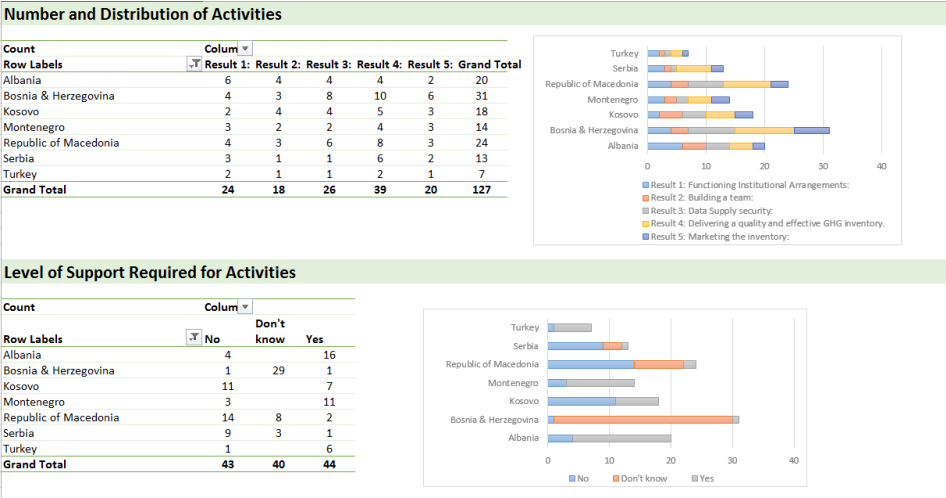


- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2>

## NS Knowledge Sharing Portal: Country Plans

Country GHG National System Objectives, Results and Activities									
Participating countries maintain information on their GHG estimation National Systems objectives, target results and activities. Countries contribute directly into this list highlighting the expected impact of the intervention ( <b>Wider Objective: "Compliance with MMR"</b> ), and the expected outcomes ( <b>Immediate objective: "Permanent National System for GHG estimation and reporting"</b> ) and associated <b>Results and Activities</b> associated with the 3 areas below:									
1. Functioning Institutional Arrangements 2. Building a team 3. Data Supply security 4. Delivering a quality and effective GHG inventory 5. Marketing the inventory									
new item or edit this list									
Summary All Items Find an item SAVE THIS VIEW									
Country	Type	Objective/Result	Description of Objective, Result or Activity	Sequence	Priority	Indicator of Achievement (for 3_Results) or Means (for 4_Activities)	Indicator Source of Information for measuring 3_Results	Benefits of activity/result	
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draft DCM on Monitoring Mechanism System	2	High	DCM approved	Official national journal	clear roles and responsibilities between institutions, reporting template	
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Revising prime minister order on IMECC / Technical sub-group on inventory	3	High	Prime minister order	official approval	dedicated WG (technician) on inventory that will improve the process	
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Stakeholder analyse and list	2.1	High	Involvement and commitment of the stakeholders	Stakeholder analyse report	roles and responsibilities of different stakeholders in the system	
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draw NS Structure	2.2	High	functional NS structure	stakeholder analyse info	engagement /contribution of respective institutions/entities	
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draft Law on CC (Frame Work Law partial transposition)	1	High	law on CC adopted	law on CC; published at Official national Journal	partial transposition of the CC package	
Albania	4_Activity	Result 1:	Support peer review of NS	4	Medium	functional and full compliance of the MMR system in - recent		functional and full	

# Overview National Systems Actions

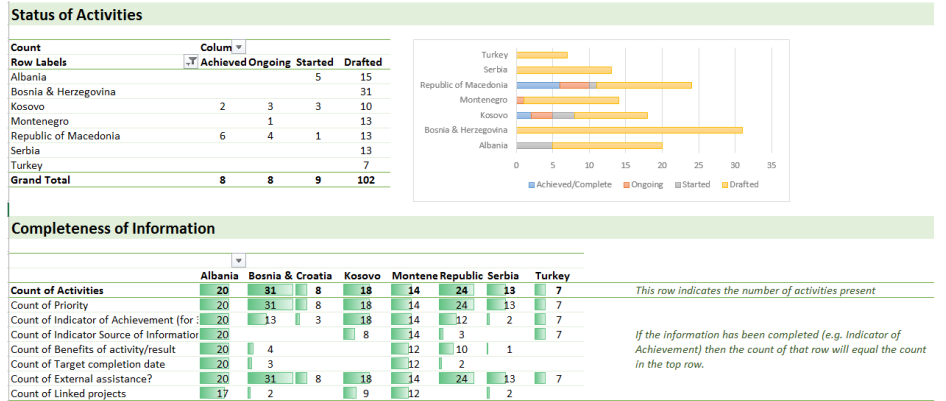


Level of Support Required for Activities

Count	Column	No	Don't know	Yes
Row Labels				
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
Grand Total	43	40		44

Country	No	Don't know	Yes
Turkey	1		6
Serbia	9	3	1
Republic of Macedonia	14	8	2
Montenegro	3		11
Kosovo	11		7
Bosnia & Herzegovina	1	29	1
Albania	4		16

# Overview National Systems Actions



Completeness of Information

	Albania	Bosnia & Croatia	Kosovo	MonteneRepublic	Serbia	Turkey		
Count of Activities	20	31	8	18	14	24	13	7
Count of Priority	20	31	8	18	14	24	13	7
Count of Indicator of Achievement (for	20	31	3	18	14	32	2	7
Count of Indicator Source of information	20			8	14	3		7
Count of Benefits of activity/result	20	4		12	10	1		
Count of Target completion date	20	3		12	2			
Count of External assistance?	20	31	8	18	14	24	13	7
Count of Linked projects	17	2		9	12		2	

This row indicates the number of activities present

If the information has been completed (e.g. Indicator of Achievement) then the count of that row will equal the count in the top row.

# Overview National Systems Actions

Summary of Linked Projects	
Row Labels	Count
<b>Albania</b>	<b>17</b>
EU project	2
EU/IPA/TAIEX	1
EU/TAIEX/IPA	1
IBECA - IPA 2013	4
MoE (Sector on CC)	1
Taiox	1
TAIEX/Twining program	2
Taiox/Twining projects	1
Twining project (IPA)	2
Twining projects (IPA)	2
<b>Bosnia &amp; Herzegovina</b>	<b>1</b>
Third national communication	1
<b>Montenegro</b>	<b>6</b>
TNC	1
TNC, SBUR	5
<b>Grand Total</b>	<b>24</b>

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GHG estimation National System development: ECRAN-WG2

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The purpose of this knowledge sharing platform is to facilitate countries in building their national systems by enabling the sharing of information and knowledge exchange. The platform allows countries to provide information on their progress and plans for country improvements. The objectives for improvement follow an intervention logic: style and focus on the "Wide Objective" of EU Monitoring Mechanism Regulation compliant annual reporting with an immediate objective to establish a strong National System for GHG estimation. Specific target results and associated activities are elaborated and maintained for each country on this site around 5 key areas: 1. Functioning Institutional Arrangements, 2. Building a team, 3. Data supply security, 4. Delivering a quality and effective GHG inventory, 5. Marketing the inventory. The content of the country information on activities will be used as the starting points for country specific improvement programmes and project planning documents of relevant donor activities in the region.

This site also provides a forum for sectoral information exchange and an overview of the status of the countries' GHG estimates and national systems (static, energy, industrial processes and product use, agriculture, LULUCF). Country progress and key information on data availability and information flows are kept up to date.

The site is being actively used by country experts and co-ordinators. The site has restricted membership for sharing information between relevant country actors. At this moment (June 2016), over 10 actors from the ECRAN beneficiaries, including Croatia as an EU Member State are actively engaged.

Environment and Climate Regional Accession Network (ECRAN) WG2: Supporting Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Kosovo<sup>1</sup>, Montenegro, Serbia and Turkey with National Systems development for GHG inventory compilation and reporting to a standard suitable for EU Monitoring Mechanism Regulation reporting.

Official ECRAN public website

- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2>

# NS Knowledge Sharing Portal: Country Progress

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Participating countries keep up-to-date their progress with the different sectors methods and National System elements. This **National System Progress** tab provides information for each ECRAN beneficiary on their progress in the different sectors, generally and for the National System as a whole. This includes the methods and the item applied, current situation and planned improvements.

[new item](#) or [edit this list](#)

All Items Agriculture Summary National System Find an item GHG TIER VIEW

Country	Sector	National System Element	Method	Tier	Current Situation	Planned Improvements	Modified By
Kosovo	0 General	Uncertainty Approach 1	PCC 2006	Tier 1	Uncertainty Assessment applied for inventory 2010-2013	Increase capacities of the team for Uncertainty Assessment	Alfon Berisha
Kosovo	0 General	Uncertainty Approach 2	N/E	N/E	N/E	No	Alfon Berisha
Kosovo	0 General	Key Category analysis	PCC 2006	Tier 1	Applied for inventory 2008-2013	Increase capacities of the team for key category analysis	Alfon Berisha
Kosovo	0 General	General QA/QC	Guidelines from IPCC 2006		Internal procedures for QA/QC	QA/QC analysis and drafting procedures	Alfon Berisha
Kosovo	0 General	Sector specific QA/QC	Guidelines from IPCC 2006		Internal procedures for QA/QC	QA/QC sectoral analysis and drafting procedures	Alfon Berisha
Kosovo	0 General	Data Management systems (PCC software, Excel, specialised systems, databases, other)	NA	NA	Databases for 2010-2013 inventory according to IPCC categories, Worksheets from IPCC 2006 according to IPCC categories, List sheets for some categories	Advanced databases and web page	Alfon Berisha
Kosovo	0 General	Timeliness (eg. 1990 - submission year -2)	NA	NA	Kosovo has not yet reference base year	Study analyses for determination of the reference base year for Kosovo	Alfon Berisha
Kosovo	0 General	GHGs (eg. CO2, CH4, N2O, HFC, PFC, SF6, NF3, halon2)	NA	NA	GHGs (eg. CO2, CH4, N2O, HFC, PFC, SF6, NF3, halon2)		Alfon Berisha
Kosovo	0 General	GHGs (eg. 2nd, 4th Assessment reports)	NA	NA	GHGs (eg. 2nd, 4th Assessment reports)		Justin Goodwin
Kosovo	0 General	Latest GHG estimation activity (year and lead by which organisation)	PCC 2006	Tier 1	2013, Kosovo Environmental Protection Agency/Ministry of Environment	Estimation of GHG for 2014, is in the process	Alfon Berisha
Kosovo	1 Energy	Energy Reference Approach	PCC 2006	Tier 1	Energy reference approach is applied according to IPCC 2006 guidelines	Capacity building of the inventory team on calculation and estimation for energy sector	Alfon Berisha
Kosovo	1 Energy	1.A.1. Energy industries	IPCC 2006 Reference Approach	Tier 1	Inventory in place for years 2008-2013. Relevant subcategories are: main activity electricity and heat production, electricity generation and heat plants	Capacity building for calculation and estimation	Alfon Berisha
Kosovo	1 Energy	1.A.2. Manufacturing industries and construction	PCC 2006, Reference Approach	Tier 1	Inventory in place for years 2008-2013. Main relevant subcategories are: iron and steel, non-ferrous metals, chemicals, pulp, paper and print, food processing, beverages and tobacco, non-metallic minerals, mining and	Capacity building for calculation and estimation	Alfon Berisha
Kosovo	1 Energy	1.A.3. Transport	PCC 2006, Reference approach	Tier 1	Inventory in place for years 2008-2013. Main subcategory is road transportation	Capacity building for calculation and estimation	Alfon Berisha

# Country National System Progress

- National System should know the Status of progress.
- Indicator of ECRAN engagement with NS
- Starting point for Actions/Activities & informal review.

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%
	53%	32%	57%	55%	81%	43%	34%	29%	32%	46%

- [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)

## Country National System: Information on Progress (General)

	Albania	Bosnia & Herzegovina	Kosovo	Montenegro	Republic of Macedonia	Serbia	Turkey
Data Management systems (IPCC software?, Excel, specialised systems, databases, other?)			Own DB	IPCC 2006 software	IPCC 2006 software	IPCC 2006 software	
Gases (e.g. CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub> , NF <sub>3</sub> , Indirects)				CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC		CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC	
General QA/QC			Own System	Part of BUR	Part of BUR	Own System	
Sector specific QA/QC			Own System	BUR		Own System	
GWPs (e.g. 2nd, 4th Assessment report).				AR2		AR4	
Key Category analysis			Tier 1	Tier 1	Tier 1	Tier 1	
Latest GHG estimation activity (year) and lead by which organisation).			EPA	EPA		EPA	
Timeseries (e.g. 1990 - submission year -2)			2013	1990-2013	1990 - 2012	1990-2014	
Uncertainty Approach 1			Approach 1	Approach 1		Approach 1	
Uncertainty Approach 2					Approach 2		

## Country National System: Information on Progress (Energy - Agriculture)

		Albania	Bosnia & Herzegovina	Kosovo	Montenegro	Republic of Macedonia	Serbia	Turkey
<b>1 Energy</b>	1.A.1. Energy industries			2006:- T1	2006:- T2	2006:- T2	2006:- T1	
	1.A.2. Manufacturing industries and construction			2006:- T1	2006:- T1	2006:- T1	2006:- T1	
	1.A.3. Transport			2006:- T1	2006:- T1	2006:- T1	2006:- T2/3	
	1.A.4. Other sectors			2006:- T1	2006:- T1	2006:- T1	2006:- T1	
	1.A.5. Other			NO:-	2006:- T1	2006:- T1	2006:- T1	
	1.B.1. Solid fuels			2006:- T1	2006:- T1		2006:- T1	
	1.B.2. Oil and natural gas and other emissions from energy production			NO:-	2006:- T1	2006:-	2006:- T1	
	1.C. CO <sub>2</sub> Transport and storage			NO:-			NO:-	
	Energy Reference Approach			2006:- T1	2006:- T1	2006:-	2006:- T1	
<b>2 IPPU</b>	2.A. Mineral industry			2006:- T2	2006:- T1	2006:- T1/2	2006:- T1	
	2.B. Chemical industry			NO:-		2006:- T1	2006:- T1	
	2.C. Metal industry			NO:-	2006:- T1/2	2006:- T1/2	2006:- T1	
	2.D. Non-energy products from fuels and solvent use			2006:- T1	2006:- T1		2006:- T1	
	2.E. Electronic industry			NO:-			NO:-	
	2.F. Product uses as substitutes for ODS			2006:- T1	2006:- T1		2006:- T1	
	2.G. Other product manufacture and use			NO:-	2006:- T1		2006:- T1	
	2.H. Other(3)			NO:-			NO:-	
<b>3 Agriculture</b>	3.A. Enteric fermentation	1996:- T1		2006:- T1	2006:- T1	2006:- T1	2006:- T1	2006:- T1
	3.B. Manure management	1996:- T1		2006:- T1	2006:- T1	2006:- T1	2006:- T1	2006:- T1
	3.C. Rice cultivation			NO:-	NO:-	2006:- T1	NO:-	2006:- T1
	3.D. Agricultural soils	1996:- T1		2006:- T1	2006:- T1		2006:- T1/2	2006:- T1
	3.E. Prescribed burning of savannas			NO:-	NO:-		NO:-	NO:-
	3.F. Field burning of agricultural residues	1996:- T1		2006:- T1	2006:- T1		NO:-	2006:- T1
	3.G. Liming			NO:-	NO:-		NE:-	
	3.H. Urea application	1996:- T1		2006:- T1	NO:-	2006:- T1	2006:- T1	2006:- T1
	3.I. Other carbon-containing fertilizers	1996:- T1		2006:- T1	NO:-		2006:- T1	NE:-
	3.J. Other			NO:-	NO:-		NO:-	NO:-

Environment and Climate  
Regional Accession Network

ECRAN

# Country National System: Information on Progress (LULUCF - Memo)

		Albania	Bosnia & Herzegovina	Kosovo	Montenegro	Republic of Macedonia	Serbia	Turkey
4 LULUCF	4.A. Forest land (4)			2006:- T1	2006:- T1		2006:- T1	
	4.B. Cropland (4)			2006:- T1			2006:- T1	
	4.C. Grassland (4)			2006:- T1			2006:- T1	
	4.D. Wetlands (4)			NO:-			2006:- T1	
	4.E. Settlements (4)			2006:- T1			2006:- T1	
	4.F. Other land (4)			2006:- T1			2006:- T1	
	4.G. Harvested wood products			NO:-			2006:- T1	
	4.H. Other (4)			NO:-			NO:-	
5 Waste	5A-MSW	2006:-	2000:-	2006:- T1	2006:- T1	2000:-	2006:- T1	
	5A-Non-MSW			2006:- T1	NE:-	NE:-	2006:- T1	
	5B-MSW	NE:-			NE:-	NE:-	NO:-	
	5B-Non-MSW	NE:-			NE:-	NE:-	NO:-	
	5C1-MSW			2006:- T1	NE:-	2000:-	NO:-	
	5C1-Non-MSW			2006:- T1	NE:-	2000:-	NO:-	
	5C2-MSW			NO:-	NE:-	NE:-	NO:-	
	5C2-Non-MSW			NO:-	NE:-	NE:-	NO:-	
	5D-Domestic	2006:-	2000:-	2006:- T1	2006:- T1	2006:-	2006:-	
	5D-Industrial		2000:-	2006:- T1	NE:-	2006:-	2006:-	
6 Other	6. Other (please specify)(6)			NO:-			NO:-	
Memo	Memo.CO2 captured						NO:-	
	Memo.CO2 emissions from biomass				2006:-		NO:-	
	Memo.Indirect CO2						NO:-	
	Memo.Indirect N2O						NO:-	
	Memo.International Aviation			2006:- T1	2006:-	2006:- T1/2	2006:- T1	
	Memo.International Navigation				2006:-		2006:- T1	
	Memo.Long-term storage of C in waste disposal sites						NO:-	
	Memo.Multilateral operations						NO:-	

# Highlights

## ECRAN Highlights: Serbia

- **Fiche (Action Document) drafting:**
  - Agriculture: Tier 1 to Tier 2;
  - Waste: FOD;
  - FGases;
  - EU Decision 529/2013 (LULUCF);
  - Capacity building 4 sectorial experts within SEPA.
- **ECRAN further support:**
  - check Serbian emissions from Agriculture (Enteric fermentation and Manure management)
  - recommendation for National System personnel structure.

## ECRAN Highlights: Montenegro

- **Progress:**
  - Drafting National Climate Act & GHG regulations, MMR Compliance and questionnaire docs.
  - Meetings and raising awareness (National Systems)
  - ECRAN Agriculture Workshop attendance.
- **Fiche: (Action Document):**
  - Drafting legislation based on the analysis for full MMR implementation
  - Continuous team building/training;
  - NIR generation and NIR training;
  - Uncertainty assessment (Monte Carlo) training for all sectors.

## ECRAN Highlights: Macedonia

- **Progress:**
  - Development of the National System
  - Facilitative Sharing of views (Bonn)
  - Scoping Inventory component for SBUR (with UNDP)
  - Updating information on Actions and progress.
- **Fiche: (Action Document):**
  - **ADD**

## ECRAN Highlights: Albania

- **Progress:**
  - identification with future support needs (project fiche)
  - steps taken to facilitate the start of the GHG inventory work at the agency
  - Development of Climate Law
- **Fiche: (Action Document):**
  - **ADD**



## ECRAN Highlights: Kosovo

- **Progress:**
  - identification and detailed outline prepared for future support needs, including determination of a base year
  - Strong Agriculture workshop attendance
  - Improvement of activity data, calculation and estimation of GHG (e.g. Agriculture);
  - Work on the inventory for year 2014.
  - Participation at EEA/EIONET activities for GHG emissions;
- **Fiche: (Action Document):**
  - Action Plan for Climate Change in initial phase of drafting;

## ECRAN Highlights: Bosnia Herzegovina

- **Progress:**
  - Strong attendance (including NFP) at Agriculture workshop
  - Waste Expert on UNFCCC RoE
  - Facilitative Sharing of views (Bonn)
- **Fiche: (Action Document):**
  - **ADD**

## ECRAN Highlights: Turkey

- **Progress:**
  - Add
  - Agriculture Workshop Attendance
- **Fiche: (Action Document):**
  - **ADD**

## Reminder: MMR Requirements

- Annual reporting (January – March)
  - CRF + NIR
- Annual Quality Review
- Time series: 1990\* – reporting yr -2
  - E.g. for 2016 = 1990 – 2014
- All mandatory categories & gases with 2006 IPCC methods
- At least Tier 1, Tier 2+ for Key Categories

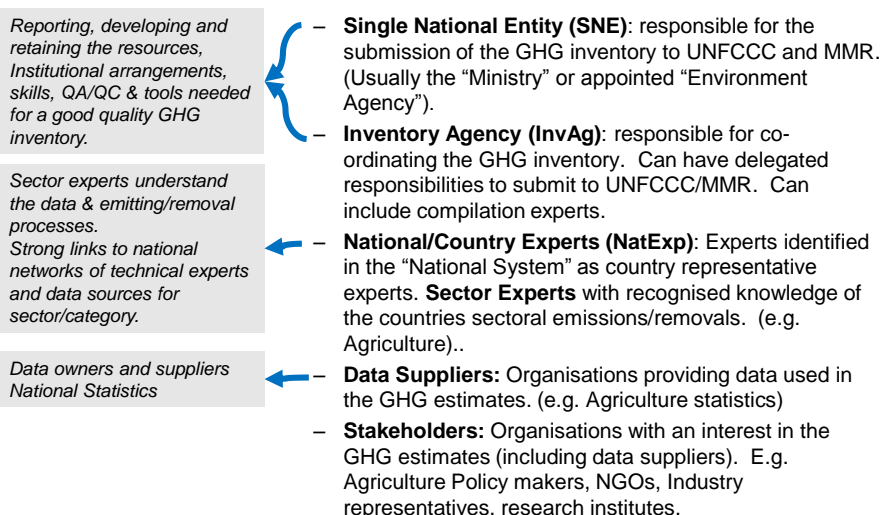
## ECRAN WG2 Framing

- Long Term Goal: Compliance with MMR
- Short term Goal: Permanent National System for GHG estimation and reporting.
- Desired **RESULTS** & improvement **ACTIVITIES**
  - 1: Functioning Institutional Arrangements:
  - 2: Building a team:
  - 3: Data Supply security:
  - 4: Delivering a quality and effective GHG inventory.
  - 5: Marketing the inventory:

## Terminology 1 of 3: National System

- **National System (NS):** A team of organisations (people), available resources, data providers, and agreed processes and tools focussed on efficiently and repeatedly:
  - **Estimating & reporting** GHGs of timely & ensuring “acceptable” quality (TCCCA)
  - **Engaging** with stakeholders and external review activities (verification) and the outside world!
  - **Improving estimates** and **evolving its-self** (the National System) to fit with governance structures and data suppliers.
- **Institutional Arrangements:** Agreements, Laws, contracts, functions, roles and responsibilities in place in order for the NS to function.
- **Systems and processes:** Databases, servers, archives, files, workplans, milestones, templates that carry the GHG estimates and their documentation.

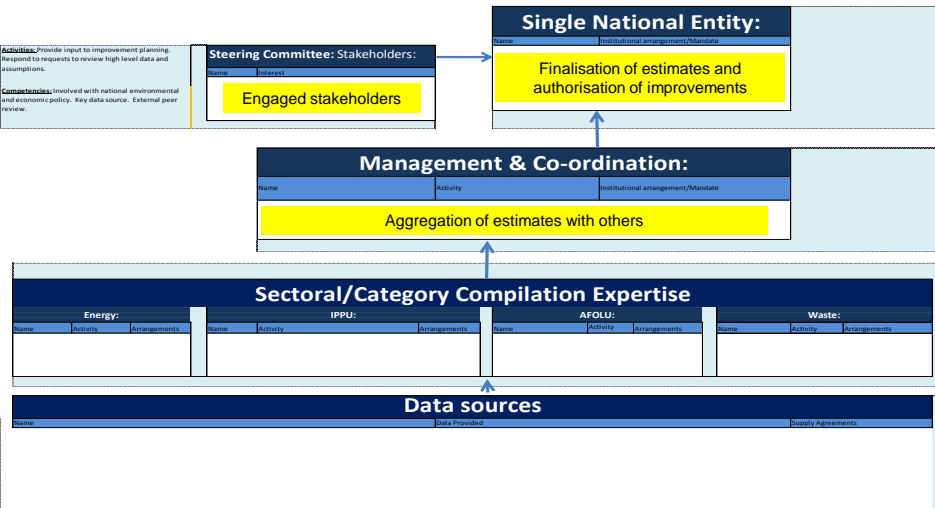
## Terminology 2 of 3: National System Actors



## Terminology 3 of 3: ECRAN/TAIEX support

- **ECRAN WG2 (MMR) Project facilitators**: Justin & Imre
- **Local Experts**: funded by ECRAN/TAIEX supporting National/Country Experts to improve the National System.
- **International Experts**: International experts funded by ECRAN/TAIEX supporting National and Local Experts to improve the National System.
  - Participating **Member State Experts**
  - International **ECRAN Experts**

# National System: Institutional Arrangements



# NS Knowledge Sharing Portal



- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2>

# NS Knowledge Sharing Portal: Forum

Home

GHG National System Forum

Members

Glossary

Country Details

Country GHG National System Objectives, Results and Activities

Other Support Projects

National System Progress

ECRAN Activities & Tools

Peer Review Activities

ECRAN WG2 Participants

ECRAN WG2 Workshop

Suggested National System development Activities

Photos ECRAN WG2

Documents Library

ECRAN Team: To Do list

Documentation for Presenters

Introduction:

Welcome to the forum for Greenhouse Gas Estimation and Reporting Knowledge exchange!  
You can add content to this page by clicking Edit at the top of this page, add new pages by including the new page name in . Learn more about wiki libraries by clicking How To Use This Library.

This is a wiki for presenting specific guidance useful for developing GHG estimation and reporting National Systems.  
ECRAN experts will add to this wiki any useful knowledge, tips, tools for sharing with countries. It will not repeat 2006 IPCC/GHG etc.

Questions and Solutions:

Post in the categories below to ask questions or add interesting information.

A-Z Z-A What's hot

Community tools

Manage discussions

Create categories

Create badges

Assign badges to members

Registration settings

Review reported posts

Community settings

What's happening

17 members

Most recent post was 23/04/2016 at 12:11

In 1,Waiting.

Top contributors

Justin Goodwin

Imre Calkos

Sven Moneri

Tinusz Pules

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- Ask Questions, share solutions.
- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2/SitePages/GHG%20National%20System%20Forum.aspx>

# NS Knowledge Sharing Portal: Country Plans

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Recent

Peer Review Activities

Recycle Bin

Country GHG National System Objectives, Results and Activities

Participating countries maintain information on their GHG estimation National Systems objectives, target results and activities. Countries contribute directly into this list highlighting the expected impact of the intervention (Wider Objective: "Compliance with MMR"), and the expected outcomes (Immediate objective: "Permanent National System for GHG estimation and reporting") and associated Results and Activities associated with the 3 areas below:

1. Functioning Institutional Arrangements  
2. Building a team  
3. Data Supply security  
4. Delivering a quality and effective GHG inventory  
5. Marketing the inventory

new item or edit this list

Summary All Items Find an item SAVE THIS VIEW

Country	Type	Objective/Result	Description of Objective, Result or Activity	Sequence	Priority	Indicator of Achievement (for 3_Result) or Means (for 4_Activity)	Indicator Source of Information for measuring 3_Result	Benefits of activity/result
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draft DCM on Monitoring Mechanism System	2	High	DCM approved	Official national journal	clear roles and responsibilities between institutions, reporting template
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Revising prime minister order on IMECC / Technical sub-group on inventory	3	High	Prime minister order	official approval	dedicated WG (technician) on inventory that will improve the process
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Stakeholder analysis and list	2.1	High	Involvement and commitment of the stakeholders	Stakeholder analysis report	roles and responsibilities of different stakeholders in the system
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draw NS Structure	2.2	High	functional NS structure	stakeholder analysis info	engagement /contribution of respective institutions/entities
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Draft Law on CC (Frame Work Law partial transposition)	1	High	law on CC adopted	law on CC; published at Official national Journal	partial transposition of the CC package
Albania	4_Activity	Result 1: Functioning Institutional Arrangements	Support peer review of NS	4	Medium	functional and full compliance of the MMR system in recent		functional and full

NS Knowledge Sharing Portal: Country Progress

ECRAN

Working Group 2

Bosnia and Herzegovina

Croatia

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Suggested National System development Activities

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EDIT LINKS

Participating countries keep up-to-date their progress with the different sectors methods and National System elements. The **National System Progress** tab provides information for each ECRAN beneficiary on their progress in the different sectors, generally and for the National System as a whole. This includes the methods and the best applied, current situation and planned improvements.

new item or edit this list

All items

Agriculture Summary

National System

Find an item

GHS

TMS

VIEW

GHG

Country

General

Uncertainty Analysis Element 1

PPCC

2006

Uncertainty Assessment applied for inventory 2010-2013

Planned Improvements

Inventory expansion of the team for Uncertainty Assessment

Modified By

ECRAN improvement activity

GHG

Country

General

Uncertainty Approach 2

N.E.

N.E.

N/A

No

Adrian Benite

GHG

Country

General

Key Category analysis

PPCC

2006

Tier 1

Applied for inventory 2008-2013

Internal capacities of the team for key category analysis

Adrian Benite

GHG

Country

General

General QA/QC

Guidelines from IPCC

2006

2006

Internal procedures for QA/QC

QA/QC analysis and drafting projects

Adrian Benite

GHG

Country

General

Sector specific QA/QC

Guidelines from IPCC

2006

2006

Internal procedures for QA/QC

QA/QC national analysis and drafting procedures

Adrian Benite

GHG

Country

General

Data Management systems (PPCC software, Excel spreadsheets systems, databases, others)

NA

NA

Databases for 2010-2013 inventory according to IPCC categories, spreadsheets from IPCC 2006 according to IPCC categories, Excel sheets for some categories

Advised databases and web page

Adrian Benite

GHG

Country

General

Time-series (see 1990 - submission year -2)

NA

NA

Kosovo has not yet relevant base year

Study analyses for determination of the relevant base year for Kosovo

Adrian Benite

GHG

Country

General

Green (see CO2, CH4, N2O, HFC, PFC, SF6, NF3, Indirect)

NA

NA

Adrian Benite

GHG

Country

General

GWPs (see 2nd, 4th Assessment reports)

NA

NA

Adrian Goodwin

GHG

Country

General

Latest GHG estimation activity (used and feed by which organisations)

PPCC

2006

Tier 1

2013, Kosovo Environmental Protection Agency/Ministry of Environment and Spatial Planning

Estimation of GHG for 2014 is in the process

Adrian Benite

Energy

Energy Reference Approach

PPCC

2006

Tier 1

Energy reference approach is applied according to IPCC 2006 guidelines

Capacity building of the inventory team on calculation and estimation for energy sector

Adrian Benite

Energy

L.A.1. Energy industries

IPCC 2006 Reference Approach

2006

Tier 1

Inventory in place for 2008-2013. Relevant subcategories are main activity electricity and heat production, electricity generation and heat plant

Capacity building for calculation and estimation

Adrian Benite

Energy

L.A.2. Manufacturing industries and construction

IPCC 2006, Reference Approach

2006

Tier 1

Inventory in place for years 2008-2013. Main relevant subcategories are: iron and steel, non-ferrous metals, chemicals, pulp, paper and print, food processing, beverages and alcoholic, non-metallic minerals, mining and

Capacity building for calculation and estimation

Adrian Benite

Energy

L.A.3. Transport

IPCC 2006, Reference Approach

2006

Tier 1

Inventory in place for years 2008-2013. Non-metallic minerals a road

Capacity building for calculation and estimation

Adrian Benite

# National Inventory Reports

Writing Guidance for National Inventory Reports

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## Writing Guidance

### National Inventory Reports



February 2016

- See Forum item [here on NIR..](#)



# NIR: Summary Table and Method Statements

Table 3: Example summary table for the Energy Sector.

Energy	NCA Path	Greenhouse Gas (GtCO <sub>2</sub> e)	Change / year	Total	1000 Latest year base	Last 2 yr trend	Reconciliation Latest year	Reconciliation 1000	Methodology reference (NIR Section)
Total: Energy					-23%	-2%	-1%	-2%	
A. Fuel combustion activities (sectoral approach)					-20%	-2%	-4%	-1%	
1. Energy industries					-22%	-7%	-7%	-2%	
a. Industrial electricity and heat production	2.5, 8, 35				-25%	-7%			MS1
b. Petroleum refining	2.5, 8, 35				-18%	5%			MS1
c. Manufacture of solid fuels and other energy industries	2.5, 8, 35				5%	2%			MS2, MS1
2. Manufacturing industries and construction					-41%	3%	-13%	-8%	
a. Iron and steel	7, 8, 12				-30%	22%			MS4
b. Non-ferrous metals	7, 8, 12				-61%	42%			MS3
c. Chemicals	7, 8, 12				-57%	11%			MS2
d. Pulp, paper and print	7, 8, 12				-58%	2%			MS2
e. Food processing, beverages and tobacco	7, 8, 12				-41%	2%			MS3
f. Non-metallic minerals	7, 8, 12				-67%	5%			MS2
g. Other (please specify)	7, 8, 12				-30%	2%			MS3, MS21
3. Transport					-4%	4%	-1%	-4%	

## Appendix A: Method Statement Template

A template for NIR Method Statements with notes given below the table.

Method title	MS #
Relevant Categories, source names (list)	
Relevant Dates (list)	
Relevant Units, activities (list)	
Background	
Data sources (list)	
Method approach (Text)	
Method Changes (Y/N)	
Assumptions & observations (list)	
Reconciliation (yes/no)	
Reconciliation justification & summary of change	
Improvements (list completed and planned)	
QA/QC processes	
Time series consistency issues (list)	
Uncertainties (describe key uncertainties)	
Verification	



# NIR: Cross Cutting

Table 2: Guidance on suggested location for cross-cutting content in the NIR.

Key Elements	NIR Section			
	Chapter 1	Chapters 3-9 (Sectors)	Chapter 10	Annex or other document
Completeness	Overview statement on completeness.	Chapter paragraph highlighting missing sources or statement on completeness.	Not required.	Not required.
Method Assumptions & Data Sources	Simple overview of methods and data sources used. Reference to CRF for table on tiers used. National System/Methods and Data Sources section to list data sources (e.g. Table 1.7).	Details of method assumptions, data sources sector specific QA/QC, time series consistency, verification, uncertainties, improvements.	Not required.	Annex 3: emission factors, important parameters and further elaboration of data source references. Annex 4: information on energy balance and reference approach.
Key Category (KC) Analysis	Overview of method and the key categories. Inclusion of aggregated key category analysis.	Identification of KCs in a summary table.	Not required.	Detailed tables Annex 1.
Uncertainties	Overview of methods and the headline uncertainties. Reference Annex 2.	Method statement text explaining key uncertainties with reference to Annex 2 for numerical information.	Not required.	Detailed uncertainty tables in Annex 2.
QA/QC	Section 1.2 will include the general approach and management of QA/QC, and highlight the general QA/QC activities.	Method statement text explaining sector specific QA/QC.	Not required.	Separate documents: 1) Detailed internal QA/QC plan 2) Working files: evidence of documentation of QA/QC
Recalculations	Not required.	Method statement text on the rationale and impact of recalculations. Numerical information in Chapter 10 summary table.	Full detail of numerical information on recalculations. Overview of justification and reference to Chapters 3-9 method statements for detail.	Not required.
Improvement	Overview of the process for improvements in National System. Refer to Chapter 10 for details of improvements made.	Method statement text highlighting key improvements completed. Reference to Chapter 10 for full listing and list of planned improvements.	Detailed improvement plan and implementation highlighting origin of recommendations for improvements. Including details of recalculations.	Not required.

# National System Progress: Agriculture

## National System Progress

Home	Keep up-to-date, your progress with the different sectors methods and National System elements.				
GHG National System Forum	+ new item or edit this list				
Members	All Items	Agriculture-Summary	National System	Find an item	
Glossary	✓	Sector	Edit	country	-
Country Details	3	Agriculture	Turkey	National System Element	Method
Country GHG National System Objectives, Results and Activities	3	Agriculture	Turkey	3.A. Enteric fermentation	2006 IPCC Tier 1
Other Support Projects	3	Agriculture	Turkey	3.B. Manure management	2006 IPCC Tier 1
National System Progress	3	Agriculture	Turkey	3.C. Rice cultivation	2006 IPCC Tier 1
ECRAN Activities & Tools	3	Agriculture	Turkey	3.D. Agricultural soils	2006 IPCC Tier 1
Peer Review Activities	3	Agriculture	Turkey	3.E. Prescribed burning of savannas	NO NO
ECRAN WG2 Participants	3	Agriculture	Turkey	3.F. Field burning of agricultural residues	2006 IPCC Tier 1
ECRAN WG2 Workplan	3	Agriculture	Turkey	3.G. Liming	NE NE
Suggested National System development Activities	3	Agriculture	Turkey	3.H. Urea application	2006 IPCC Tier 1
Photos ECRAN WG2	3	Agriculture	Turkey	3.I. Other carbon-containing fertilizers	NE NE
Documents Library	3	Agriculture	SERBIA	3.J. Other	NO NO
ECRAN Team: To Do list	3	Agriculture	SERBIA	3.A. Enteric fermentation	IPCC 2006 Tier 1
Documentation for Presenters	3	Agriculture	SERBIA	3.B. Manure management	IPCC 2006 Tier 1
Recent	3	Agriculture	SERBIA	3.C. Rice cultivation	NO NO
	3	Agriculture	SERBIA	3.D. Agricultural soils	IPCC 2006 Tier 1 and Tier 2
	3	Agriculture	SERBIA	3.E. Prescribed burning of savannas	NO NO
	3	Agriculture	SERBIA	3.F. Field burning of agricultural residues	NO NO
	3	Agriculture	SERBIA	3.G. Liming	NO NO
	3	Agriculture	SERBIA	3.H. Urea application	IPCC 2006 Tier 1

- [https://aetherltd.sharepoint.com/sites/ECRAN-WG2/\\_layouts/15/start.aspx#/Lists/CountryMethods/AgricultureSummary.aspx](https://aetherltd.sharepoint.com/sites/ECRAN-WG2/_layouts/15/start.aspx#/Lists/CountryMethods/AgricultureSummary.aspx)

## Day 2: Wednesday 29 June 2016

Environment and Climate  
Regional Accession Network **ECRAN**

Topic: National Systems for GHG estimation			
Chair and Co-Chair: Imre Csikós, Justin Goodwin			
Start	Finish	Topic	Speaker
08:30	09:00	<b>Registration</b>	
09:00	09:30	Summary of Day 1 & priorities for Workshop Discussion	Justin Goodwin
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
10:30	11:00	<b>Coffee Break</b>	
11:00	11:15	Progression Clinics Introductions	Justin Goodwin
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
13:00	14:00	<b>Lunch Break</b>	
14:00	15:00	Progression Clinics: Session 2:	As above
15:00	15:30	Reporting back, sharing views/progress	Country representatives
15:30	15:45	<b>Coffee Break</b>	
15:45	16:30	Introduction to peer review and analysis activities.	Justin Goodwin/Suvi Monni
16:15	17:00	Wrap-up & close	Justin Goodwin/ Imre Csikós

Environment and Climate  
Regional Accession Network **ECRAN**

## QA/QC Approaches

- Fact:
  - QA/QC is a burden and slows us down ☹
  - No QA/QC no confidence = no point ☹
- Efficient QA/QC = happy people
- Happy people = Sustainable Team
- Sustainable Team = **Strong National System**
- Fact:
  - Most EU MS have not solved this problem yet!! ☹

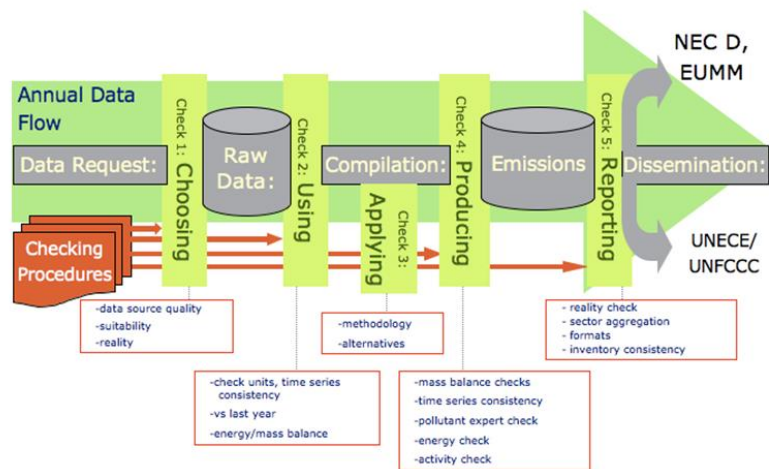
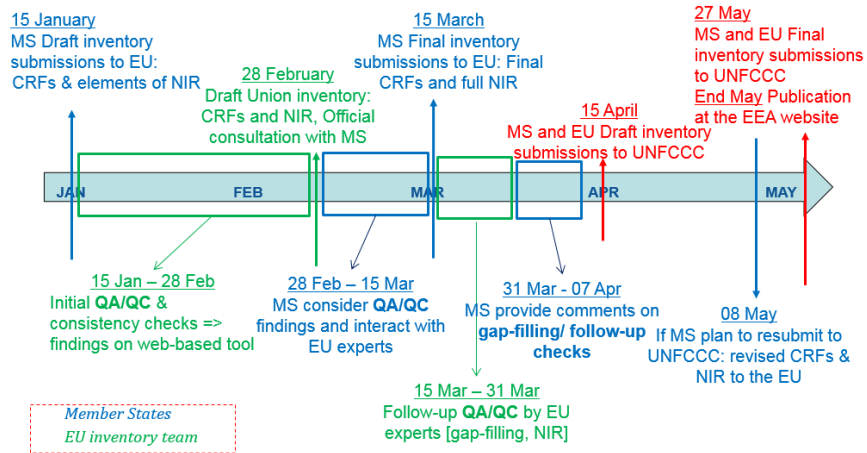


Figure 5 – NAEI Data Flow and QA/QC Checks

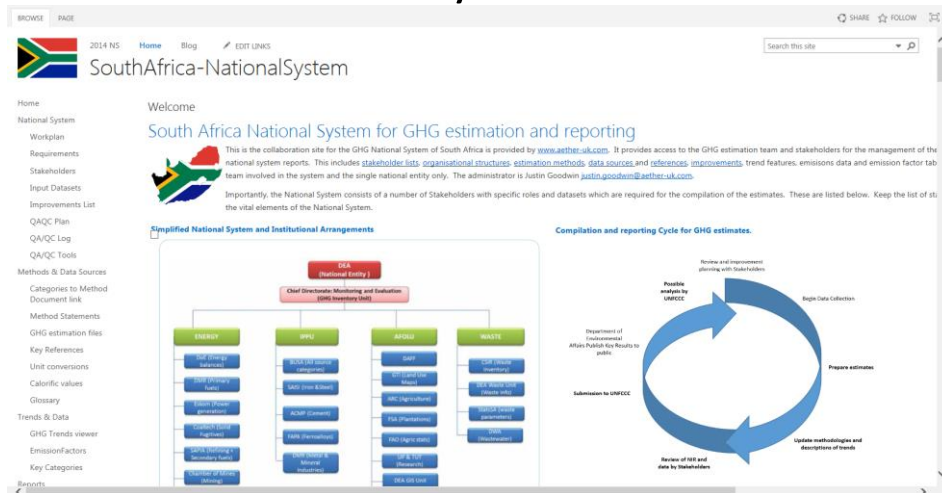
## QA/QC Approach

1. QA/QC Plan
  - a) List of approved activities (Checks/reviews) (IDs)
  - b) List of QA/QC documentation codes (#)
  - c) Other responsibilities/timings etc..
2. Embedded QA/QC (& Documentation)
  - a) Annotations in files (using IDs and #). Word/Excel/databases.
    - Documentation and evidence of checking/review
  - b) Colour coding of calculation files (e.g. AD, Efs, checks)
  - c) Collation of Documentation and QA/QC findings into “Log”
3. Aggregation of QA/QC and documentation Logs to master log.
  - a) Evidence & feed to improvement plan
  - b) Overview, scoring, priorities
  - c) Compare with list of activities (1a) for completeness of QA/QC.

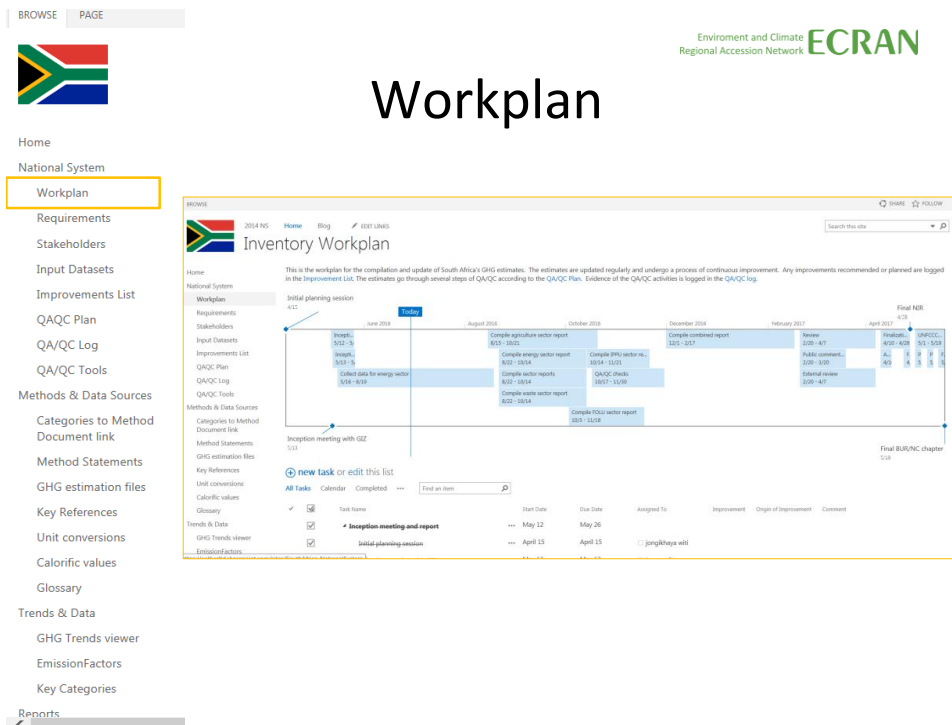
## National System Portal

- A focal point
- National System Archive
- Institutional memory
- Sharing information
- Engaging stakeholders

# National System Portal




# Workplan





# Stakeholders



2014 NGC Home Blog / EOT LINKS

# Stakeholders

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
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**Stakeholders** are important contributors to the compilation and reporting of the estimates. Stakeholders provide data and guidance to ensure the estimates are accurate reflections of national activities.

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<input type="checkbox"/> Contact Name	Organisation	Email address	Role	Summary of Involvement	Model Status	Sector/Category	Type of Organisation
Johan Bester (Forestry) Maseko Mosepe (Agriculture)	Department of Agriculture, Forestry and Fisheries	johamb@oat.gov.za MasekoM@oat.gov.za	Data Provider	Provides basic agricultural and forestry statistics	In discussion	3.A. Agriculture, Forestry, and Other Land Use; 3.A. Livestock; 3.B. Land	Government departments
	Water Affairs		Data Provider	Water statistics and waste water data	In discussion	4.A. Solid Waste Disposal	Government departments
	DoE	Department of Energy	Data Provider	Supplies DeE Energy Digest which provides information on auto electricity producers and NCV. Also supplies energy balance data and Energy Digest.	In discussion	1. Energy; 1.A. Fuel Combustion Activities; 2. Industrial Processes and Product Use; 2.D. Non-Energy Products from Fuels and Solvent Use	Government departments
	DMR	Department of Mineral Resources	Data Provider	Supplies data on coal mining emission factors	In discussion	1. Energy; 1.B. Fugitive emissions from fuels; 1.B.1. Solid Fuels; 1.B.1.A. Coal mining and handling	Government departments
	DoT	Department of Transport	Data Provider		In discussion	2.A.1. Cement production	Government departments
	Transnet	Transnet	Data Provider	Provides data on railway diesel consumption	In discussion	something else else: 1. Energy; 1.A. Fuel Combustion Activities; 3.A.2. Transport; 3.A.1.C. Railways	State owned enterprise
Roger Godemak	Forestry South Africa	forests@global.co.za	Data Provider	Provide all the activity data for plantations	In discussion	3. Agriculture, Forestry, and Other Land Use; 3.B. Land; 3.B.1. Forest land	Association
Mohale Molekete	Agricultural Research Council	MoleketeM@arc.ac.za	Data Provider	Provide some activity data for livestock and cropland as well as climate and soil maps	In discussion	3. Agriculture, Forestry, and Other Land Use; 3.A. Livestock; 1.B.2. Cropland	State owned enterprise
CoalTech			Data Provider	Supplies coal production data	In discussion	1. Energy; 1.B. Fugitive emissions from fuels; 1.B.1. Solid	Research




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[illegible]


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# Input Datasets

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**Datasets** are the key elements of a GHG estimate. Datasets are used from a large number of different sources and provided by stakeholders. A smooth and reliable data flow is critical to ensuring a good quality transparent estimate. The list below identifies all of the datasets used in the GHG estimates, who they are supplied by and the mandate (if any) for supply.

As the estimates are updated regularly it is important to maintain this list of datasets and link them to stakeholders engaged with the GHG estimation process.

[new item](#) or [edit this list](#)

[All Items](#)
[Simple List](#)

✓ Title	Contact person/Organisation	Make public	Dataset Annual Date	Dataset Description	Dataset ID	Dataset in Moot?	Location	Modified By	Status
Energy statistics	Department of Energy	No	2/24/2016	National energy import/report data.	001	Yes	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Request made
Energy digest (solid fuel consumption)	Department of Energy	No		Energy digest used to calculate consumption by autoelectricity producers and provides solid fuel consumption data.	002	No	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Not started
NCV	Eskom (Power)	No		Net calorific values for fuel	003	No	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Not started
Fuel consumption for public electricity generation	Eskom (Power)	No		Fuel consumption data for Eskom	004	No	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Not started
Eskom Annual Report	Eskom (Power)	No			005	No	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Not started
PetroSA GHG	PetroSA GHG	No		Process analysis of GHG emissions from PetroSA	006	No	2\Annual Inventory\2017 Submission\Source Data\Energy	Luame Stevens	Not started

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Please see section 3.4 and 5.2.3 of the [NRI authors guide](#) for advice on completing the Method Statements. The NRI writers guide also provides insights into other sections of the NRI and how the Method Statements should be integrated.

Select the "+" and the "NRI authors guide" to create a new file with the correct Template.

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✓	File ▼	Name	Created	Modified By	Edit	Check In Comment	Categories Included	Owner	Status	Notes	Change in method	Comments
	Dairy cattle CH4 from enteric fermentation and manure	MS_SA_001	May 17	Lauren Stevens			3. Agriculture, Forestry, and Other Land Use (3.A) Livestock 3.A.1. Enteric Fermentation 3.A.1.2a Cattle 3.A.1.2a Daily Cows 3.A.2 Manure Management 3.A.2a Cattle 3.A.2a Daily cows		Draft	Established method (Peer reviewed)		
	Stationary Combustion - All stationary combustion related fuel use	MSA_001	May 19	Phivhele MANGWANA			Stationary Combustion - All stationary combustion related fuel use. 3.A.1. Energy Industries 3.A.2 Manufacturing Industries and Construction 3.A.4 Other Sectors 3.A.5 Non-Specified		Draft			

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Please see section 3.4 and 5.2.3 of the [NIR writers guide](#) for advice on completing the Method Statements. The NIR writers guide also provides insights into other sections of the NIR and how the Method Statements should be integrated.

Select the "+" and the "NIR Method Statement" to create a new file with the correct Template.

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✓ Title	Name	Modified	Modified By	✎ Edit	Check in Comment	Categories included	Sector	Status	Notes	Change in method	Comments
MS	Dairy cattle CH4 from enteric fermentation and manure 3A_001	May 17	Luanne Stevens			3: Agriculture, Forestry, and Other Land Use; 3A: Livestock; 3A.1: Enteric Fermentation; 3A.1.a: Cattle; 3A.1.a.1: Dairy Cows; 3A.2: Manure Management; 3A.2.a: Cattle; 3A.2.a.1: Dairy cows	Agriculture	Draft	Established method (Peer reviewed)		
MSIA_001	Stationary Combustion - All stationary combustion related fuel use	May 19	Phindile MANGWANA			1.A.1: Energy Industries; 1.A.2: Manufacturing Industries and Construction; 1.A.4: Other Sectors; 1.A.5: Non-Specified	Energy	Draft			

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CS CO2 EF for power generation

Improvement Description: Currently the default IPCC emission factors are being used in this project aims to develop country specific emission factors for CO2 from power generation

Improvement Type: Emission Estimate

Efficiency rating (5-10%)

Priority (5-10%)

Timeline for delivery review

Status: Concluded

Category/Themes: 3: Energy

Original reference: Unpublished

Current project: ECRAN (Phase) S&P

Origin of improvement: NRC2015

How many times used: 0

88

GHG emissions from Iron & Steel Industry

Improvement Description: To shift from using IPCC default values and assumptions about material flows, to a national balance approach

Improvement Type: Emission Estimate

Efficiency rating (5-10%)

Priority (5-10%)

Timeline for delivery review

Status: Concluded

Category/Themes: 2: Industrial Processes and Product Use (I.P.P.U.); 2.C: Metal Industry (C.I.); 2.C.a: Iron and Steel Production

Original reference: DEA

Current project: M5

Origin of improvement: NRC2015

How many times used: 0

89

CS CO2 emissions factors for transport sector

Improvement Description: To develop country specific CO2 emission factors for transport

Improvement Type: Emission Estimate

Efficiency rating (5-10%)

Priority (5-10%)

Timeline for delivery review

Status: Under implementation

Category/Themes: 3: Energy; 3.A: Transport

Original reference: DEA

Current project: D&T

Origin of improvement: NRC2015

How many times used: 0

90

GHG emissions from Coal-fir

Improvement Description: The allocation of emissions is not transparent and not all

Improvement Type: Transparency

Efficiency rating (5-10%)

Priority (5-10%)

Timeline for delivery review

Status: Concluded

Category/Themes: 3: Energy

Original reference: DEA

Current project: S&P

Origin of improvement: NRC2015

How many times used: 0

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ID	Title	Improvement Description	Improvement Type	Difficulty rating (N/A)	Priority (N/A)	Timeline for action/ review	Status	Categories/Section	Origination reference	Contact person	Origin of Improvement	How many times raised?
87	CS CO2 EF for power generation	Currently the default IPCC emission factors are being used so this project aims to develop country specific emission factors for CO2 from power generation	Emission Estimate		High	2014-2015	Concluded	1: Energy		Ekem (Power) Saol	NIR2010	
88	GHG emissions from Iron & Steel Industry	To shift from using IPCC default values and assumptions about material flows, to a material balance approach	Emission Estimate		Medium	2014-2015	Concluded	2: Industrial Processes and Product Use (I.P.P.U.)	DEA	MS	NIR2010	
89	CS CO2 emission factors for transport sector	To develop country specific CO2 emission factors for transport	Emission Estimate		Medium	2014-2015	Under implementation	1: Energy, L.A., Fuel Combustion Activities, L.A.3, Transport	DEA	DoT	NIR2010	
90	GHG emissions from Coal	The allocation of emissions is not transparent and not all	Transparency		Medium	2014-2015	Concluded	1: Energy	DEA	Saol	NIR2010	

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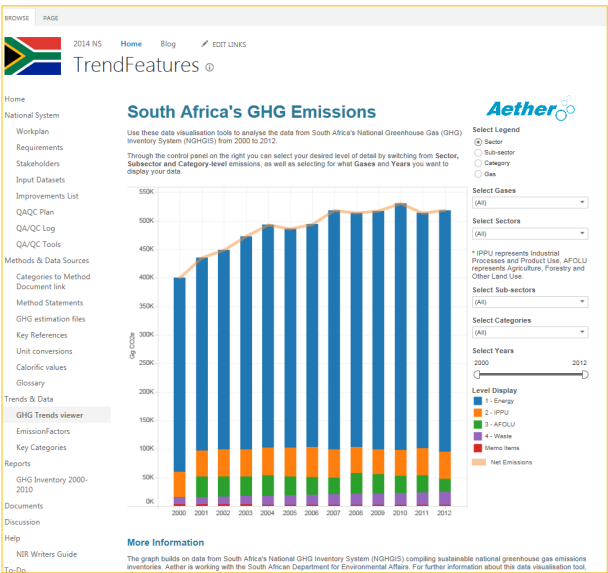
GHG Trends viewer

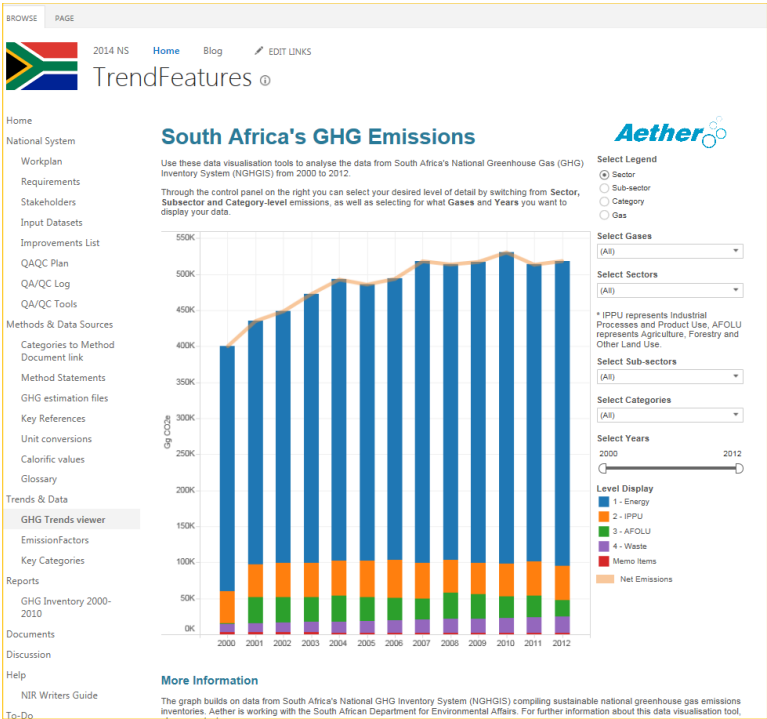
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# GHG trends viewer





Climate  
Network

ECRAN

Environment and Climate  
Regional Accession Network

ECRAN

# Action Document

## Your Country Fiche

## Structure and contents of Action Documents

Environment and Climate  
Regional Accession Network **ECRAN**

Template [here](#)



Environment and Climate  
Regional Accession Network **ECRAN**

## Data management overview

- IPCC software
- Data structures
- Reporting
- Spreadsheet good practice..

# Facilitated Informal Peer Review

- The basic longer term idea is to work towards a facilitated informal review where MS experts facilitate/support/mentor a review of GHG estimates between beneficiary countries. This provides basic training in estimating emissions, review, and improves understanding and awareness. Suvi and I will come up with some suggestions for this facilitated informal review idea and ask during the session if countries are interested in engaging in something like this in the future. We could also see if the Commission or other funders are interested in funding something like this in the coming months/year or two. During workshop session we would need to describe a possible process (e.g. the following) and resource needs:
- 1. Possible Facilitated informal review between West Balkan countries:
  2. Basic training of country experts in the review priorities and/or encouragement/support for nomination to the RoE and for UNFCCC training.
  3. Data gathered and shared (with review experts) on the countries estimates and activity data and methodology descriptions
  4. Desk review time to review the data (experienced MS expert working with country expert to review 1 or more other beneficiary country estimates). Together reviewer experts compile and send questions to the reviewed country.
  5. MS expert and reviewed country expert of reviewed country work together to answer the questions.
  6. Reviewer MS expert and country expert work together to write recommendations.
  7. MS and reviewed country experts work together to interpret recommendations into a prioritised improvement plan and "specifications" for improvement.
  8. A summary report on the process and key findings for the Commission and beneficiary countries.
- Questions to try to answer during the session:
  1. Do we need one MS expert per sector or something else.. e.g. a LR equivalent from a MS mentoring the beneficiary country team of experts to do the review and no other MS sector experts involved?
  2. What would be the scope? All sectors? National Systems?
  3. What criteria do we need for a meaningful review (level of detail of data, availability of country experts, method descriptions?)
  4. How much MS expert time is needed? How would they be resourced? TA/EX/Other??
  5. How much country expert time is needed?

# Facilitated Peer Review: Sign up

ECRAN

ECRAN Working Group 2

Bosnia and Herzegovina

Croatia

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Country	Review Scope	Review material	Deadline	Other requirements	Review or be reviewed
Kosovo	All sectors and NS	none provided yet	After determination of the reference year for GHG and when NIS has been translated to english.	unknown.	Be reviewed by someone
Albania	not known	none provided yet	After receiving inventory files from UNDP	unknown.	Be reviewed by someone

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## Public Viewers:

- Collective system for countries.
- Facilitate review/analysis
- **ADD viewer demonstration.**
  - IEFs
  - South Africa

## Public Site



# Other things

# Inventory Tree

Thank you

Workshop Wrap-up



## Workshop Achievements

- ✓ Add WS achievements..
- ✓ Actual improvements/ideas for improvement.
- ✓ Greater Understanding/Confidence
  - ✓ People: (National Experts and MS “Mentors”).
  - ✓ Priorities: (categories and gases)
- ✓ Renewed energy and ideas for future development projects.

## UPDATE: Next Steps: Using the Forum

- <https://aetherltd.sharepoint.com/sites/ECRAN-WG2>
  - Ask questions, find solutions on [Agriculture](#)
  - Look for other helpful solutions e.g. “MoU”
  - Update on [Agriculture Methods](#) including ECRAN achievements & recommendations.

## Next Steps: Improving National Systems

1. Build your own Capacity: Lottery, Bus and Births.
  - **Make a case Nationally:** External (ECRAN) recommendations can help. Please ask..
  - **Look for funders to help start:** IPA, GEF/Paris/CBIT, others.. “Country Lead”.. ECRAN experts
  - **Training and Learning:** UNFCCC RoE, “Doing”, Mentors, Education, careers..
  - **Find mentors**, find out how to get their time. Stick with them..
  - **Don’t wait for lawyers!!** Build informal relationships..
2. Data Management: Spreadsheets, databases, Native vs IPCC categorisation. Software??
  - Think about it.. It can make a big difference to the efficiency of the NS..
3. National Systems improvement
  - Action plans/Projects
  - Informal Review process

Thank you



# National Systems areas of Activity

## Log-frame system

- 1\_Long Term: Compliance with MMR
- 2\_Short term: Permanent National System: Functioning Agriculture component
- 3\_Results
  - Result 1: Functioning Institutional Arrangements:
    - 4\_Activity 1: Target result, Description, Sequence, means, Benefit, Completion, Effort, External support needed, links.
    - 4\_Activity 2
    - 4\_Activity 3
    - .....
  - Result 2: Building a team:
    - 4\_Activity 1
    - 4\_Activity 2
    - .....
  - Result 3: Data Supply security:
  - Result 4: Delivering a quality and effective GHG inventory.
  - Result 5: Marketing the inventory:

4\_Activity 1: Target result, Description, Sequence, Priority, means, Benefit, Completion, Effort, External support needed, links.

## Result 1: Functioning Institutional Arrangements

- **Suggested Activities:**
  - Draw and consult on NS structure
  - Create a National System document.
  - Document and agree roles and responsibilities (including the support of NC, BUR and NDC).
  - List & engage with Stakeholders.
  - Create the mandate for the compilation and reporting with laws.
  - Supported Peer review of NS.
  - Legal arrangements for data supply and analysis

## Result 2: Building a team:

- **Suggested Activities:**
  - Assign team roles and responsibilities (Sector experts, co-ordinator, QA/QC, peer review).
  - Recruitment, mentoring & training plan.
  - Activity and management plans for a sustainable team.
  - Approach to “buy-in” or use external support.

## Result 3: Data Supply Security:

- **Suggested Activities:**
  - List/Register of datasets and data supply stakeholders.
  - Development of data supply agreements (DSAs) (including QA/QC and uncertainty elements).
  - Laws to guarantee data supply for GHG estimation.
  - Development of statistics or Country Specific data.
  - Archiving system.

## Result 4: Delivering a quality and effective GHG inventory:

- **Suggested Activities:**
  - Produce CRF tables (Excel/xml). Engage in a supported peer/bilateral review.
  - Produce an NIR or set of method statements.
  - Improve data management (e.g. database system).
  - Key 2006 IPCC method development & data collection (by sector).
  - Develop QA/QC tools and systems and processes.

## Result 5: Marketing the inventory:

- **Suggested Activities:**
  - Outreach for use of GHG estimates by policy makers.
  - Publication of the data in user friendly forms.
  - Generate indicators and factsheets.
  - Actively engage with and support BUR, NC, NDC and Policies and Measures activities.