

EEA Mandates under the MMR and the UNFCCC

Justin Goodwin, 14-10-2015

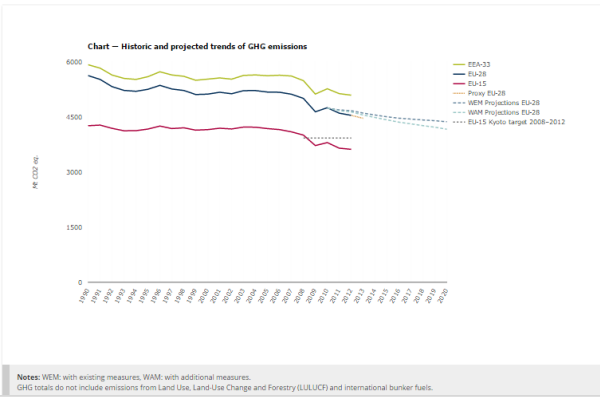
Key messages

- In 2012 EU GHG emissions were 19.2 % below 1990 levels (excluding LULUCF and international aviation). Preliminary estimates for 2013 show a further fall of 80 Mt CO₂ eq. between 2012 and 2013 (20.7 % below 1990 levels).
- Almost all EEA countries are well on track towards achieving its commitments under the first period of the Kyoto Protocol.
- EU-15 average emissions between 2008 and 2012 were 11.8 % below base-year levels.
- In the EU, emissions covered by the Emission Trading System (ETS) between in 2013 were 19 % below 2005 levels.
- In 2013, all EU Member States apart from Germany, Luxembourg and Poland, are considered to be on track to meet their annual targets.
- For six Member States, projections indicate that implementing the additional measures which were in planning stage in 2013 might not be sufficient to reduce GHG emissions below targets by 2020 under the Effort Sharing Decision.

What is the progress in Europe towards international commitments regarding GHG emissions?

Historic and projected trends of GHG emissions

- Chart
- Table



Monitoring Mechanism Regulation 525/2013 Union Inventory System [Article 6]

- Objective: to ensure **T**TACCC of the Union GHG inventory
- For reporting to UNFCCC



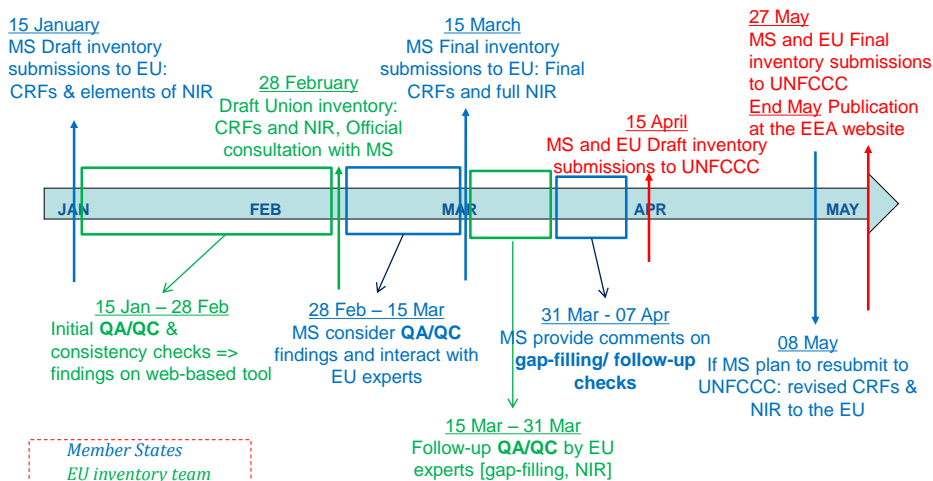
**Effective cooperation/coordination between EU & MS is essential
for the GHG inventory compilation & review!**

Who is who in the Union Inventory System

- DG CLIMA <http://ec.europa.eu/clima/> and ...
European Commission's official submission to UNFCCC on behalf of the EU
- 28 EU Member States! (WG1)
Full consistency between the EU GHG inventory and MS GHG national inventories
- European Environment Agency <http://www.eea.europa.eu/>
'Inventory Agency': Coordination role in compilation & implementation of QA/QC Programme (including Union reviews)
 - European Topic Centre on Air and Climate Mitigation (ETC/ACM)
<http://acm.eionet.europa.eu/>
➤ technical compilation Energy, IPPU and Waste expertise & QA/QC
 - DG Joint Research Centre <http://ec.europa.eu/dgs/jrc/>
➤ Agriculture and LULUCF
 - DG Eurostat <http://ec.europa.eu/eurostat>
IPCC reference approach for CO2 emissions from fossil fuel combustion

MS coordinate with national agencies; EU coordinates with 28 MS!

The annual process of the Union inventory preparation



Annual Improvement plan

Environment and Climate
Regional Accession Network **ECRAN**

- Closely connected to
 - the results of QA/QC procedures
 - the issues identified in the UNFCCC reviews (Union inventory, MSs inventories)
 - the fulfilment of the specific quality objectives
 - Union's KCA and Uncertainty assessment
 - the implementation of the previous IP
- Discussed in WG1 meetings
- Addressed during the Union GHG inventory compilation

Documentation & Archiving (1)

➤ EEA's Central Data Repository (CDR)

- ✓ Envelope: 'Greenhouse gas Monitoring Mechanism Regulation (MMR)
- ✓ Stored in EEA's servers
- ✓ Nominated users can upload
- ✓ Public, traceable information
- ✓ Regular back-ups

Documentation & Archiving (2)

The screenshot shows the EIONET Central Data Repository (CDR) website. The URL in the browser is cdr.eionet.europa.eu/hr/eu/mmr/. The page title is "EIONET Central Data Repository". The navigation menu includes "SERVICES", "REPORTNET", "TOOLS", and "TOPICS (ETOS)". The main content area is titled "Greenhouse gas Monitoring Mechanism Regulation (MMR)" and lists various subcollections. A red arrow points from the text "NIR CRF Other stuff" to the "Art. 15 - National adaptation actions" subcollection.

Navigation

- Search by obligation
- Search XML files
- Search for feedback
- Global worklist
- Notifications
- Help

Account Services

- I have
- lost my password

Overview

Greenhouse gas Monitoring Mechanism Regulation (MMR)

Obligation(s)

- Financial and technology support provided to developing countries
- Biennial reports and national communications
- National adaptation actions
- Policies and measures
- Use of auctioning revenue and project credits
- Low-carbon development strategies
- Greenhouse gas inventories
- Approximated greenhouse gas inventories
- Projections
- Greenhouse gas inventories (UNFCCC)

Envelopes and subcollections

Art. 04, 13 & 14 - Low-carbon development strategy, policies and measures, projections	04 Aug 2015
Art. 06 & 07 and UNFCCC - Greenhouse gas inventories	04 Aug 2015
Art. 08 - Approximated greenhouse gas inventories	31 Jul 2015
Art. 15 - National adaptation actions	10 Jul 2015
Art. 16 - Financial and technology support provided to developing countries	30 Sep 2015
Art. 17 - Use of auctioning revenue and project credits	27 Jul 2015
Art. 18 - Biennial reports and national communications	10 Jul 2015
Art. 22 - Kyoto true-up period reports	10 Jul 2015
LULUCF Decision and Impl. Reg. Chapter IV	10 Jul 2015

National Systems Requirements

Justin Goodwin, 14-10-2015



This Project is funded by the European Union



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Overview

- What is a national system?
- National System Activities & Building Blocks
- Why have a national system?
 - MMR reporting requirements
- Lessons learned

What is a National System?



What is a National “Inventory” System

A team of organisations (people), available resources and agreed processes and tools focussed on efficiently and repeatedly:

- **Estimating & reporting** GHGs of timely & “acceptable quality” (TCCCA)
- **Engaging** with 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.

It is one of the foundations for MRV

National System: Activities

- Collecting data, estimating emissions/removals, reporting & archiving.
 - Using appropriate and reliable methods & data (e.g. official statistics and country specific EFs/research, 2006 IPCC).
 - Applying expert judgement
 - Using tools for analysis, aggregation, QA/QC & archiving.
- Quality and continuous improvement.
 - Understanding weaknesses and prioritising improvement.
 - QA/QC plan, quality objectives, implementation and documentation.
 - General and sector specific
 - verification of the inventory data
 - engaging with and responding to reviews (consultation and analysis)

National System: Activities

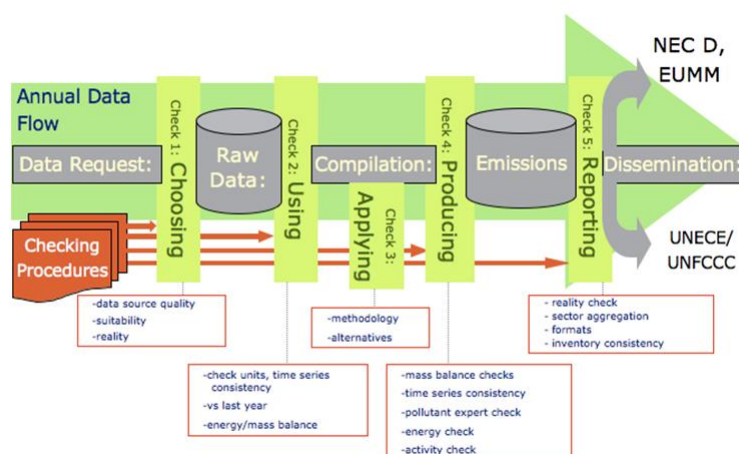
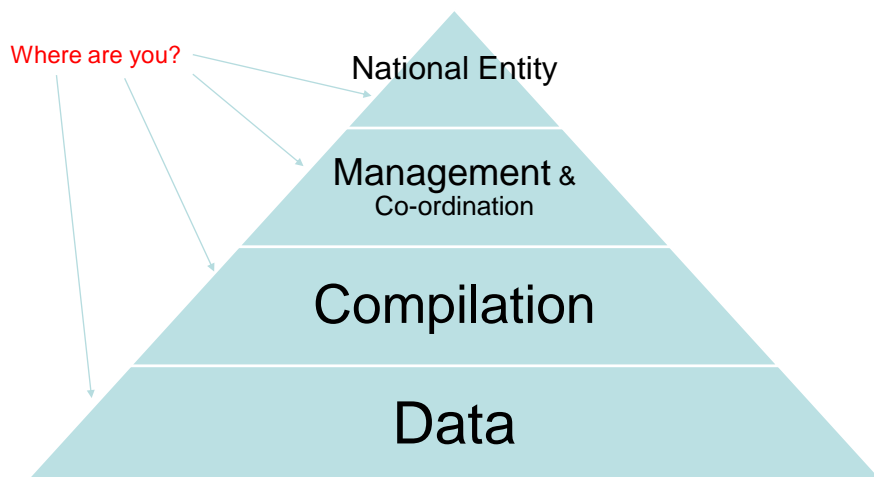


Figure 5 – NAEI Data Flow and QA/QC Checks

National System: Building Blocks

- A National Entity:
 - Responsible for the outputs
- Management/Co-ordination
 - Co-ordination entity: Finding and retaining the resources, skills & tools needed for a good quality GHG inventory.
 - Establish and maintain the institutional, legal and procedural arrangements
 - Define and allocate specific responsibilities
 - Ensure sufficient capacity for timely performance of the functions
 - Archiving
- Compilation Expertise
 - Co-ordinators to organise the work undertake QA/QC and bring things together on time.
 - Sector experts that understand the data & emitting/removal processes.
 - Strong links to national networks of technical experts and data sources for sector/category.
- Data sources
 - Data owners and suppliers
 - National Statistics

National System: Building Blocks



Why National Systems?



Why a National System?: 1

- To meet EU Member State NS requirements:
 “Shall” requirement of Monitoring Mechanism Regulation (MMR)
 - **525/2013 Article 5(1)**.. establish, operate and seek to continuously improve national inventory systems.
 - In accordance with UNFCCC requirements 19/CMP.1
 - **525/2013 Article 5(2)**.. ensure access to national data associated with other EU decisions and regulations (Energy, E-PRTR, EUETS, F-Gases)
 - **749/2015 Articles 3 – 19**: Report specific information and formats including descriptions of the National System (Article 6)

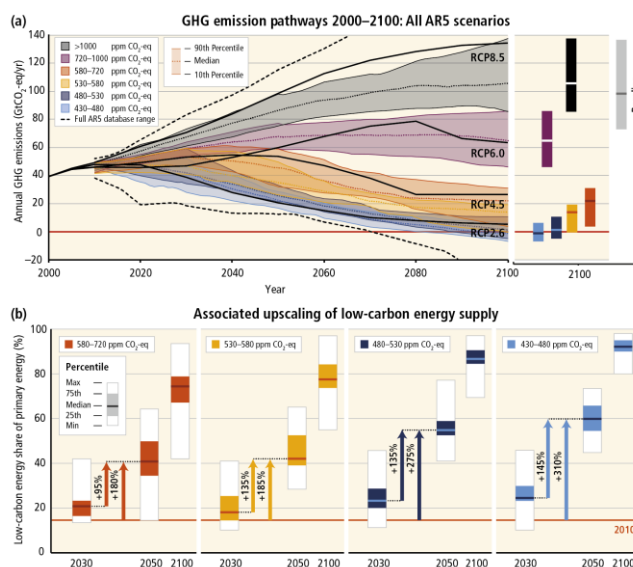
Why a National System?: 2

- To meet UNFCCC requirements.
 - “Shall” requirement for the National System 19/CMP.1 (**Kyoto Protocol Parties**)
 - “Should” requirement for **Institutional Arrangements** Decision 24/CP.19 (**Annex I Parties**)
 - “Encouraged” to provide information on national circumstances and **institutional arrangements** relevant to the preparation of the national communications on a continuous basis UNFCCC 2/CP.17 Annex III (**Non Annex I Parties**)

Why a National System?: 3

- To support National Policy and a transition to a low carbon economy.
 - Support INDC decisions.
 - Engaging stakeholders in action
 - Prioritising action (input to NAMA)
 - Highlighting successes

MMR National System Requirements



MMR Reporting: **by** the National System

- MMR 749/2014 (Implementing Regulation)
 - Article 3 General rules for reporting greenhouse gas inventories
 - CRF, NIR etc
 - Article 4 Reporting in the **National Inventory Report** or in an annex to the National Inventory Report Annex I
 - Options for how to use the NIR
 - Article 5 Processes for reporting
 - Where to report (EEA CDR)
 - **Article 6 Reporting on national inventory systems**
 - What to report
 - Article 7 Reporting on **consistency** of the reported data on **air pollutants** Annex II
 - Article 8 Reporting on **recalculations** Annex II
 - Article 9 Reporting on implementation of **recommendations and adjustments** Annex IV
 - Article 10 Reporting on **consistency** of reported emissions with data from the **emissions trading scheme** Annex V
 - Article 11 Reporting on **consistency** of the data reported on **fluorinated greenhouse gases**
 - Article 12 Reporting on **consistency** with **energy data** Annex VI
 - Article 13 Reporting on **changes in descriptions of national inventory systems** or registries
 - Article 14 Reporting on **uncertainty** and **completeness** Annex VII
 - Article 16 Reporting on **major changes to methodological descriptions** Annex VIII
 - Article 17 Reporting **approximated greenhouse gas inventories**
 - Article 18 Timescales for cooperation and coordination in preparing the **Union greenhouse gas inventory report**
 - Article 19 Reporting on the determination of the **assigned amount (KP)**

MMR reporting: **about** the National System

- MMR 749/2014 (Implementing Regulation) Article 6 Reporting on national inventory systems
 - Name and contact information for the national entity
 - Descriptions of:
 - the **roles and responsibilities** for agencies and entities involved.
 - the **procedures for the official consideration and approval** of the inventory
 - Processes & approaches for:
 - collecting activity data,
 - selecting emission factors and methods,
 - developing emission estimates
 - deciding on recalculations
 - Prioritising improvement (e.g. key category identification and uncertainty analysis)
 - Quality assurance and quality control (QA/QC) plan, quality objectives established, implementation and information on internal and external evaluation and review processes and their results in accordance with the guidelines for national systems set out in the Annex to Decision 19/CMP.1;

Lessons learned



National System: Lessons Learned 1

- No one size fits all solution.
 - There is no “National System Templates”
 - Every country is unique
 - Systems structure around governance, research and data within that country.
 - Systems can evolve/develop from other existing systems. (see next).

National System: Lessons Learned 2

- Build on existing activities and share resources:
 - NC, BUR, INDCs (A “top down” opportunity).
 - Twinning and other support projects.
 - Air Pollution inventories.
 - Projections and PAMs (they should start with GHG inventories).
 - NAMA (provides context to specific actions).

National System: Lessons Learned 3

- National Systems = Opportunity for you..
 - Building teams
 - Learning and improving prospects.
 - Raising profile (Personal & Organisational)
 - Getting resources
 - Making a difference

National System: Summary

1. Build a team
2. Build a network
3. Start it simple, shape to existing data and governance systems and evolve
4. Always be transparent
5. Be engaging
6. Actively manage quality & resources
7. Keep it flexible

Workshop Discussion points & questions.

- Vision: What do you want to achieve?
- What could work for you and why?
- What wouldn't work for you and why?
- Milestones: Your next steps and priorities?
- What support is needed?

Thank you for your attention!



This Project is funded by the European Union



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Management and Co-ordination

– 3: *Be Engaging:*

- Engage with important national data providers.
- Industry & Statistical data collectors
- Focus on data and or expertise for **calculating** and **checking** estimates.
- Speak in their language (e.g. Activity data and/or EFs).
- Find a common interest.

– 5: Manage Resources

- Invest in good Management of CC policy through investment in *good GHG data management*.
- Invest a % of the investment in CC policy in *GHG data management*.
- *Resources for:* Experts, data systems, engagement/negotiation activities
- *Good Management:* Budgets, Competition, Performance criteria, Customer satisfaction e.g. ISO 9001

– 6: Build a team:

- *Hire the right people:*
 - **Engineers, Chemists, physicists** (mass balances, research, QA/QC, industry processes, spreadsheets and numbers).
 - **Salesmen/women/ managers** engage, negotiate good data and resources, make GHGI useful to government and industry.
 - **Scavengers and predators.**
- *Training* understand methods and reporting. *E.g. engage with AI review process (good training).*
- *Work on institutional arrangements* for efficient and effective data flow and **Data Supply Agreements (DSA).**

– **4: Actively manage quality:**

- Understand and communicate **incompleteness & Accuracy** (*qualitatively* → *quantitative understanding of uncertainties*).
- Meet **basic standards** (e.g. IPCC)
- Be “**Complete**” as quickly as possible.
- Plan for **continuous improvement**.
- Develop basic common sense **checking (QC)** of input and output data and **use independent experts** to review (QA) new estimates (Link to community of international experts). **Engage in international/bilateral review activities.**
 - 2 valid reasons for review 1) gather independent constructive suggestions for improvement 2) highlight where things are good.
- Keep a record of methods and QA/QC (**Transparency**).

Principals of Good Practice: - Transparency, Completeness, Consistency, Comparability
Accuracy (TCCCA)

Expertise

– *1 Keep it Simple:*

- **Scavenge** and use "Expert Judgement"
- **Start simple to generate interest/discussion** → have a plan & understanding where and how to improve.
- **"flush out" better data**
- Use **national statistics** & check against international stats.
- If no national statistics use **international statistics**
- Be prepared to be wrong.... Several times...

– *9: Develop an expert network*

- Bring together the existing technical expert community
 - NAI GHG inventories already compiled (List and engage experts), AI review experience from NAI experts.
- Exchange ideas and promote practical solutions. Data systems, assumptions and methods.
- Work together to improve resource use, buying power, data access power (multinational corporation influence) etc.
- To provide ad-hoc teams for informal analysis/review of new estimates and methods (bilateral etc).

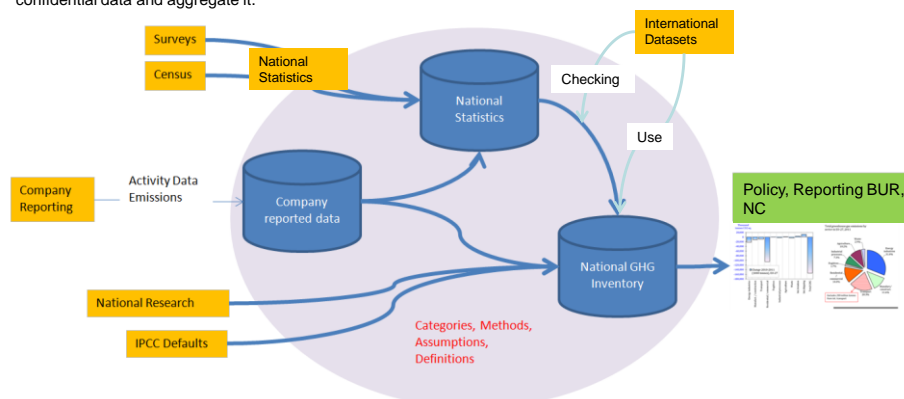
Data

– 7: Manage Data flow

- **Intelligent use of data and data flows.** *Use of tools and systems for efficient data gathering compilation and reporting (IT, internet) - No more paper! Consistent nomenclature.*
- **Bottom up data gathering** from businesses and industry (Don't repeat mistakes in data gathering from industry). Maximise usefulness of data (e.g. air pollution, GHG trading, company reporting).
- **National statistics data collection** make space for reconciliation with bottom up data.
- **Quality data management** (documentation, checking, peer review)

What have we learned: **7: Manage Data Flow**

- good quality **company reporting with Activity Data (AD)** is the king!!
- **Get ahead of confidentiality** issues by setting up agreements that are trusted to handle confidential data and aggregate it.



- Able to specify **data requirements for national statistics** (e.g. energy balance, traffic and transport, agriculture)
- Able to **build data supply agreements** between departments;
- Use **company reporting opportunities** to improve quality (e.g. Air Pollution, C trading, NAMAs, CDM projects)

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Next steps: Milestones

- Easy steps for NS
 - WS2 (Jan)
- Filling in the gaps
 - WS3 (June)
- 2017: Trial MMR reporting & Review
 - Support & training

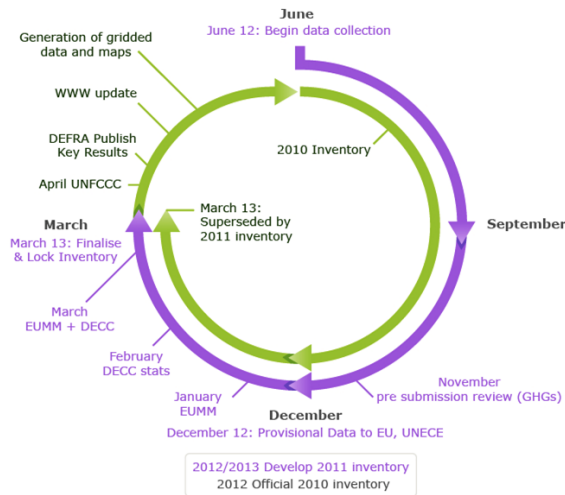


Figure 4 – Example Inventory Cycle

Source: NAEI website.

Scoping out a National System: “Management Framework”

1	Introduction	3
2	Arguments for GHG inventory production	3
3	Management framework for national GHG estimate compilation	4
3.1	Proposed Management Structure for national GHG inventory	4
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3.3	GHG inventory Delivery Process.....	23
3.3.1	Defining Scope and Data Quality Objectives	23
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3.3.4	Compiling estimates.....	24
3.3.5	Performing QA/QC	24
3.3.6	Reporting and publication.....	24
3.3.7	Review, analysis and improvements	25

