United Nations Framework Convention on Climate Change

Building effective and sustainable national GHG inventory management systems: *Good Practices and Lessons Learned*

CGE Webinar series #4

21 June 2018

Agenda

- Purpose and importance of building effective and sustainable institutional arrangements for GHG inventory management systems
- Key Stages
- Best practices and lessons learned
- Key Takeaways
- Accessing tools and training materials

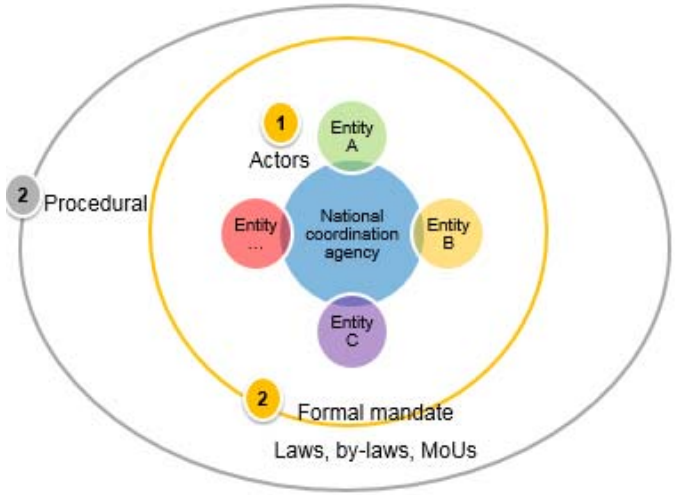
Purpose of building effective and sustainable institutional arrangements for GHG inventory management systems

I. Purpose and Importance of GHG inventory management systems

What is a GHG inventory management system:

A national inventory system incorporates all the elements necessary to compile and estimate GHG emissions and sinks, including institutional (1), legal (2) and procedural arrangements (3). These arrangements facilitate key management tasks:

- Planning;
- Preparation;
- Documentation and archiving;
- Reporting;
- Inventory improvement strategy.



The system supports updating and reporting inventory on more frequent basis, provides timely information, facilitates improvement and also reduces costs over time (i.e. future teams have starting point)

II. Keys stages - Inventory planning

- **Identify all institutions** to be involved:
  a) Designate national inventory coordination body
  b) Assign responsibilities for inventory preparation and management (i.e. sector leads, etc.)
  c) Make arrangements to collect data from statistical agencies, companies, industry associations, etc.
  d) Develop QA/QC or review processes and procedures, including defining formal approval process within government
- **Develop schedule:** Timeframe and specific milestones
- **Integrate continuous improvement.**
- **Create archiving plans/procedures**

Tools and training materials to assist with Inventory Planning

✓ CGE Training materials on institutional arrangements (UNFCCC) and E-learning on National GHG Inventories, including management systems

✓ Guidance for setting up enhancing national technical teams for GHG Inventories in developing countries (GIZ 2017)

✓ GHG Inventory Toolkit (USAID, USEPA)

✓ Managing GHG Inventory Development Process (UNDP 2005)

II. Keys stages - Inventory preparation

- Identify **key categories** and significant subcategories (see IPCC good practice guidance (2000) chapter 7 and IPCC good practice guidance (2003) chapter 5, and 2006 IPCC Guidelines, Vol. 1 Chapter 4).

- Select **methods** and **emission factors** (GPG decision trees at sector category level).

- Collect **activity data** (both statistical and parametric) (see 2006 IPCC Guidelines Volume 1, Chapter 2).

- Manage **recalculations** (if needed) (see IPCC good practice guidance (2000) chapter 7 and IPCC good practice guidance (2003) chapter 5, IPCC 2006 Guidelines, Vol. 1, Chapter 5).

- **Estimate Uncertainties** and implement **QA/QC plan** (see IPCC good practice guidance (2000) chapter 8 and IPCC good practice guidance (2003) chapter 5, IPCC 2006 Guidelines, Vol. 1, Chapters 3 and 6)
    - **Basic checks** should be completed on entire inventory (Tier 1)
    - **More in-depth investigations** into key categories (Tier 2).

- **Documentation** and more documentation (IPCC 2006 Vol. 1-5, in particular Vol. 1 Chapter 6, section 6.11)

Tools and training materials for inventory preparation

- ✓ IPCC Guidelines;
- ✓ IPCC Inventory Software;
- ✓ CGE Training materials (templates on KCA, Methods/Data Documentation, QA/QC, etc.).

II. Keys stages - Inventory management

- Implement **inventory review processes** (e.g., expert review, public review)
- Obtain **formal approval of final results** and report within government
- **Submission** of report to UNFCCC
- Make inventory **information available to stakeholders** and **respond** to information **requests**
- **Archive** all documentation and results
- **Continuous improvement feedback.**

Tools and training materials to assist with Inventory Management

- ✓ CGE Training materials on institutional arrangements (UNFCCC) and E-learning on National GHG Inventories, including management systems
- ✓ Guidance for setting up enhancing national technical teams for GHG Inventories in developing countries (GIZ 2017)
- ✓ Developing a National GHG Inventory System Template Workbook and GHG Inventory Toolkit (USAID, USEPA)
- ✓ Managing GHG Inventory Development Process (UNDP 2005)

Best Practices and lessons learned

III. Best practices and lessons learned

Drawing on surveys, documentation and analysis produced by the CGE and GSP implementing agencies (i.e. UNEP, UNDP), there are lessons learned from the preparation of inventories for NCs and BURs that have important implications for the establishment of inventory management systems.

(a) Establishing national legal/formal arrangements, as appropriate;

(b) Choosing and maintaining an appropriate inventory lead or coordinating body;

(c) Stakeholder (e.g. data providers, experts, etc.) involvement;

(d) In-country institutional and technical capacity-building.

III. Best practices and lessons learned

(a) Establishing national legal/formal arrangements, as appropriate

- A legal/formal mandate designating the lead inventory coordinating body and other supporting institutions may clarify sectoral roles and enhance the coordination and high-level authority of the appointed institution
- A legal/formal mandate may also facilitate the regular data collection and review or approval process.
- A legal/formal mandate can provide a basis for the inventory coordinating body to mobilize necessary expertise, in particular, through appointment of the focal points/permanent representatives among the supporting institutions (i.e. data providers, etc.) or review (i.e. advisory or expert group).
- A legal/formal mandate is effective only if it is implemented.

III. Best practices and lessons learned

(b) Choosing and maintaining an appropriate national GHG Inventory coordinating body;

- The location within the government of the national GHG Inventory coordinating body has been a key factor influencing the effectiveness of institutional arrangements and, in particular, the strength of its mandate and ability to conduct inter-ministerial coordination. Location influences include:
  - The credibility and convening capability, and thereby its ability to effectively manage the inventory process and conduct necessary inter-ministerial coordination in a timely way.
  - The extent to which the GHG inventory management process is integrated into the broader climate change planning process to ensure continuity
- Appointment of dedicated and skilled national staff with clear roles and responsibilities to coordinate inputs and compilation activities among all stakeholders per the schedule.

III. Best practices and lessons learned

(c) Stakeholder involvement

- Engaging a broad range of stakeholders is important for the process (i.e. relevant sectoral data institutions, quality assurance), can focus on key categories

- It is important that clear roles, responsibilities, schedule and outputs are defined early on and reiterated throughout the engagement, in order to ensure multi-stakeholder processes produce effective results and provide necessary input to compile the inventory and support other analyses in the report.

- Identifying incentives for continuous engagement of stakeholders is recommended (i.e. acknowledgements in the report, plan resources to engage stakeholders, i.e. planning QA budget)

- Countries are increasingly engaging non-governmental organization groups (e.g. academic institutions) and the private sector to access expertise, facilitate collection of relevant information, develop/host relevant training and raise awareness of reporting activities beyond government entities

III. Best practices and lessons learned

(d) In-country institutional and technical capacity-building

- Some developing countries have often relied on consultants and external experts to assist in preparing inventories and this can impede retention of institutional knowledge and capacity gains
- It has been recognized that significant learning occurs from inventory compilation process, the information and data gathered, and these improved capacities are limited to the consultants involved and not transferred to the ministry
- Developing internal capacity (i.e. starting with review, compilation of estimates for a sector) could help to avoid reduce reliance on external experts, improve institutional and staff retention of knowledge, thereby enhancing the country ownership of the process
- Robust archiving and documentation of the process and procedures compilation teams, supported by regular communication between the internal and external teams can mitigate above risks when some external experts are required
- Institutional ownership is a key factor for sustainability of the entire process, and could contribute to building institutional capacity

Key takeaways

IV: Key takeaways

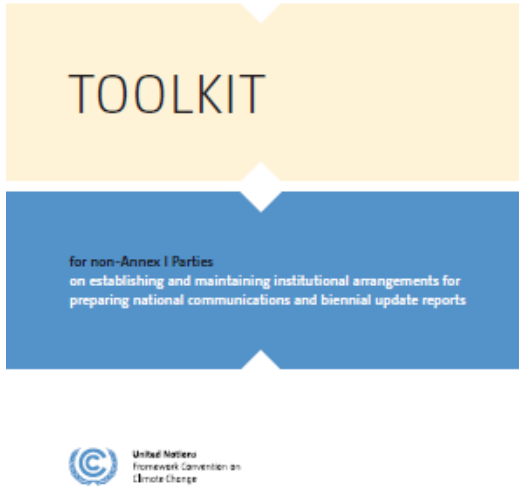
- A greenhouse gas inventory is more than just a report. It should be viewed as an broader analytical program, data can have benefits beyond the report.
- A well constructed inventory should include enough information to understand the underlying assumptions and to reconstruct the calculations (i.e. documentation in report and archives), provides a starting point for future teams.
- Institutional arrangements for data collection are important: no “one size fits all” and will continue to evolve over time
- Buy-in, ownership and political leadership are important to support and maintain the inventory management system - providing early and regular updates to leadership are important
- Both institutional and technical capacity-building are essential. Management system arrangements, plans and procedures should support retention of capacities and knowledge at both levels (i.e. documentation).
- Inclusion of stakeholders and experts raises awareness and use of the Inventory information, should include early on and involve in review and improvement planning
- Expert judgment can support compilation and continuous improvement (i.e. method choice, review, addressing data gaps, etc.).
- Continuous improvement: learning by doing and learning from others – preparing the report builds capacity so important to take stock of lessons learned from previous inventory compilation experience and exchange experiences with others

V: Accessing UNFCCC tools and training materials

The CGE developed training materials to **facilitate the preparation of NCs** (decision 17/CP.8) **and BURs** (decision 2/CP.17, annex III) as wells as materials to **train the national experts nominated to the team of technical experts** to undertake the technical analysis of BURs.

Available on UNFCCC webpages:

1. **Tools and Training Materials for non-Annex I Reporting** Click here
2. **e-Network** Click here
3. **Contact: Transparency Implementation Support Unit** (tisu@unfccc.int)



THANK YOU

Importance of Institutional Arrangements

- Through **decision 2/CP.17**, Parties adopted the Guidelines for the preparation of biennial update reports from Parties not included in Annex I to the Convention (non- Annex I Parties), which developing countries are to use to prepare their BURs, taking into account their development priorities, objectives, capacities and national circumstances (FCCC/CP/9/Add.1, paragraph 41(b)).

- These guidelines request that Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and level of support for reporting, provide their most recent submitted NC updated in a number of areas, including "information on national circumstances and **institutional arrangements relevant to the preparation of the national communications on a continuous basis**".

- Effective institutional arrangements are important for the presentation of information in a consistent, transparent, complete and timely manner.

I. Purpose of GHG inventory management systems