

Kenya training on the preparation of national GHG inventories under the ETF of the Paris Agreement: introductory webinar

Part 2: 15 March 2024

Presentation: GHG inventory
management tools

Fernando Farias

Senior Advisor

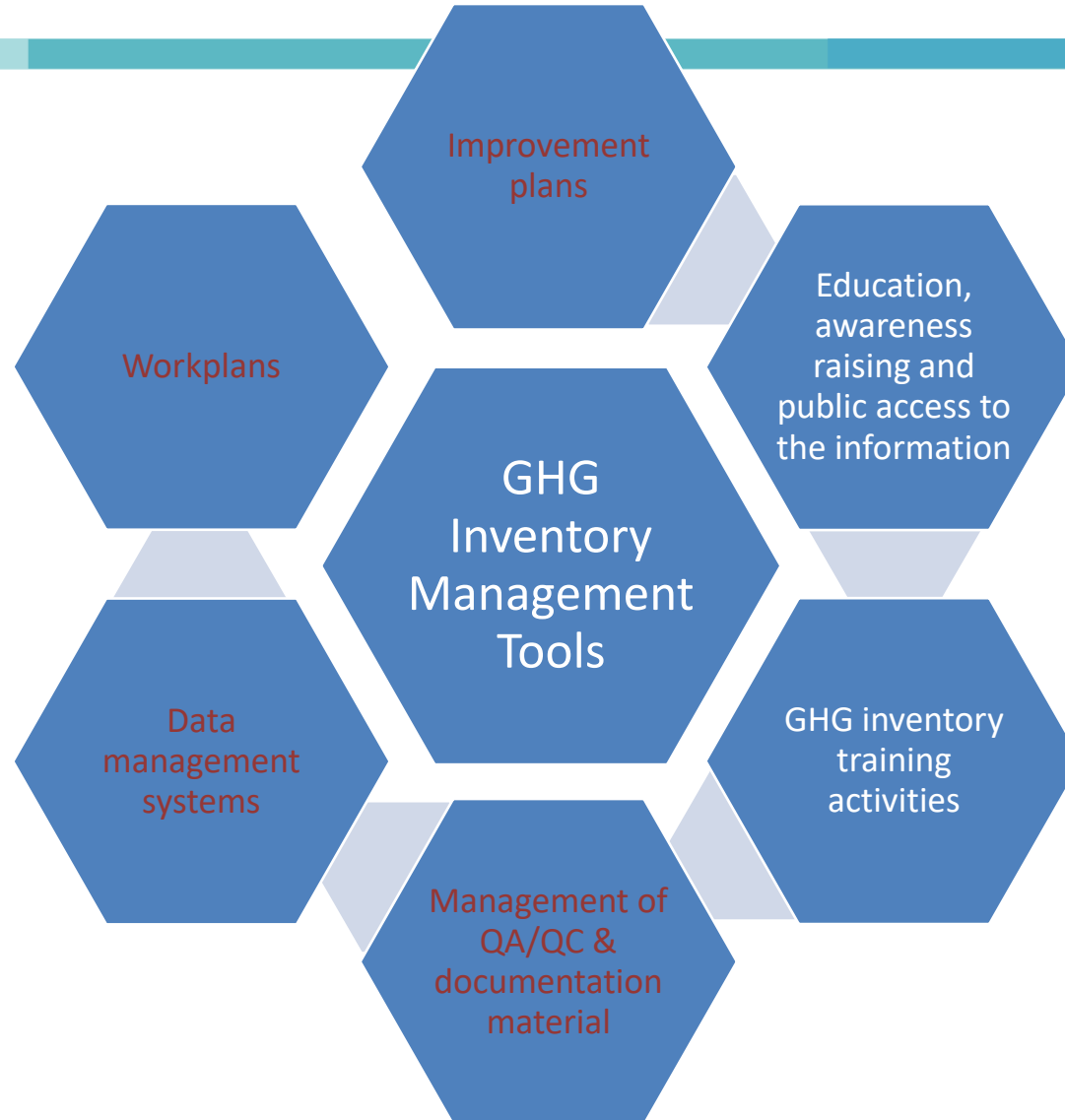
UNEP Copenhagen Climate Centre

GHG Inventory Management Tools (IMT)

The IPCC defines in the new material added in the 2019 IPCC Refinements to the 2006 IPCC Guidelines a series of IMT aimed at helping to ensure efficiency and transparency in the compilation activities of the inventory, ensuring TACCC, timeliness and good use of resources

Several of these tools are included into the MPGs as contents to be included by Parties into their BTRs

GHG Inventory Management Tools



Source:
2019 IPCC
Refinements

Workplans

The workplan clarifies the **schedule of steps** for generating GHG inventory outputs.

Workplans should be **reviewed**, and where necessary, revised prior to the start of a new inventory update cycle.

Workplans: example

TABLE 1.6 (NEW) ILLUSTRATIVE WORKPLAN FOR THE PREPARATION OF A GHG INVENTORY INCLUDING AN INDICATIVE TIMELINE		
Example Activity	Illustrative Milestones ¹⁰	Illustrative lead actor/stakeholder
Agreement on the scope of work (including stakeholder consultation and identified improvements and updates to the time-series) and timeframes with stakeholders/steering committee	Week 1	SNE/Inventory manager/coordinator & steering committee engaged for prioritising improvements
Appointing/engaging the team of experts to deliver the scope of work needed (data collection, compilation, QA/QC, documentation and reporting) establishing/revising Terms of Reference: <ul style="list-style-type: none"> • Roles and responsibilities • Timelines • Deliverables • Time (budgets) allocation 	Week 2-6	SNE/Inventory manager/coordinator
Sectoral estimation (e.g. Energy, IPPU, Agriculture, FOLU and Waste), including: <ul style="list-style-type: none"> • Collecting data (engaging with data suppliers) and checking data supplied • Agreeing any new methodologies and/or continuation of existing methodologies • Calculation of estimates • QC (checking of all estimates) • QA (peer review of new estimates) • Documentation • Finalisation of reporting formats 	Week 3-30	Compilation experts

Source: IPCC (2019)

Workplans: example

Date	Task & Deliverable	Responsible Party(ies)
March 1	Kick-off meeting to ensure team readiness distribute overall inventory preparation instructions, source preparation instructions and other supporting materials to inventory team.	Inventory Co-ordinator, Source(s) Team Leaders and Inventory Compiler
July 1	Meeting to discuss progress and problems	Inventory Co-ordinator, Source(s) Team Leaders and Inventory Compiler
September 1	Final spreadsheet and text files for each source due to Inventory Compiler	Source(s) Team Leaders
September 2-30	Compiling of 1st draft inventory	Inventory Compiler
October 1	1st draft inventory due to Inventory Co-ordinator	Inventory Compiler
October 3	Distribute 1st draft inventory for internal review	Inventory Co-ordinator
October 4-18	Internal review of 1st draft inventory (QC) submit comments to Inventory Compiler	Inventory Co-ordinator and Source(s) Team Leaders
October 19-22	Distribute source files and internal review comments to source(s) teams for revisions	Inventory Compiler
October 23-November 7	Incorporate internal comments	Source(s) teams and Inventory Compiler
November 8	1st revised final spreadsheet and text files for each source due to Inventory Compiler	Source(s) Team Leaders
November 9-30	Compiling of 2nd draft inventory	Inventory Compiler

Source: IPCC (2019)

Data management systems for GHG inventories

Compilation and combination of information in different formats:

- numerous datasets,
- documents,
- references,
- a range of assumptions,
- expert judgements,
- data conversions,
- manipulations (e.g., combining data from multiple data sources).
- Log of changes

Data management systems for GHG inventories

Functions:

- For **calculating** estimates
- For **sharing** information between providers-receptors, inter o
intra institutional
- Aggregating and **reporting** GHG inventory data
- **Public outreach** of GHG inventory data

Data management systems for GHG inventories

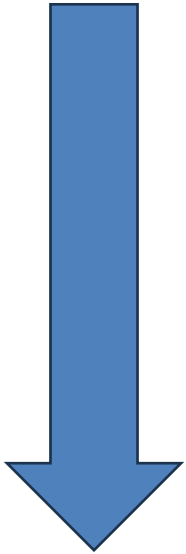
Simple:

a collection of spreadsheets, databases and software systems for calculating GHG estimates.

Tools appropriate to national circumstances, including the complexity of their data and methods.

Sophisticated:

database tools connected to the internet and available for users to upload data and to operate from remote locations.



Data management systems used by countries

Uruguay data management system

- [Inventory Viewer \(gobiernoabierto.gub.uy\)](http://gobiernoabierto.gub.uy)
- https://visualizador.gobiernoabierto.gub.uy/visualizador/api/repos/%3Apublic%3Aorganismos%3Ambiente%3Avisualizador_inventario.wcdf/generatedContent

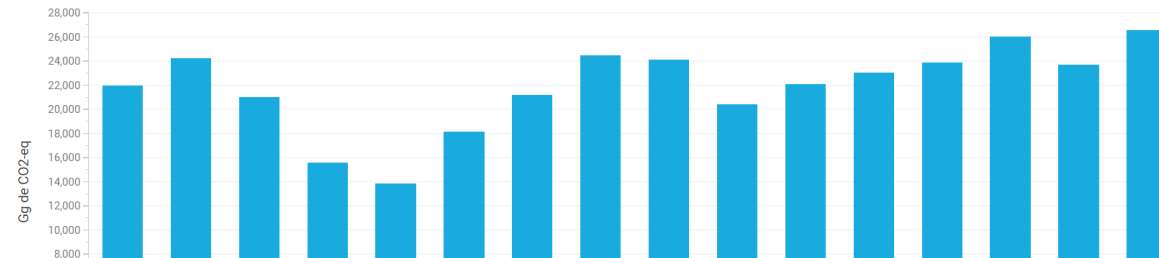


See here the results of estimates of direct and indirect greenhouse gas emissions and removals for Uruguay. The description of the sectors, categories, metrics and greenhouse gases can be consulted on the website of the [INGEI system](#).

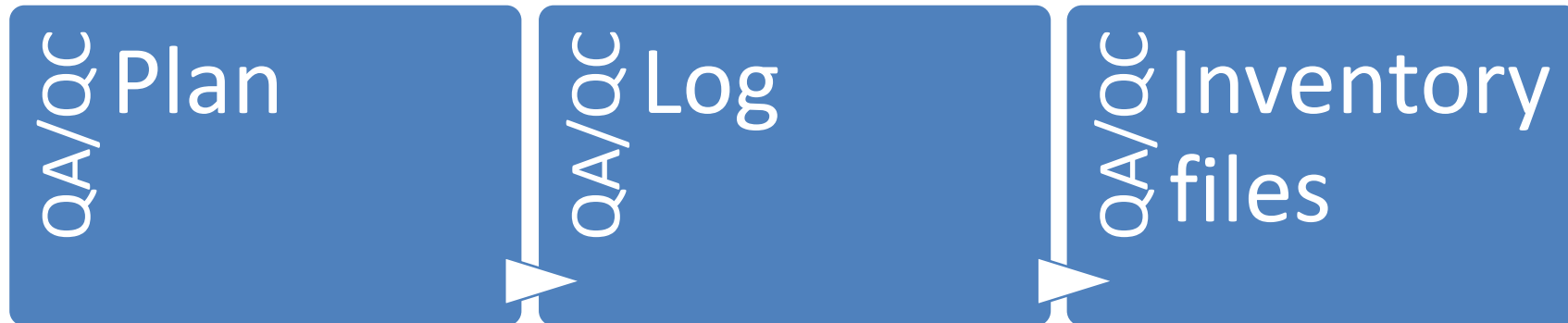
Direct Greenhouse Gases

Metric GWP 100 AR5 GTP 100 AR5

Emissions per year in Gigagrams of CO₂-eq



Management of QA/QC & documentation material



Management of QA/QC & documentation material

QA/QC Plan:

- A systematic drafting of the review procedures and processes for the next inventory submission. The QA/QC plan explicitly addresses inventory improvement with activities in the following build process.
- The plan should clearly identify all significant activities used by the inventory compiler and ensure that the minimum data quality objectives required under relevant reporting obligations are met.
- The QA/QC plan includes general and category-specific QA objectives, procedures, and activities.

Management of QA/QC & documentation material

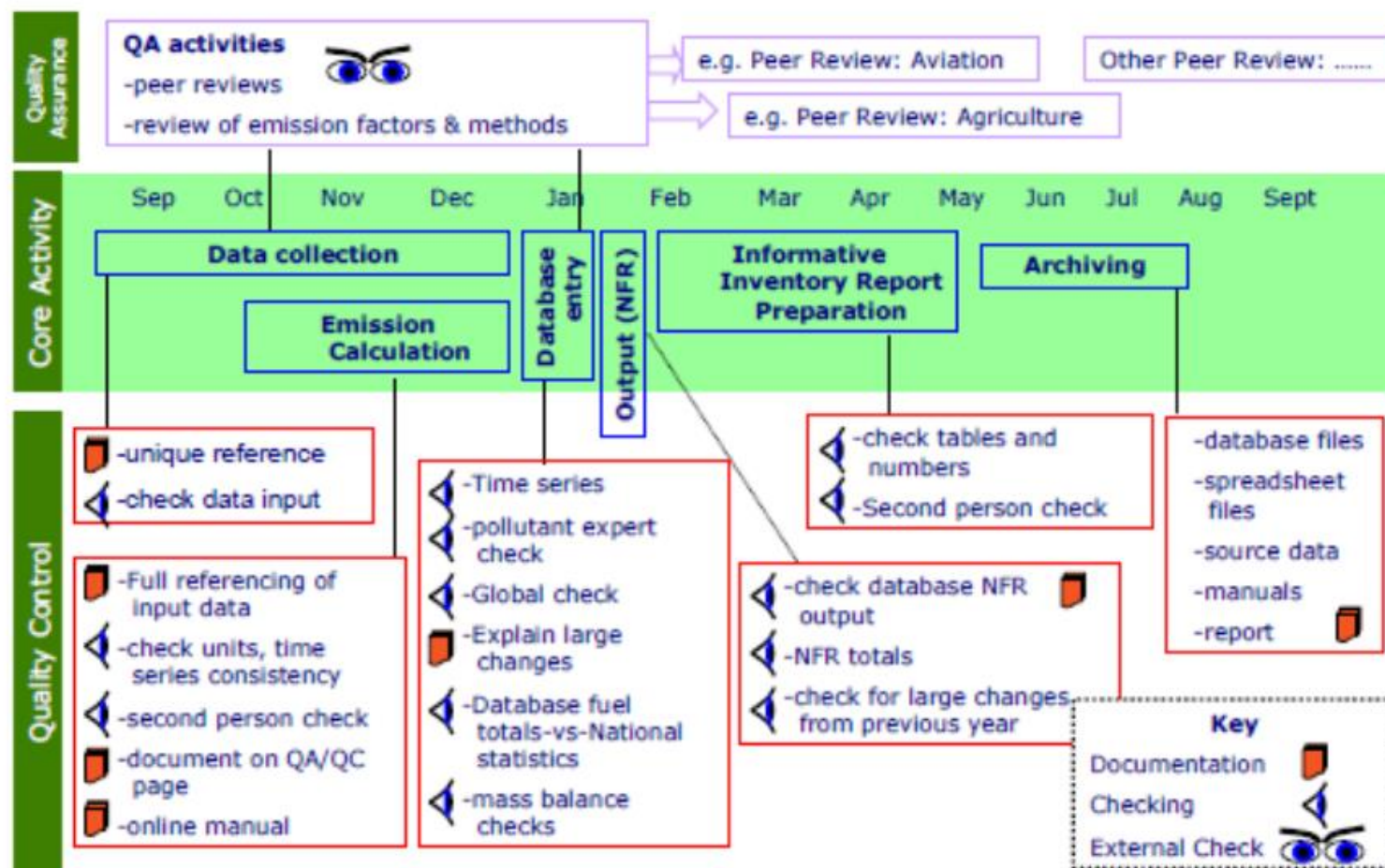
Log of implemented QA/QC and verification activities

- A record of QA/QC activities and verification implemented with reference to documentation and associated findings

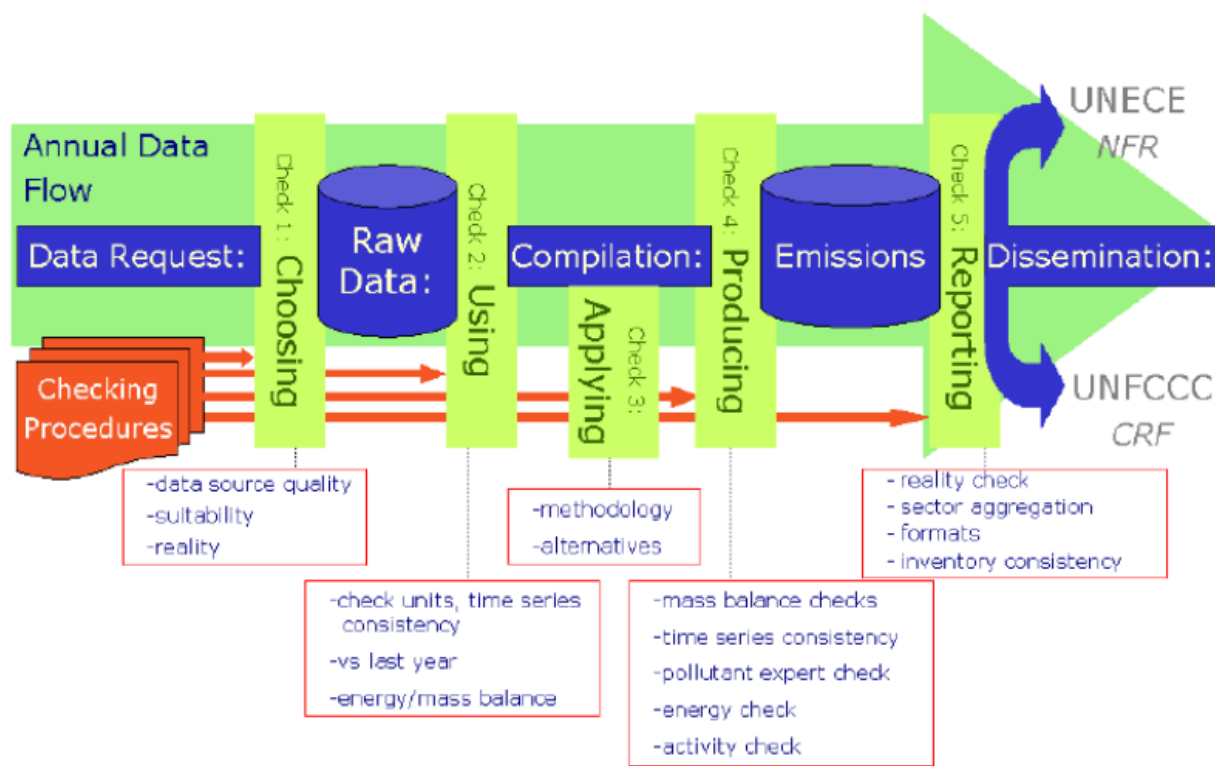
Inventory files

- Structures and stores data on the most recent and previous inventory estimates, reports, methodology documents, and calculation files.

Management of QA/QC & documentation material



Management of QA/QC & documentation material



Source: EMEP/EEA air pollution emission inventory guidebook 2019 (EEA Report 13/2019)

Inventory improvement plan

Improvements:

- Potential,
- Planned, and
- Implemented improvements.



Plan: Specific actions

- Compilation
- Prioritization
- Synthesis
- Future implementation

Inventory improvement plan

Benefits:

- Find better data
- Facilitate coordination
- Train current staff members
- Enhance QA/QC procedures
- Guide new staff

Source: US-EPA (2023)

But resources needed to implement the plan!

- Staff availability
- Staff expertise
- Cost
- Time
- Responsible

Important to **prioritize**

Information sources

- **IPCC:** <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>
- **MPGs:** https://unfccc.int/sites/default/files/resource/cp24_auv_transparency.pdf
- **CGE:** <https://unfccc.int/process-and-meetings/transparency-and-reporting/support-for-developing-countries/consultative-group-of-experts/enhanced-transparency-framework-technical-material>
- **UNFCCC GHG Inventories:** <https://unfccc.int/process-and-meetings/transparency-and-reporting/support-for-developing-countries/ghg-support>
- **US-EPA Templates:** <https://unfccc.int/process-and-meetings/transparency-and-reporting/support-for-developing-countries/ghg-support/ghg-help-desk/ghg-documents>

Thank you for your attention!

For more information:

<https://climate-transparency-platform.org/>

Fernando Farias
Senior Advisor
UNEP-Copenhagen Climate Centre
Fernando.farias@un.org



**CLIMATE
TRANSPARENCY
PLATFORM**