CBIT-GSP
CLIMATE TRANSPARENCY

MINISTRY OF ENVIRONMENTAL PROTECTION AND AGRICULTURE OF GEORGIA

UN environment programme | copenhagen climate centre

# Deep-dive into preparation and reporting of results of national GHG inventories under the ETF of the Paris Agreement

**Training Workshop for the CBIT-GSP network countries**
**Tbilisi, Georgia 23 – 25 April 2024**

## Presentation:
## Data management system for archiving the inventory data and international examples of data management systems

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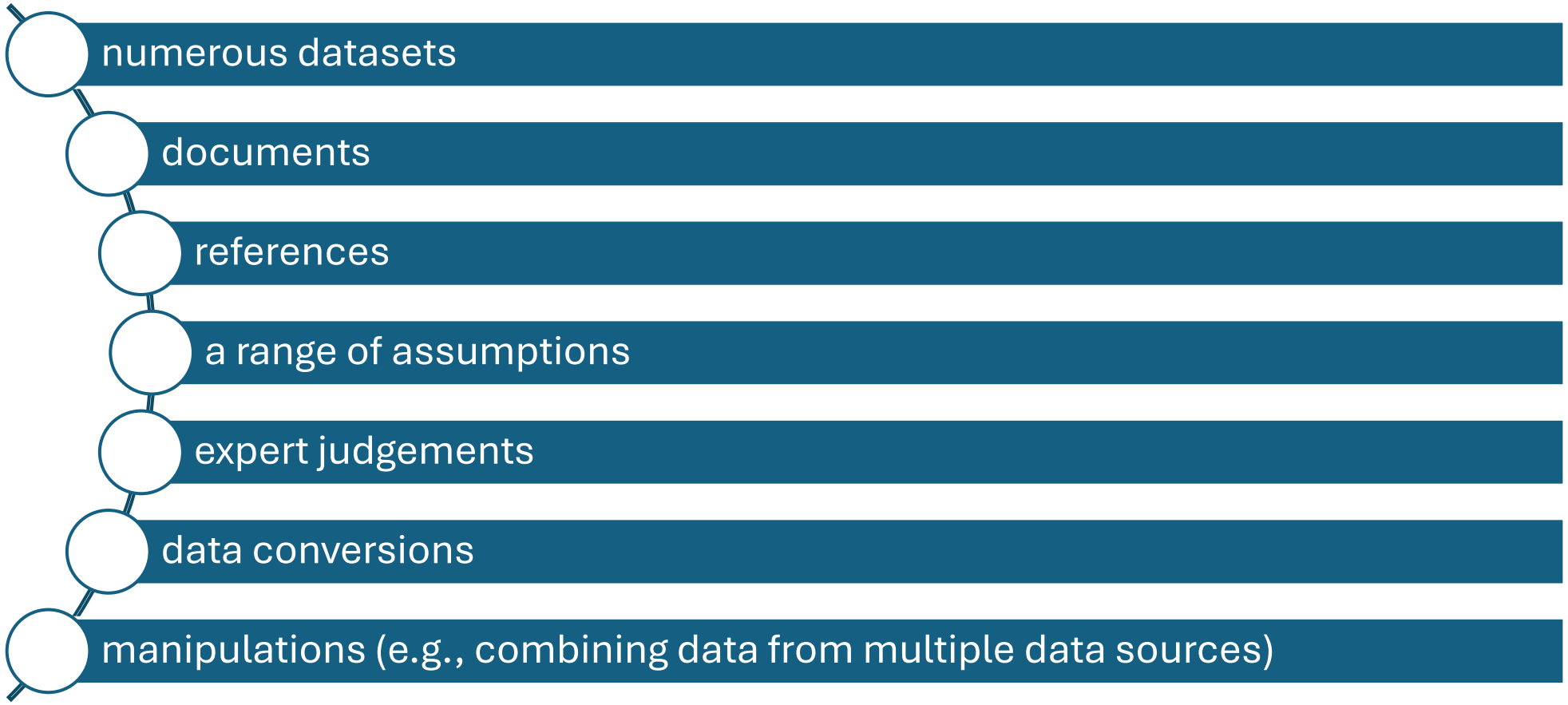
# Data management systems for GHG inventories

Compilation and combination of information in different formats:



# 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.

## Sophisticated:

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

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

# Common practice for documentation within calculation tools

| |
|---|
| Using **standard classification and nomenclatures** for compilation of estimates (this nomenclature can be based on country-specific or IPCC or other recognised classifications |
| Including **metadata** in each file and maintaining a master list of the calculation files, their types, authors, and versions |
| Using a **standard file naming convention** across categories and inventory cycles |
| **Documentation** in tools with evidence of the implementation of QA/QC procedures |
| **Colour coding** or other visual formatting to differentiate between areas of data input, calculations, QA/QC |
| **Checks, explanations, and outputs** |
| **Documenting** where historical data or methods have been **revised** |
| **Documentation** of complex models |
| **Standard output format** for all reported data |

Source: IPCC 2019

# Collation, Aggregation and Reporting

**For analysis and reporting,** inventory data needs to be **collated**, from what can be in the form of differently formatted spreadsheets or calculation models, into a **coherent set of tables** that can be **aggregated** to produce detailed reporting formats, national totals, and summary tables.

SUGGESTED INFORMATION IN A STANDARDISED DATA STRUCTURE FOR COLLATING GHG INVENTORY DATA

| 1.Year | 2.National Nomenclature | 3.Reporting Nomenclature | 4.Geography | 5.Gas | 6.Type of variable | 7.Value | 8.Units | 9.Notation Keys | 10.Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Source: IPCC 2019

# National inventory platform and vizualization tool- Chile

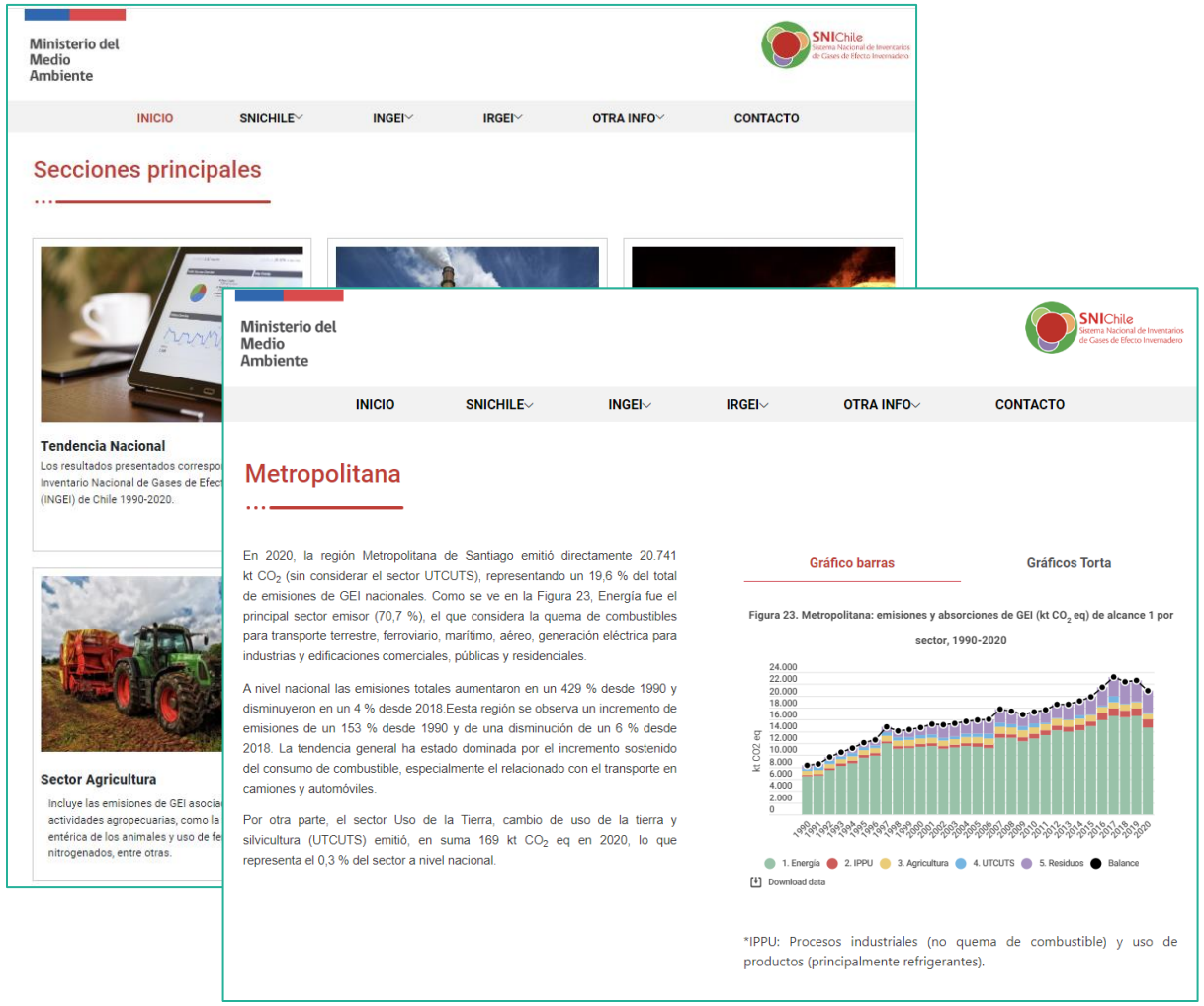
## Description:

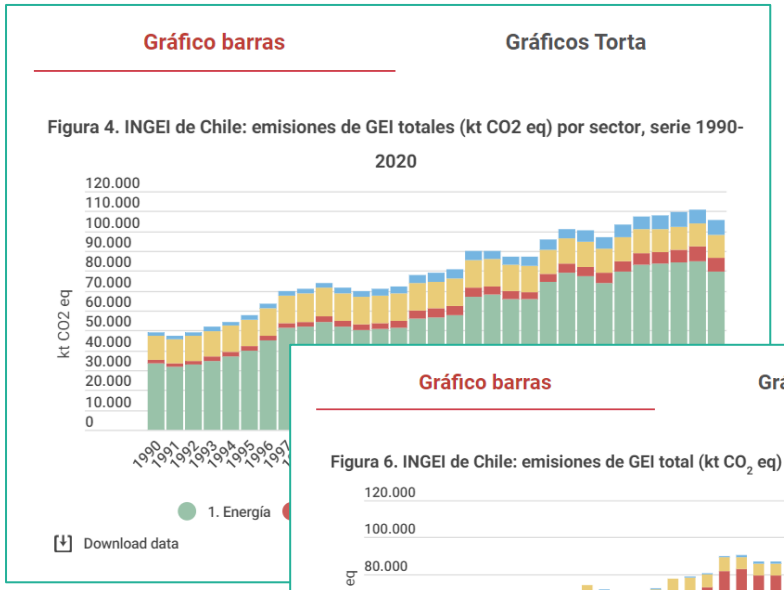
- Inventory results are often complex to interpret and analyze by intended users, creating gaps for potential uses and applications of the information generated.
- Chile has launched, since 2014, a web platform that includes general and specific information from the national and subnational inventory, open-source databases and a tool for visualizing GHG emissions and removals.

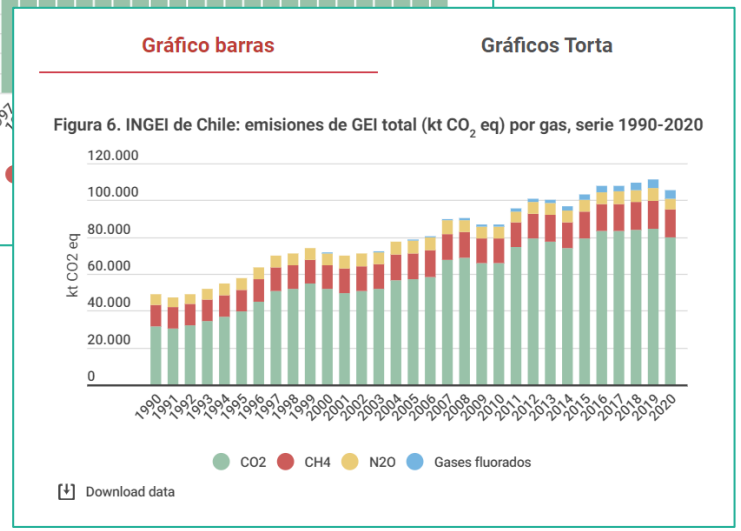
## Enhancements generated:

- both the platform and its visualization tool bring information and inventory results to all types of audiences,
- Provide the user with the possibility to interact dynamically and information-friendly, encouraging exploration and self-learning by selecting different parameters to visualize (e.g. GHG emissions and removals according to sector, category, gas, time series, etc.).

# National inventory platform and vizualization tool- Chile



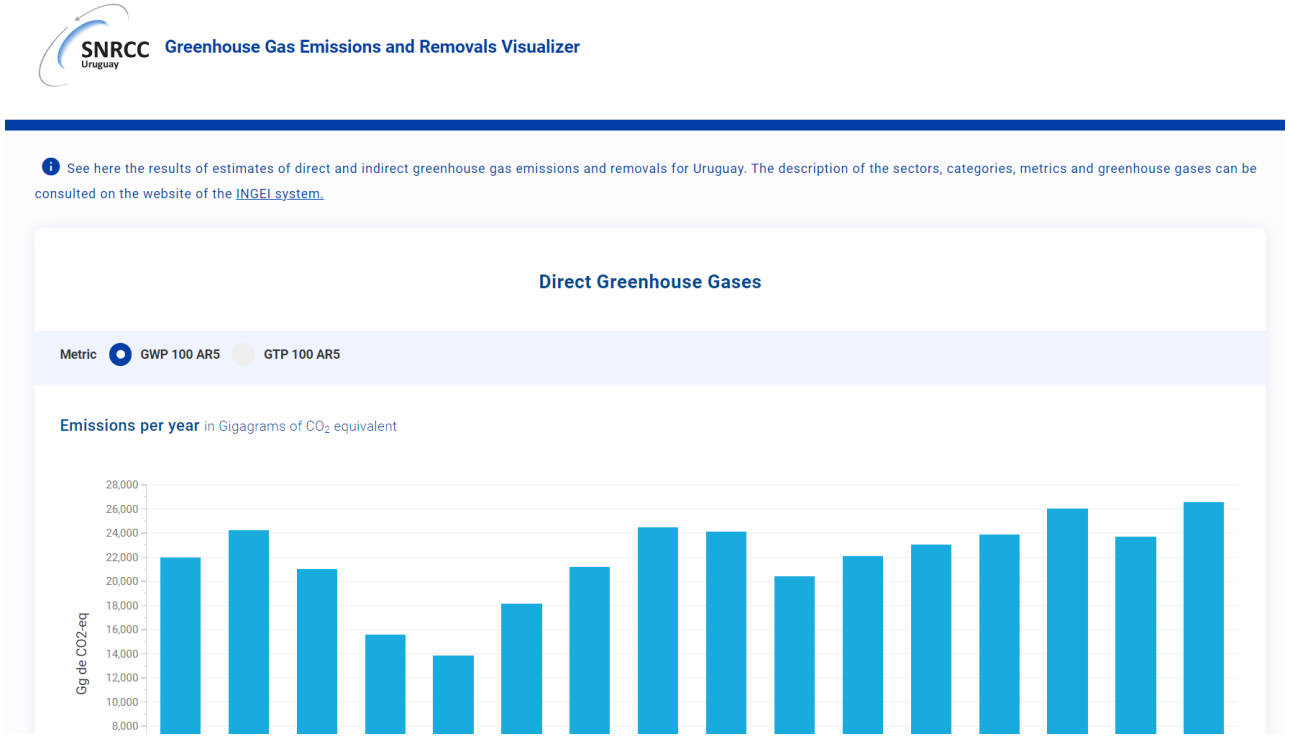



# Data management systems - Uruguay

Inventory Viewer (gobiernoabierto.gub.uy)

- https://visualizador.gobiernoabierto.gub.uy/visualizador/api/repos/%3Apublic%3Aorganismos%3Aambiente%3Avisualizador_inventario.wcdf/generatedContent



# Provisions of MPGs

## I. National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases

- A. Definitions (17)
- B. National circumstances and institutional arrangements (18-19)
- C. Methods
  1. Methodologies, parameters and data (20-24)
  2. Key category analysis (25)
  3. Time-series consistency and recalculations (26-28)
  4. Uncertainty assessment (29)
  5. Assessment of completeness (30-33)
  6. Quality assurance/quality control (34-36)
- D. Metrics (37)
- E. Reporting guidance (38)
  1. Information on methods and cross-cutting elements (39-46)
  2. Sectors and gases (47-56)
  3. Time series (Para 57-58)

# Provisions of the MPGs

**I. National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases**

B. National circumstances and institutional arrangements (18-19)

# Provisions of the MPGs

**19.** Each Party **shall** report on the following functions related to inventory planning, preparation and management:

- …
- **Its archiving of all information for the reported time series,**
  - ➢ including all disaggregated emission factors and activity data,
  - ➢ all documentation about generating and aggregating data
  - ➢ including quality assurance/quality control (QA/QC)
  - ➢ review results
  - ➢ planned inventory improvements;
- …

# What is an archive?

- An **inventory archive** is a collection of information related to the GHG inventory compilation process, reporting, and institutional arrangements.

- Having easy access to such information will help:
  - **Current and future inventory compilers understand previously used data**, methodologies, structures, processes, etc., so that they can prepare the inventory efficiently and in a manner that is consistent with prior inventories,
  - Increase the **sustainability of the national GHG inventory** management system over time, and
  - Increase the t**ransparency** of current reporting under the UNFCCC

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Content of inventory archive

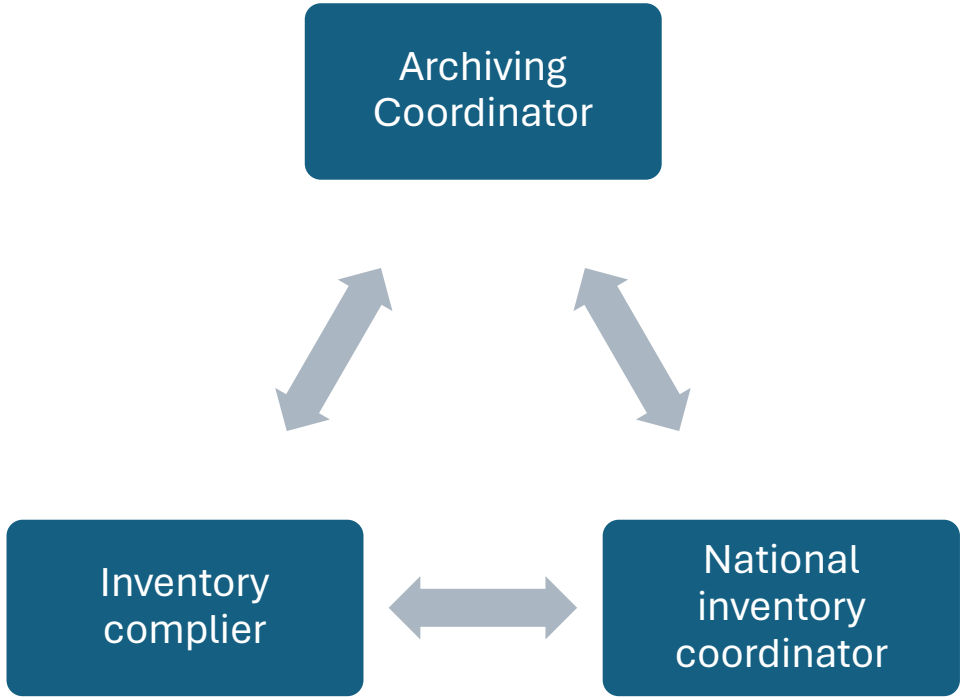
- Inventory compilation plan
- Institutional arrangements
- Methods and data documentation (Template 3)
- Any files used for calculation (e.g., spreadsheets, models, databases, IPCC Inventory Software)
- QA/QC procedures
- Key category analysis
- Drafts and final electronic versions of the inventory report
- Internal and external review comments and responses
- Archiving system
- Improvement plan

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Archiving System

- The overall objective of plan:
  - to identify what information created during the compilation of your national inventory will be archived
  - where it will be archived
  - when it will be archived
  - by whom it will be archived
  - who will have access to it and how.

The Archiving Coordinator may need to work with the National Inventory Coordinator (NIC) and other inventory team members to develop this plan.




Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Responsibilities of Archiving Coordinator

Develop and oversee implementation of the **Archiving System**

**Maintain the Archiving System**, and review and update it as required (at least every inventory compilation cycle)

Convey the Archiving System **to the inventory compilers**, including:

- The responsibilities for each inventory compiler regarding the documents to be archived and archiving timelines
- The location of the archive
- Instructions regarding access, the file structure, and file/folder naming conventions

**Tracking the implementation** of activities in the Archiving System

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Responsibilities of the National Inventory Coordinator

Coordinate with Sector/Category Leads and the Archiving Coordinator to convey relevant archiving responsibilities to all inventory compilers and data providers

Ensure that the inventory archive is saved in a secure location

Confirm that the inventory archive includes your latest inventory report, estimation files, and all completed templates

These files, preferably in an editable format, can serve as the starting point for your next inventory cycle.

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Archiving Procedures Checklist I

| Activity | Due Date | Activity Completed | |
|---|---|---|---|
| Archiving Coordinator | | Completed by (name) | Date |
| Create official archive, backup, and access requirements | [Enter Date] | [Enter Text] | |
| Generate folder structure and naming convention | | | |
| Update the archiving system and deadlines | | | |
| Convey archive structure, naming convention, access, and archiving system to inventory compilers | | | |
| Collect and archive documents describing institutional arrangements | | | |
| Collect and archive documents describing methods and data collected | | | |
| Collect and archive the inventory compilation plan | | | |
| Collect and archive any files used for calculation or recalculations | | | |
| Collect and archive any files used for assessing uncertainty of the Inventory estimates overall and at the category level | | | |

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Archiving Procedures Checklist II

| Activity | Due Date | Activity Completed | |
|---|---|---|---|
| Archiving Coordinator | | Completed by (name) | Date |
| Collect and archive the QA/QC plan and results of QA/QC assessments | [Enter Date] | [Enter Text] | |
| Collect and archive results of quality control processes | | | |
| Collect and archive the key category analysis | | | |
| Collect and archive drafts and final versions of the inventory report | | | |
| Collect and archive external review comments and responses | | | |
| Archive documentation of the archiving system | | | |
| Collect and archive the national inventory improvement plan | | | |
| Collect and archive contacts and contact information for data sources | | | |
| Collect and archive communication with data sources and the data obtained | | | |
| Collect and archive documents indicating decision-making related to the compilation process (e.g., minutes of meetings of the GHG inventory compilers, email correspondence) | | | |

Source: U.S. EPA Toolkit for Building National GHG Inventory Systems

# Thank you for your attention!

For more information:
https://climate-transparency-platform.org/

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