Presentation: Data Management Systems and Archiving the Inventory Data

Training on preparation and reporting of results of national GHG inventories under the ETF of the Paris Agreement

Tokyo, Japan 22 – 24 May 2024

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Data Management Systems for GHG Inventory

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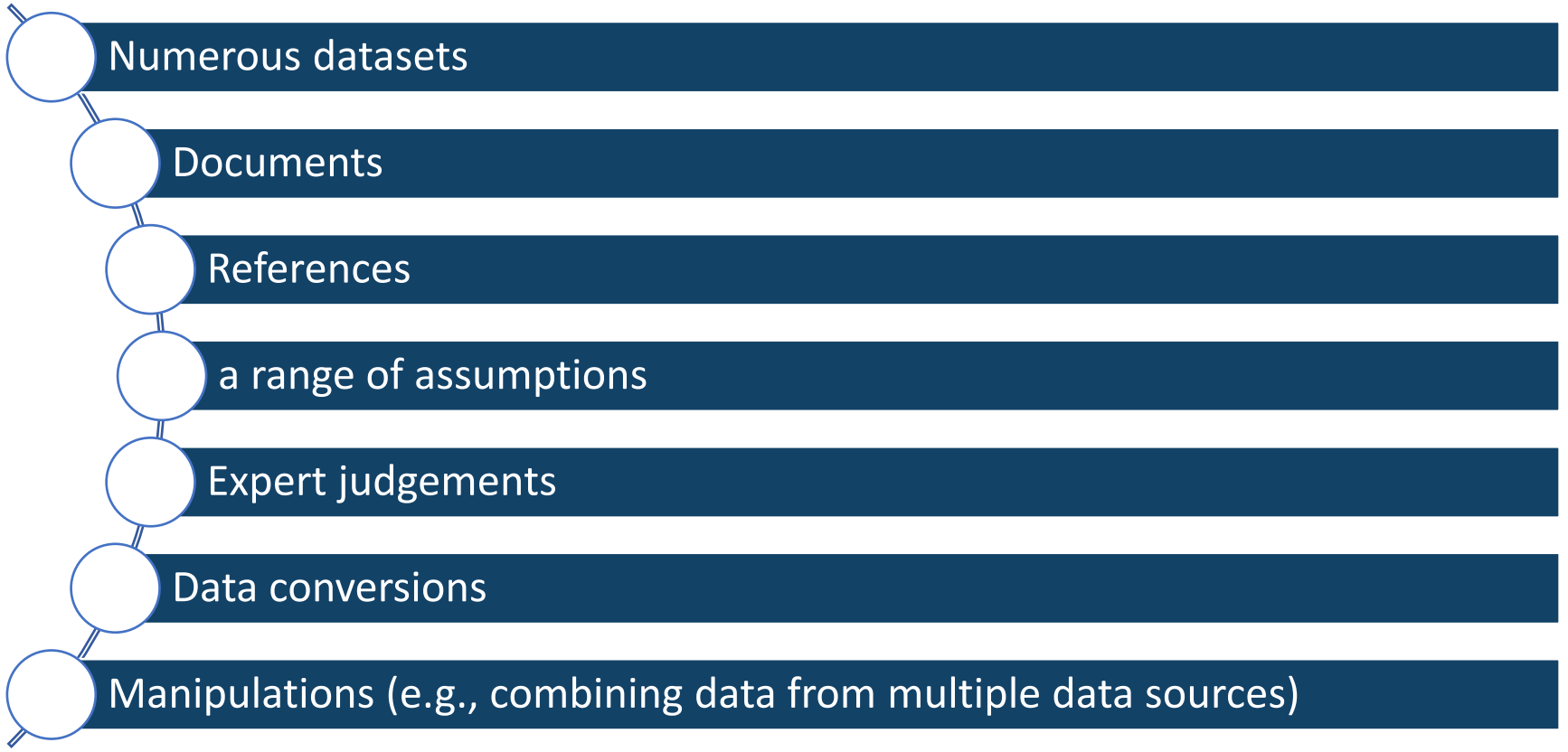
Compilation and combination of information in different formats:



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Data Management Systems for GHG Inventories

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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
- Archiving

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Institutional Arrangements

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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.

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Types of Data Management Systems

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Excel-Based	Specialized software	Combination of excel-based, access based and specialized software
Austria	Germany	New Zealand
Hungary		United Kingdom
		Netherlands

Data management systems can vary considerably in terms of their functions, forms, operational resources, and system access arrangements, depending on a country's specific context.

Source: World Resource Institute. Data Management Systems for National Greenhouse Gas Inventories

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Common practice for documentation within calculation tools

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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

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Collation, Aggregation and Reporting

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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

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GHG Inventory 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 **transparency** of current reporting under the UNFCCC

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

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Content of an 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

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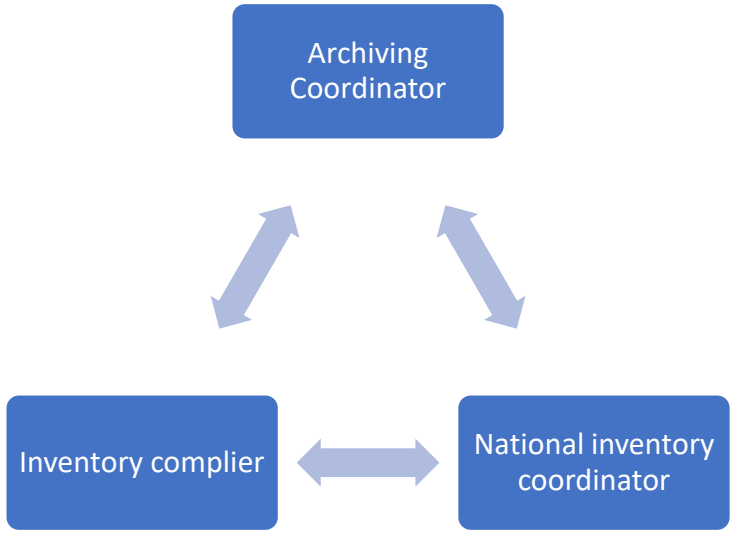
Archiving System

- 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.

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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

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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.

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Archiving Procedures Checklist I

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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			

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Archiving Procedures Checklist II

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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)			

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National inventory platform and vizualization tool- Chile

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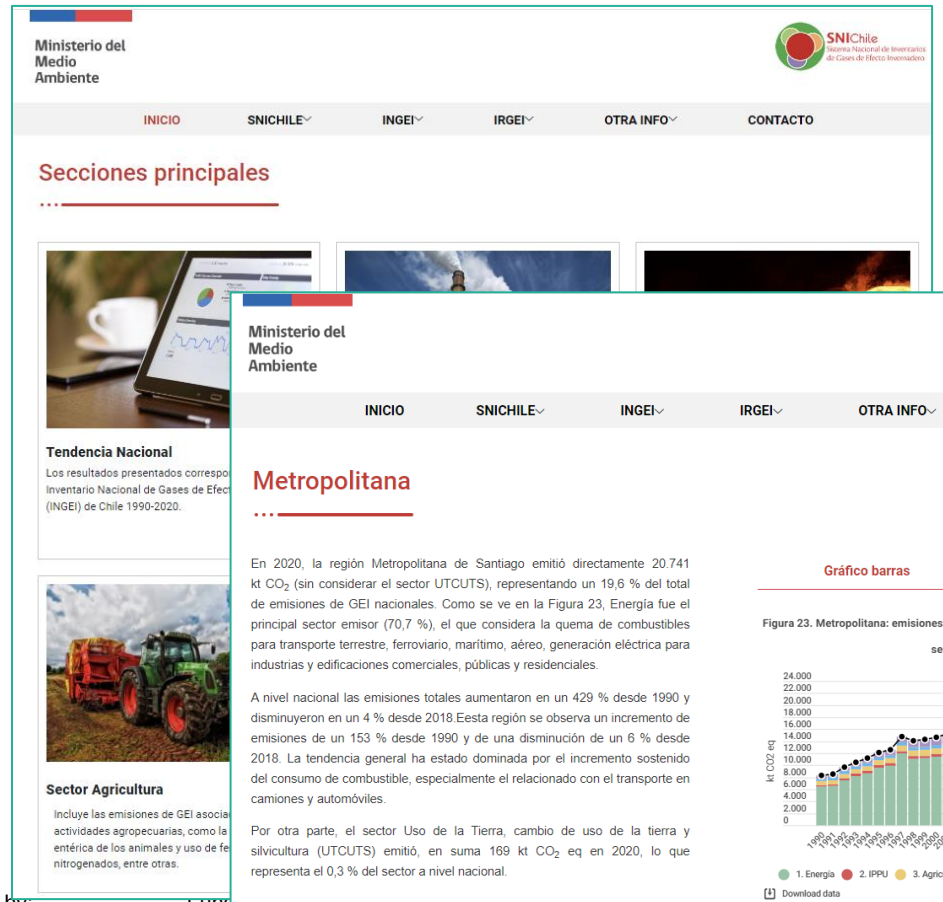
Description:

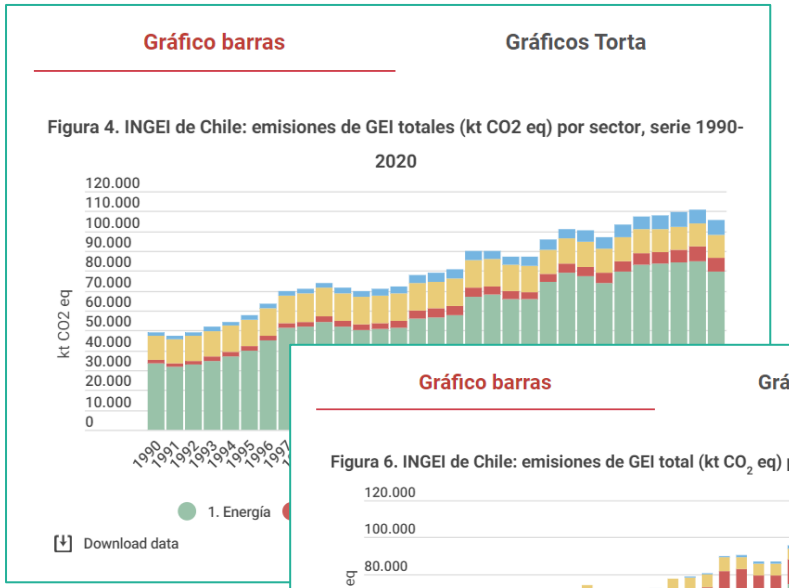
- Inventory results are often complex to interpret and analyze by intended users, creating gaps for potential uses and applications of the information generated.
- Chile has launched, since 2014, a web platform that includes general and specific information from the national and subnational inventory,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

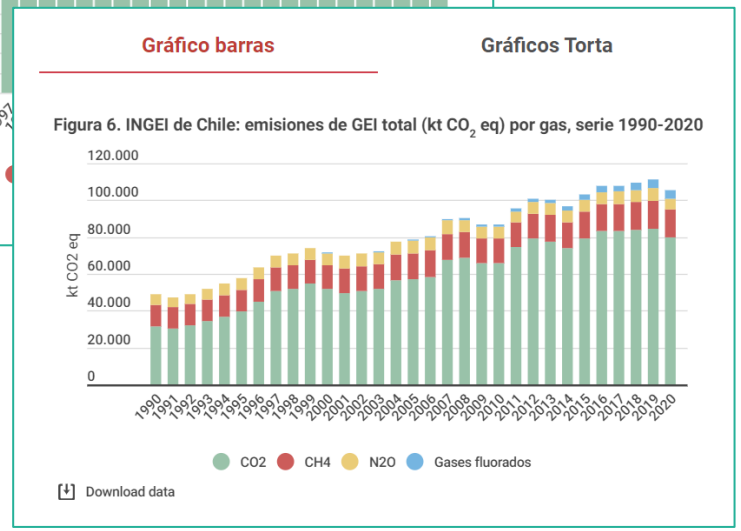
Enhancements generated:

- 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







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Data management systems - Uruguay

Inventory Viewer (gobiernoabierto.gub.uy)

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

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Thank you for your attention!

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

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