

Presentation: Institutional Arrangements for National Inventory Systems (NIS)

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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18. Each Party should **implement and maintain national inventory arrangements, including institutional, legal and procedural arrangements** for the continued estimation, compilation and timely reporting of national inventory reports in accordance with these MPGs. National inventory arrangements can vary by Party depending on their national circumstances and preferences, and change over time.

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

- a) Its **national entity or national focal point with overall responsibility** for the national inventory;
- b) Its inventory preparation process, including **division of specific responsibilities of institutions** participating in the inventory preparation...;
- c) Its **archiving of all information** for the reported time series...;
- d) Its processes for the official consideration and approval of the inventory

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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)

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Institutional Arrangements

- Institutional arrangements are the policies, systems, and processes that organisations use to legislate, plan and manage their activities efficiently and to effectively coordinate with others in order to fulfil their mandate.



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What is the purpose of institutional arrangements?

PURPOSE: GHG inventory arrangements that support the sustained updating and maintenance of high quality and continuously improving national GHG inventories.



- Enhanced reporting requirements are met
- Quality of reports is continuously improved

A sustainable process for updating, quality and continuous improvement is an important aspect of institutional arrangements.

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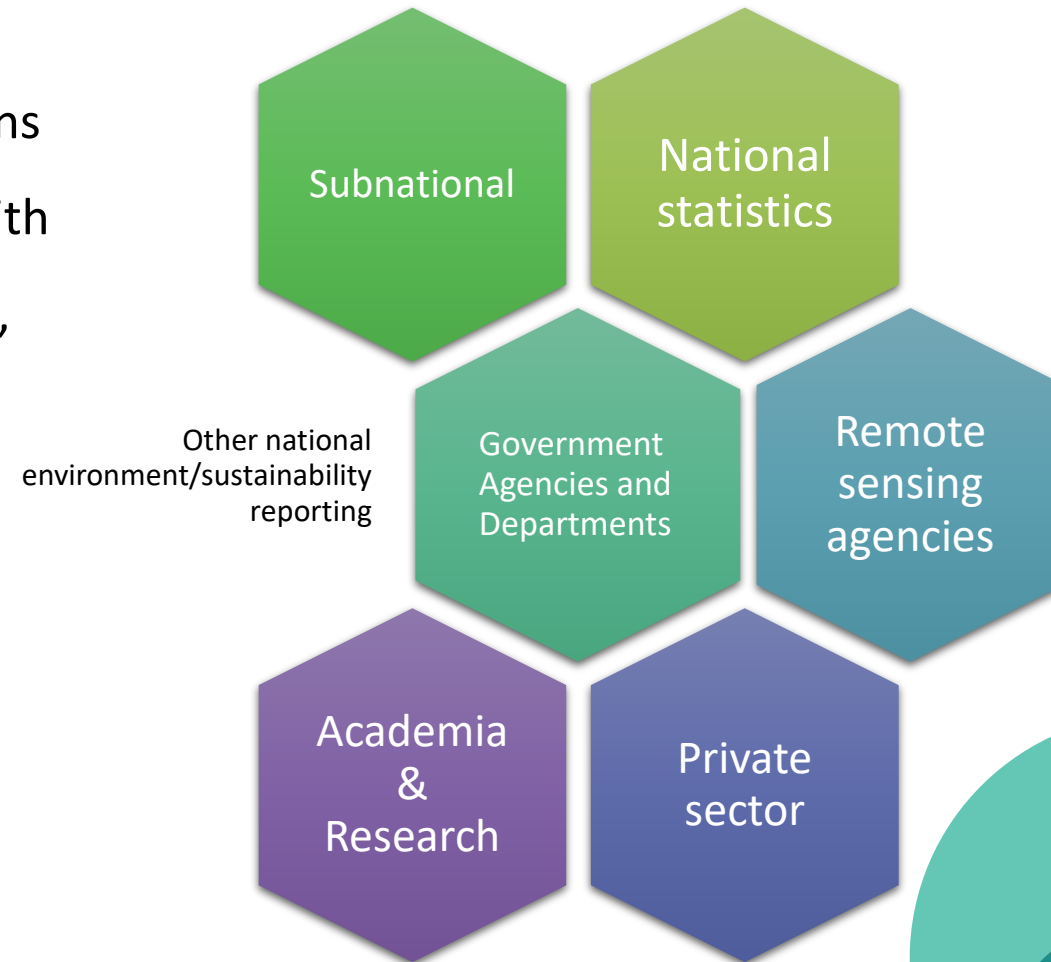


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Why we need Institutional Arrangements?

- Institutional arrangements include the interactions between these organizations that are involved with the GHG inventory inputs, compilation processes, and outputs.



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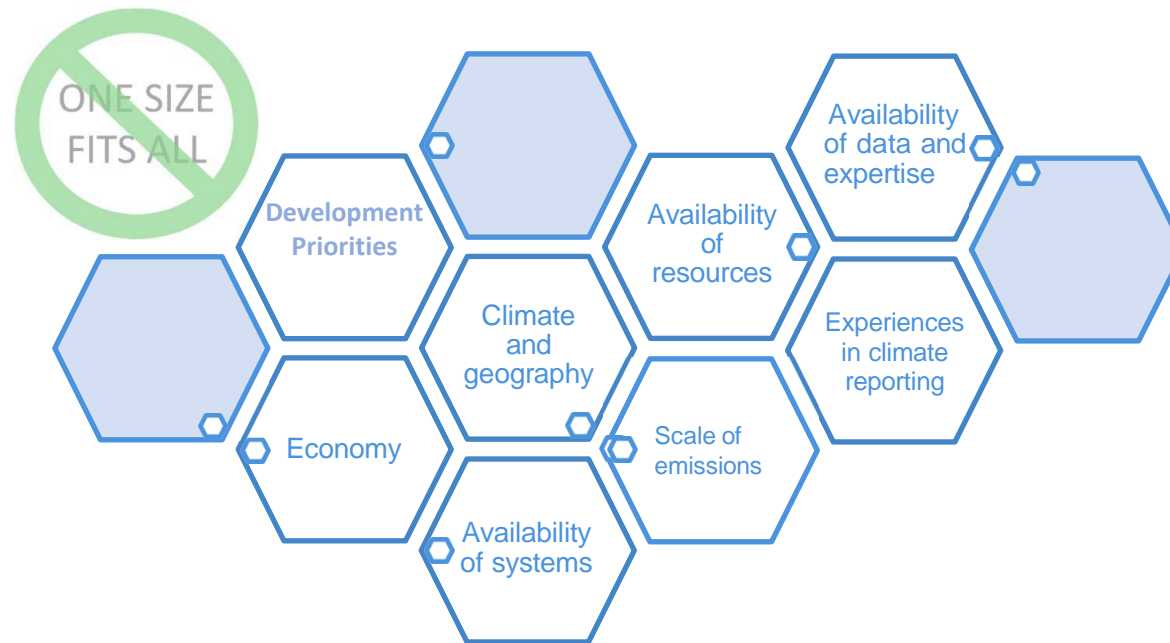


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Defining Institutional Arrangements

- There is no one-size-fits-all model for institutional arrangements.
- Need to be designed and tailored to national circumstances.



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National Inventory Objectives



- The inventory will probably have to respond to different objectives depending on the stakeholders involved.
 - Defining the objectives of the inventory could help to identify what inputs, capacities and outputs are required by stakeholders, as well as roles and responsibilities, scope of work and timelines of the inventory cycle.
-
- The probably clearest goal is to fulfill the country's international commitments to the UNFCCC to provide information on its climate action and contribution to avoiding temperature increases. There may also be domestic targets for the country.
 - It is suggested to **include information in a tabular format** that compiles basic information of each objective, the interested parties, the date of delivery, format of the report, reference to legal acts, etc.

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National Inventory Objectives

Objective	Gases	Sectors and categories	Geographical resolution	Temporal resolution of estimates	Time series span	Reporting frequency	Reporting formats
UNFCCC: Annual Reporting	CO ₂ , CH ₄ , N ₂ O, Fluorinated gases, Precursors (SO ₂ , NO _x , CO, NMVOC)	Energy, IPPU, AFOLU, Waste	UK + Overseas Territories	Annual estimates	Yearly values from 1990 until two years prior to current calendar year	Annual	NIR and CRF
National Statistics Environmental Accounts							Environmental Accounts
EU Monitoring Mechanism Regulation			Regulated installations within mainland UK				NIR and CRF
National Carbon Budgets			UK				Carbon budget
UNFCCC: Biennial Report	CO ₂ , CH ₄ , N ₂ O, Fluorinated gas		UK + Overseas Territories			Biennial	CRF: Summary Table 2
UNFCCC: National Communication						Every four year	
UNFCCC: Nationally Determined Contributions						5 years	CRF: Summary Table 2

Source: IPCC 2019 Refinements

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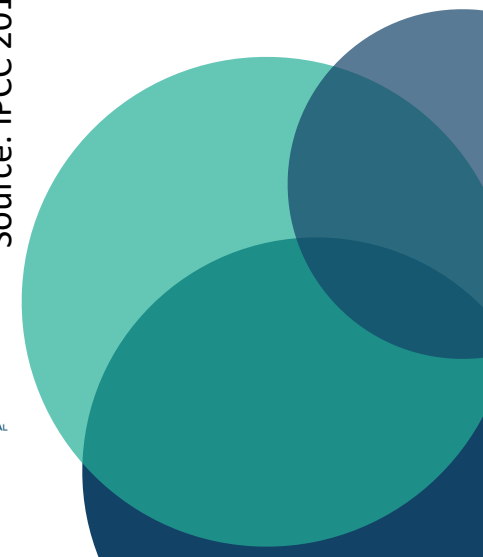


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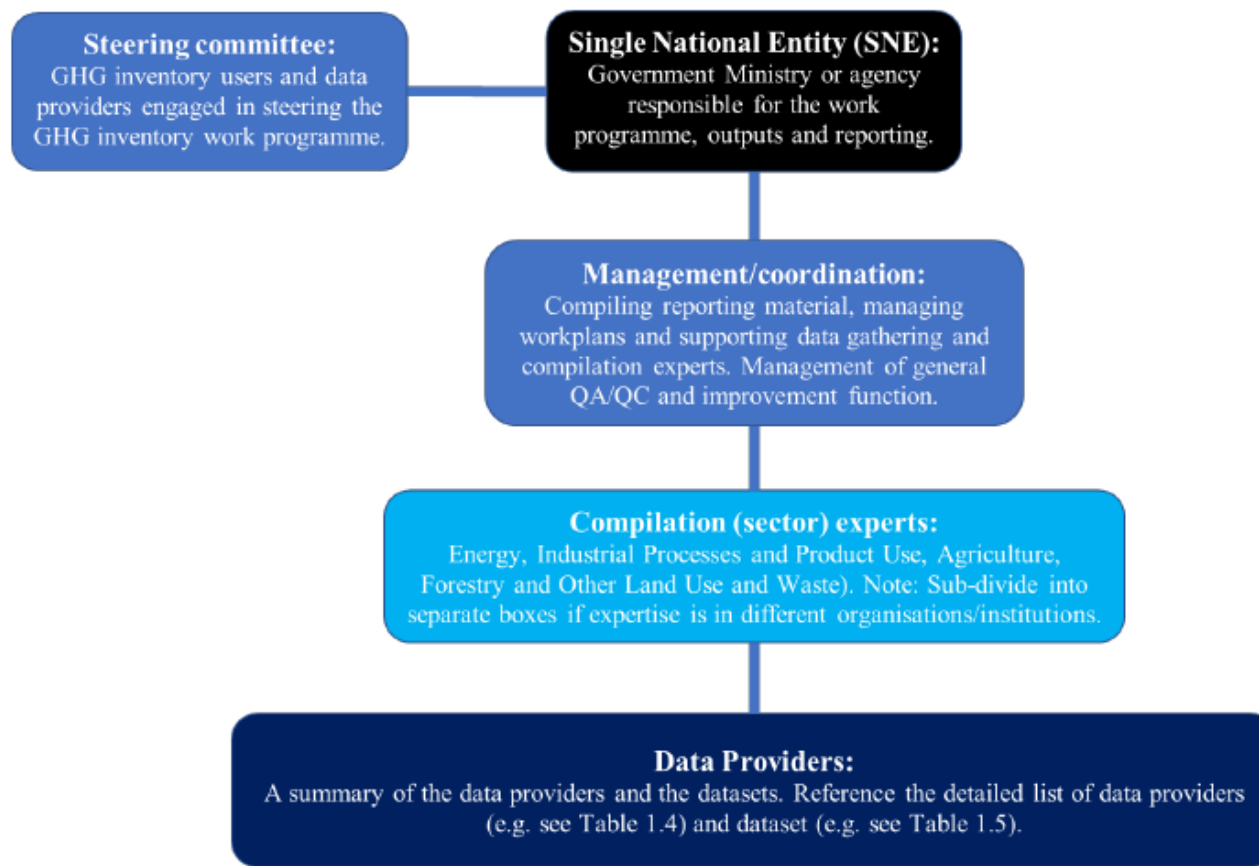
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GHG Inventory Institutional Arrangements Structuring

- The system structure diagram can help to understand and formalize the roles and responsibilities of the institutions involved.
- A diagram can provide an overview of the structure that is easy for the reader to understand.
- The general description of the necessary roles, responsibilities and competencies of the institutions involved should be included in section 1.4.1.3 below.

Figure 1.0 (New) Illustrative example of GHG inventory institutional arrangements structuring⁵



Source: IPCC 2019 Refinement

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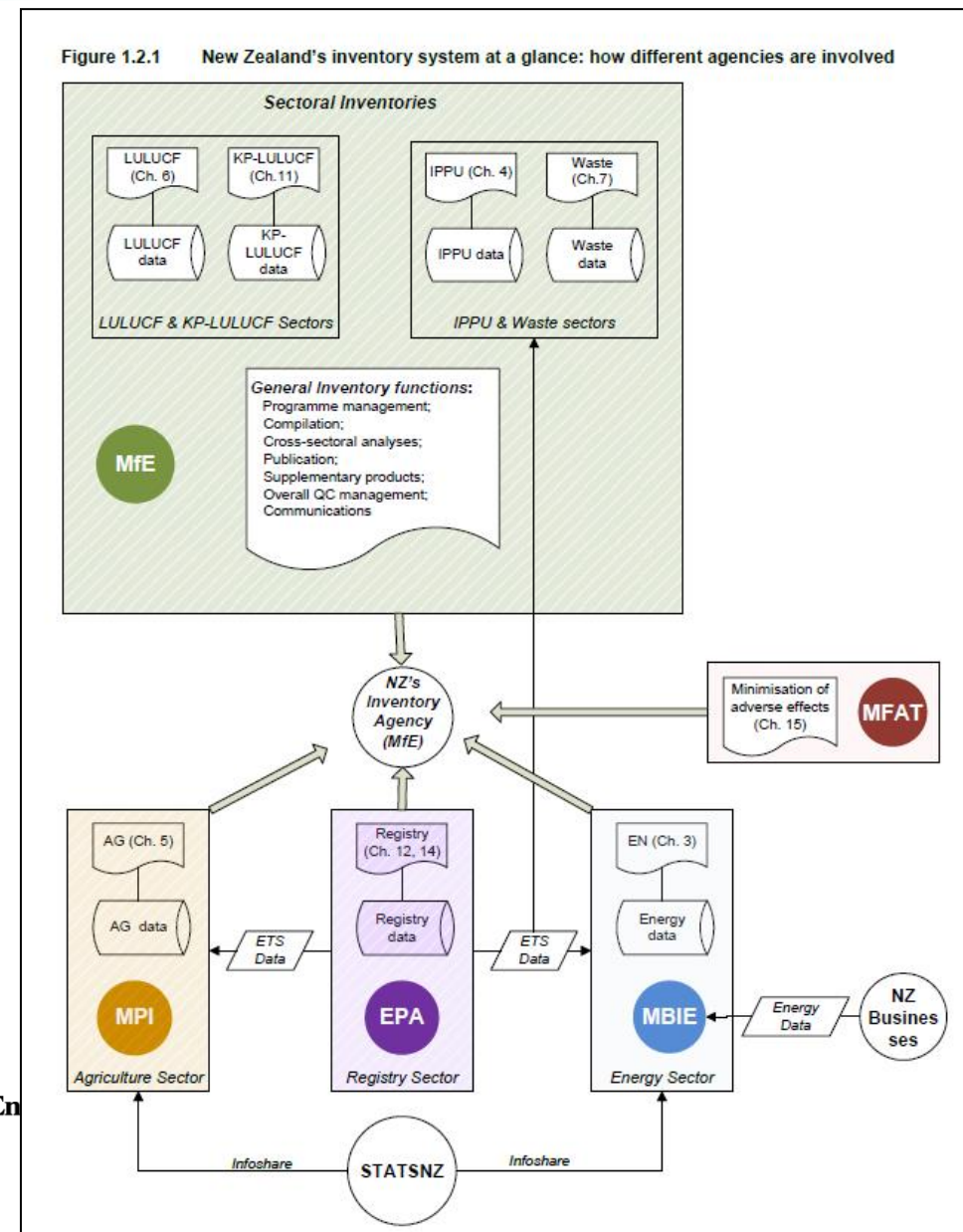
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Structures of National Systems

- In general, national systems require a **coordinating organization** and **implementing organizations**.
- Systems can be structured in a variety of ways:
 - Centralized / decentralized / mixed
 - Internalized / outsourced
 - Single entity / multiple entities
 - Integrated / separate

Source: Ministry for the Environment. 2023. *New Zealand's Greenhouse Gas Inventory 1990–2021*



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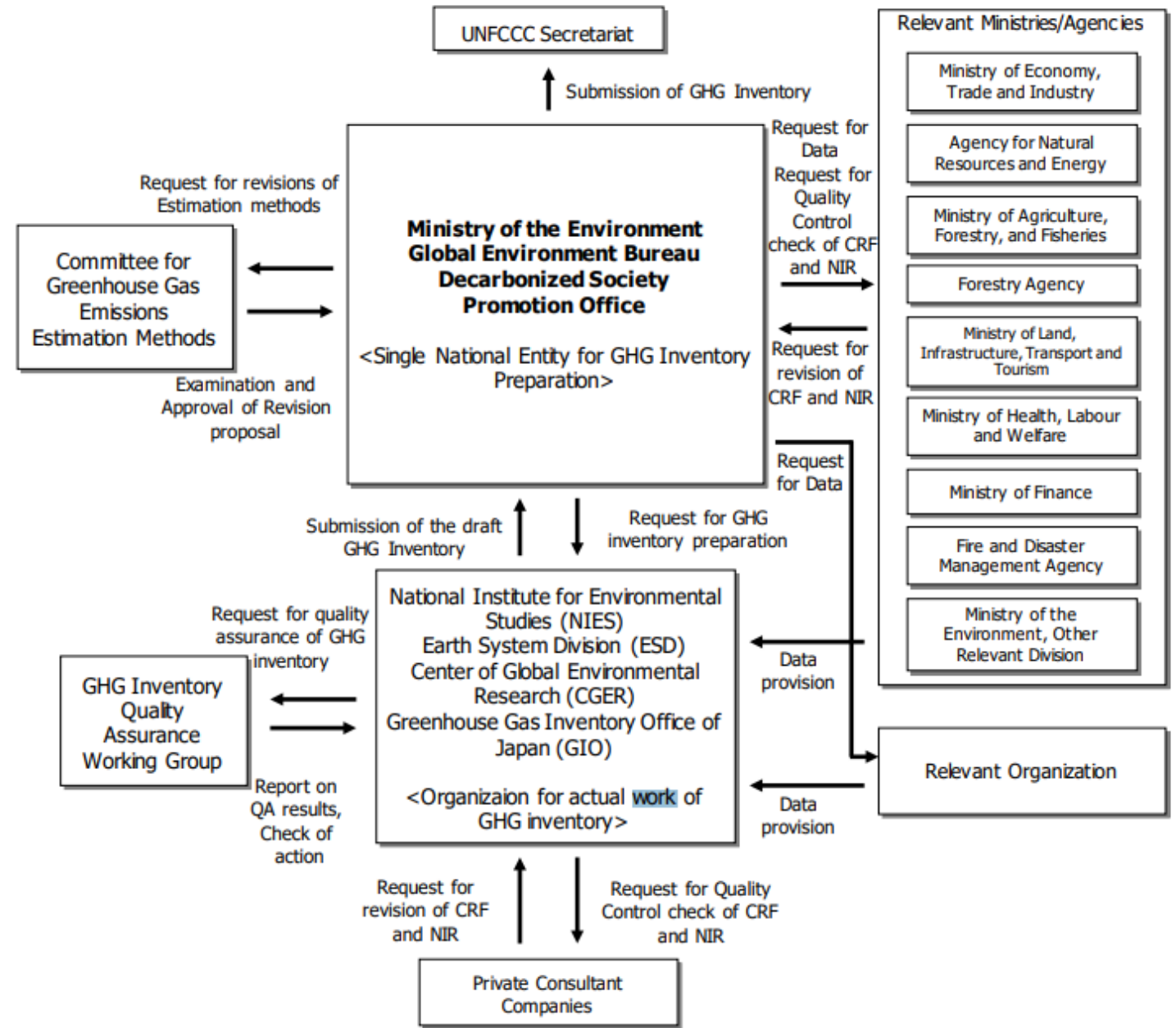


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Example of Japan



Source: Japan NIR 2022

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Figure 1-1 Japan's institutional arrangement for the national inventory preparation

Roles and responsibilities (1/2)

- There are many actors and stakeholders involved in the inputs, processes and results of the inventory.
- In some countries, a single organization can play more than one role.
- Understanding the interests, contributions and involvement of these actors and stakeholders can **help establish a long-term and well-functioning system**.
- Each stakeholder involved in the system may need some type of **terms of reference** to facilitate their participation, which should specify the roles and responsibilities of each party in the system framework and the timeline for carrying out their work.

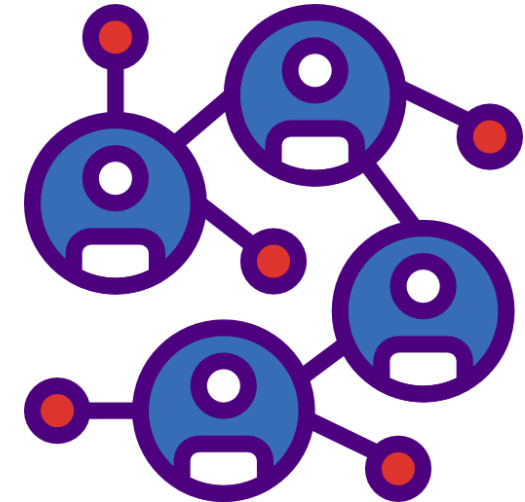


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Roles and responsibilities (2/2)

- It should be made clear that while work is the responsibility of individuals, **it is the institutions/organizations that are ultimately responsible** and therefore they must ensure that staff are properly trained to ensure ongoing work.
- The process of engaging actors and stakeholders is likely to vary across sectors within the country.
- Developing and maintaining lists of stakeholders, their roles, responsibilities, and interests are fairly common, so it suggests implementing this information in a tabular format.

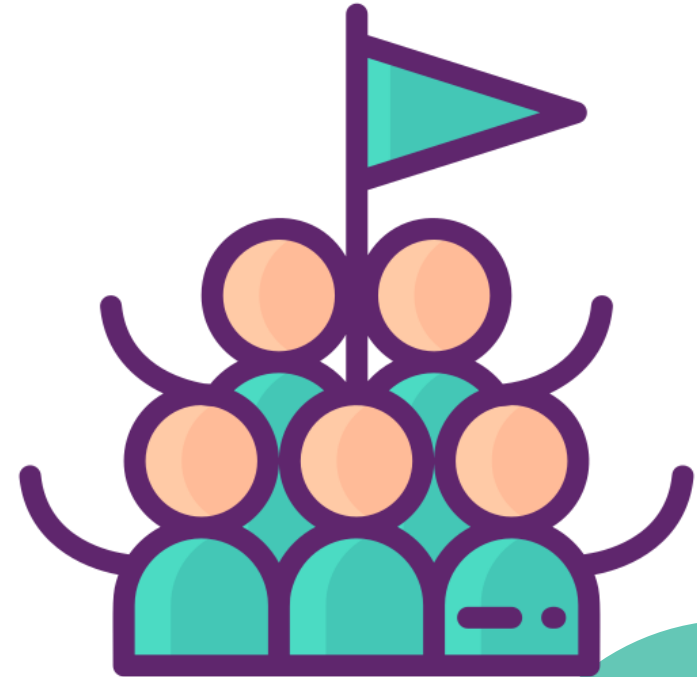


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Example of metadata to document stakeholders

TABLE 1.4 (NEW)
EXAMPLES OF METADATA FOR TRACKING GHG INVENTORY STAKEHOLDERS

1.Name	2.Organisation	3.Contact	4.Mandate	5.Engagement Activities	6.Sector	7.Role

1. **Name:** stakeholders name.
2. **Organisation:** organisation affiliation.
3. **Contact:** contact details.
4. **Mandate:** mandate/terms of reference to contribute to the GHG inventory (if any).
5. **Engagement activities** (Activities that the stakeholder has been regularly involved with e.g. training, workshops, regular meetings attended, data provision etc.).
6. **Sector:** sectors/categories involved with (any particular sector or category involvement).
7. **Role:** type of involvement (e.g. as a data provider, data user, compilation expert, coordinators, data gathering, QA/QC, review, steering committee meetings, training, sectoral workshops, compilation and reporting activities, consultations, and reviews).

Source: IPCC 2019 Refinement

National Coordinating Entity

- The term is commonly used to refer to the **leading organization with the responsibility of submitting** the official inventory.
- It is often aligned or the same organization as the national focal point to the UNFCCC.
- The entity's role is usually assumed by a ministry with a mandate to administer climate change reports.
- A key role within the entity is to **oversee inventory activities**.
- A designated focal point coordinates the activities needed to ensure that products are prepared with sufficient quality to meet country commitments.
- The entity's role is sometimes delegated by a ministry to a climate change, environmental or statistical agency with the technical capacity to prepare national reports.

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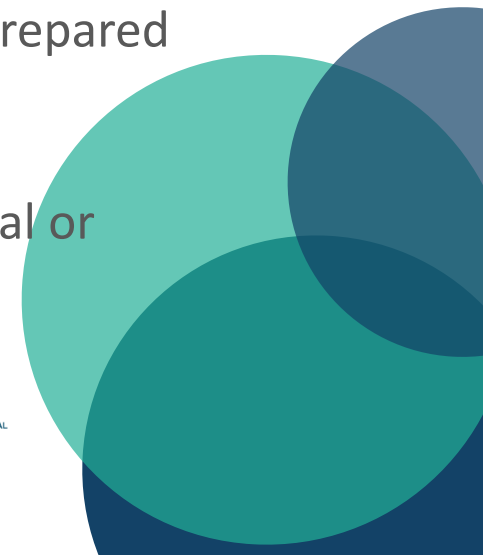
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Steering Committee and/or Working Groups

- Countries may find it useful to establish a working group or steering committee to participate in the process of approving inventory developments and estimates.
- This group includes those actors or stakeholders within the inventory approval process.
- The group may consist of actors and stakeholders **representing political decision-makers and data providers**.
- The establishment of a group or committee could provide the national entity with a space to coordinate and communicate inventory activities and ensure independent data provision and analysis.
- Finally, this stakeholder group can also be convened to support the prioritization and implementation of inventory enhancements.

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Inventory Coordinator

- This section should include a description of the inventory coordinating entity, only if this entity is different from the national entity.
- Some types of institutions that could serve as inventory coordinators include:
 - Ministries
 - National institutes or agencies
 - Private companies
 - Universities
 - Other nongovernmental organizations

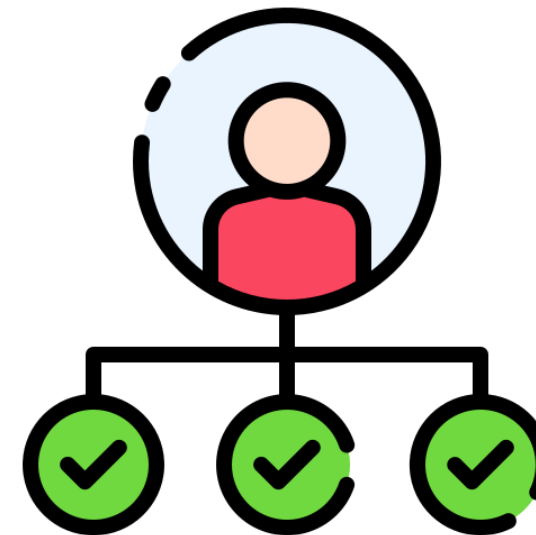


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Sectoral Technical Experts

- They are those teams that **develop specific sectors or categories** within the inventory.
- These teams are required to understand the requirements for inventory quality, IPCC methods, inventory processes, and national data sets.
- It is advantageous for experts to have a clear understanding of the international reporting and review processes to the UNFCCC that can be developed through participation in peer review activities.
- **Depending on national circumstances**, sectoral technical teams could be in the same national entity or in other organizations, universities, institutes or agencies.

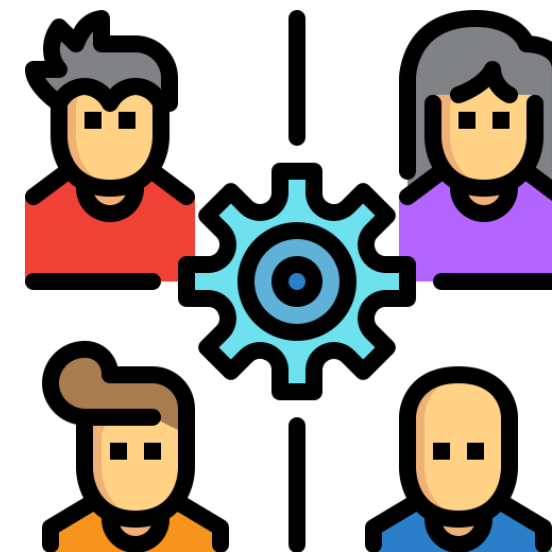


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Data Providers

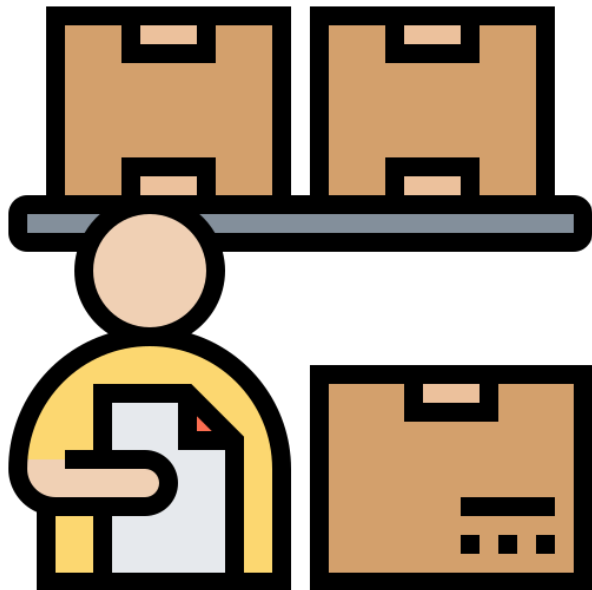


Image: Flaticon.com

- Data providers are all those organizations that **generate and provide data for inventory**, directly or indirectly.
- Their roles and responsibilities must be documented.
- Where possible, formal agreements should be established with them.
- These organizations do not have direct involvement in compiling the inventory, but given their relevance, they are of importance to the system.

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Dataset and its flow

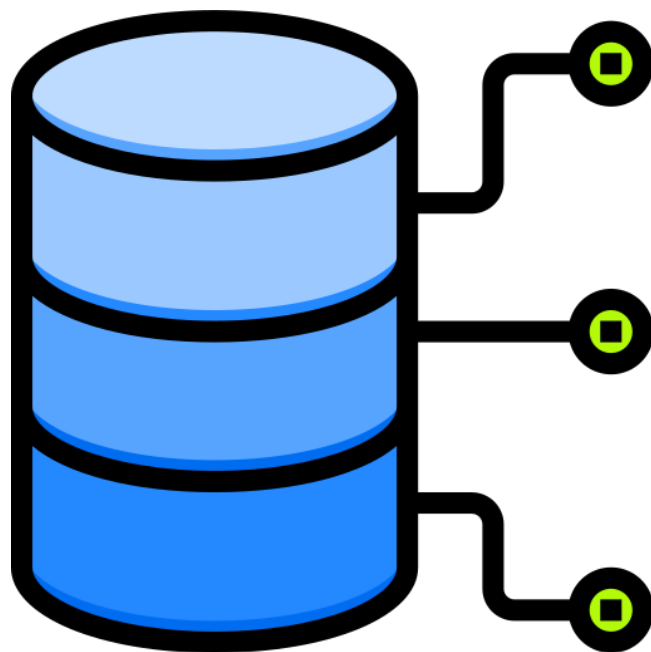


Image: Flaticon.com

- There are numerous datasets for inventory development and many data providers that provide them.
- A **diagram of the data flow** from the initial data collection to the final report should be included, in addition to the documents and data providers most important to the inventory compilation process.
- More detailed data flows for specific data sets, sectors or categories can help **document the process, improve transparency and build institutional memory.**

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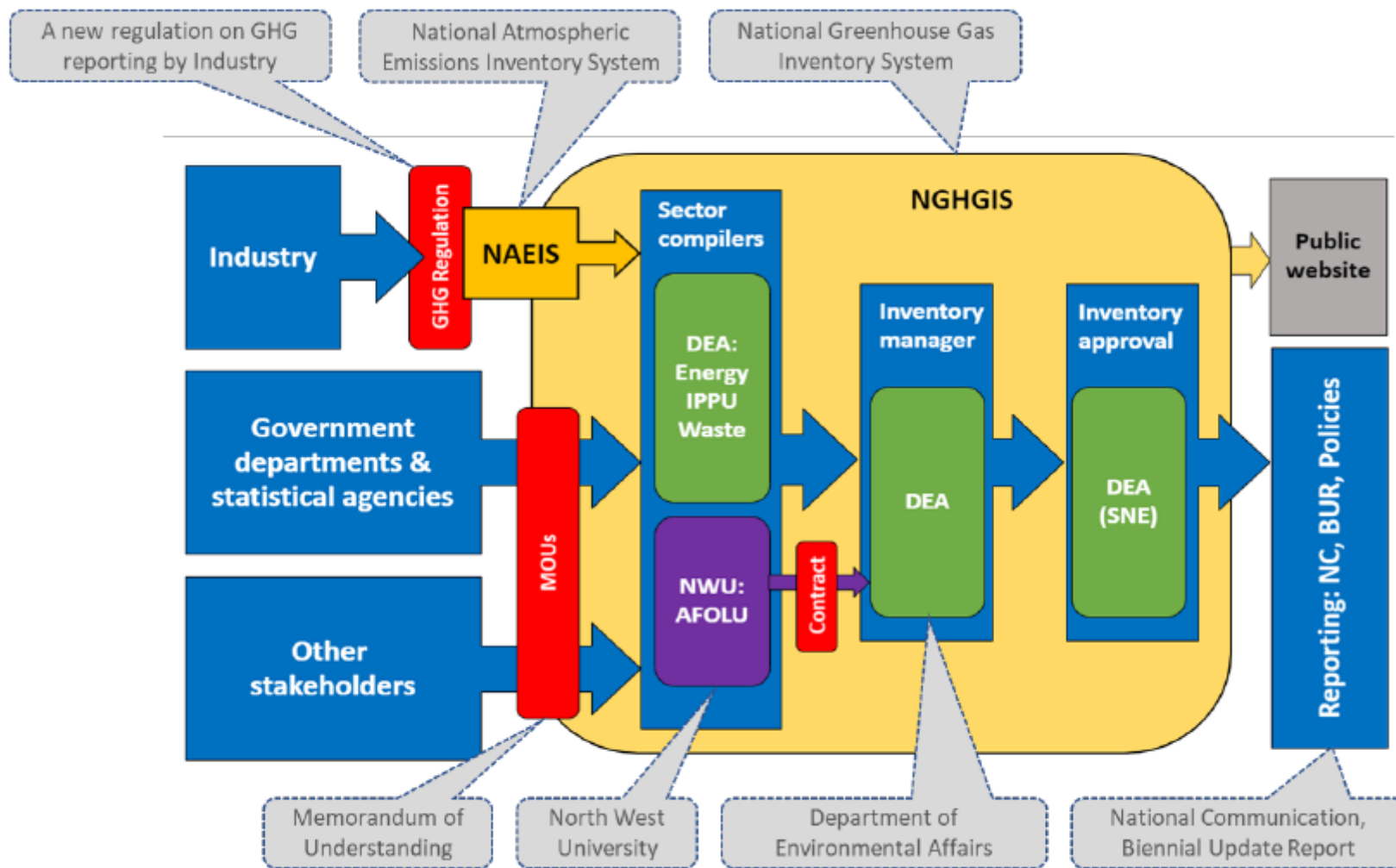
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Example of Dataset flow Diagram



Source: South Africa National GHG Inventory Report (2017)

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Agreements with Data Providers

- A **data provision agreement** defines what data, from whom, to whom and when will be provided for inventory compilation. Ideally, it is organized between the national entity and the data providers.
- An agreement can be **beneficial for both the inventory compilers and the data providers themselves**, ensuring data provision in the future.
- An agreement can help data provider organizations by **establishing a formal recognition** that can promote allocation resources within the same organization to deliver high-quality data on time.
- There are many formats of agreements. Where national laws exist for the provision of data, they may be referred to. Where data provision is less formal, agreements may act as an informal agreement between the parties.

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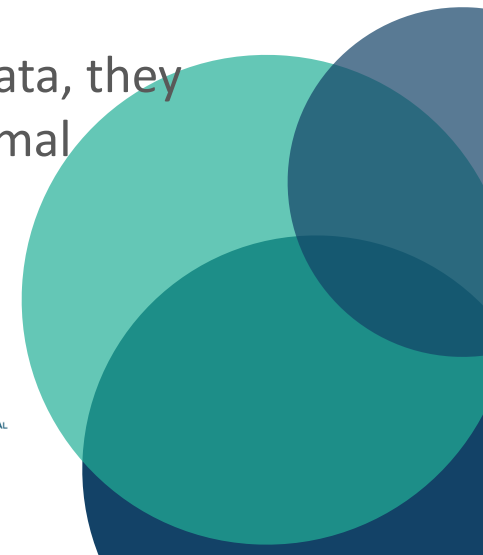
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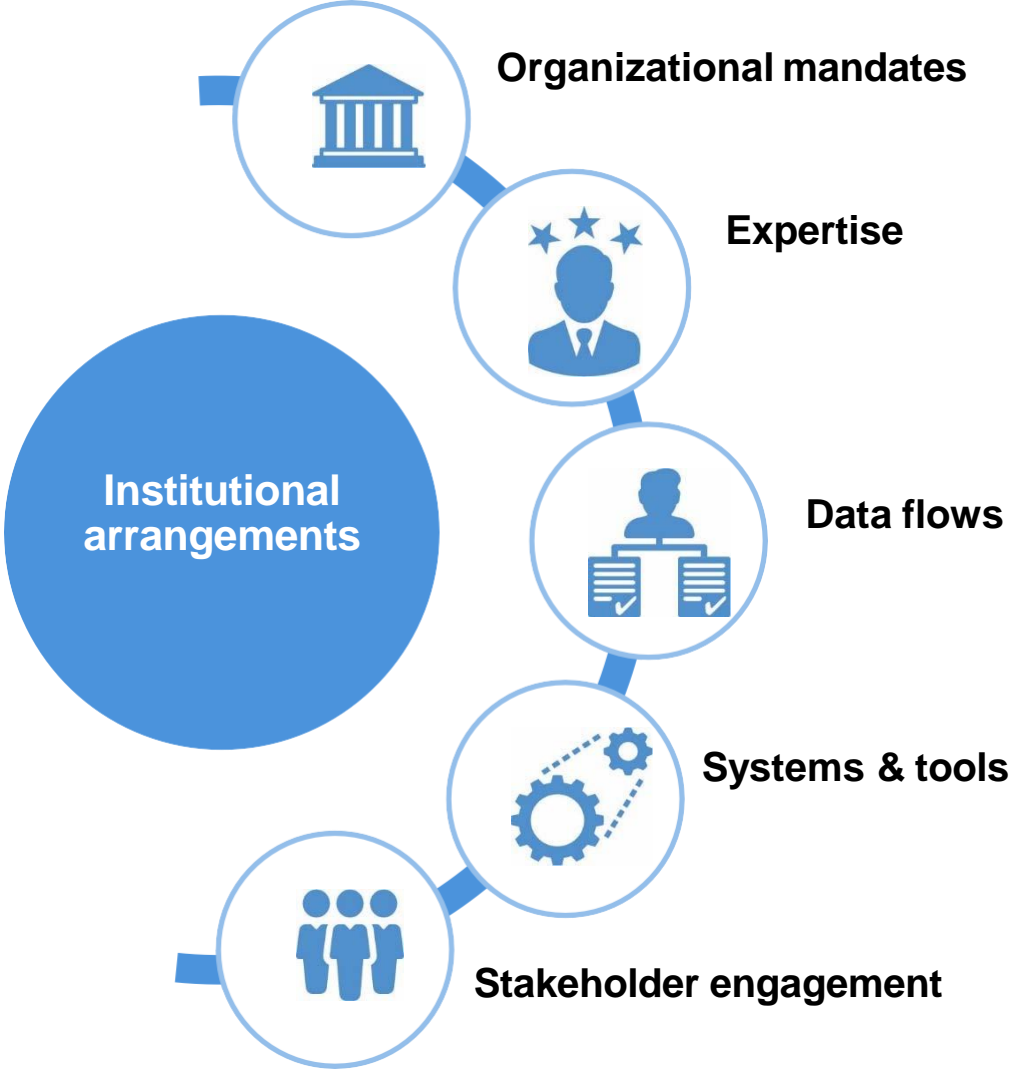
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Key Components of Institutional Arrangements



- These components span a range of organizations (government, academia, private sector, etc.)
- Developing these components is a process of continual, gradual improvement tracked through a well-developed improvement plan.

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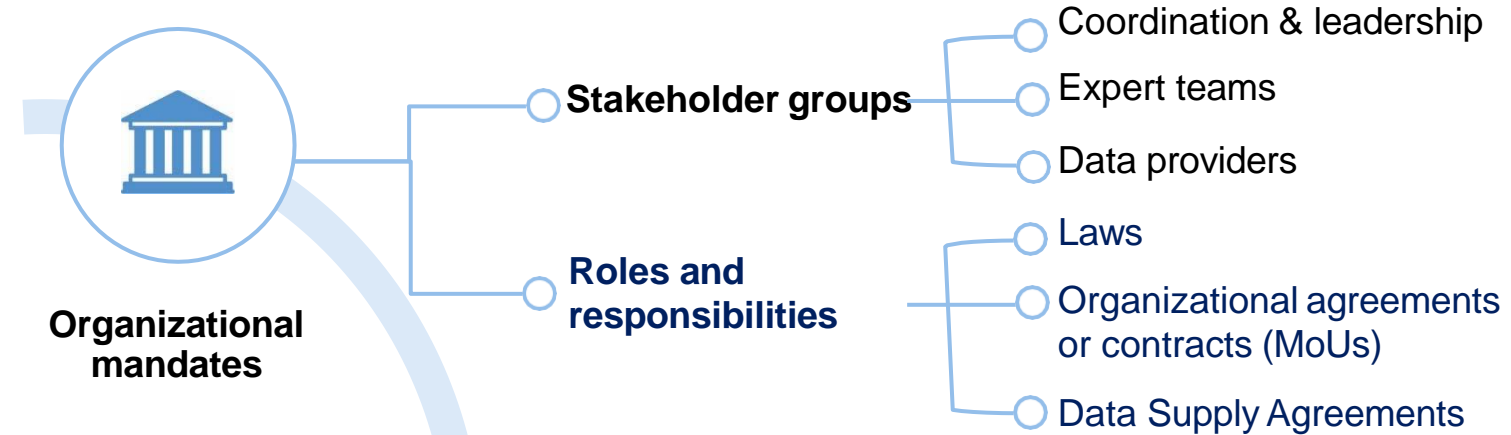


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Organizational Mandates



- There are many actors and stakeholders involved in the inputs, processes and results of the inventory.
- In some countries, a single organization can play more than one role.
- Understanding the interests, contributions and involvement of these actors and stakeholders can help establish a long-term and well-functioning system.
- Specify the roles and responsibilities of each stakeholder and the timeline for carrying out their work.

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Experts



- A team of *national* experts that:
 - Are capable of *regularly* gathering and processing data;
 - Have suitable expertise and access to relevant training materials;
 - Progressively rely less on external consultants;
- Effective recruitment, retention and succession procedures should be put in place (i.e. to buffer high turnover);
- These aspects depend on suitable organizational mandates

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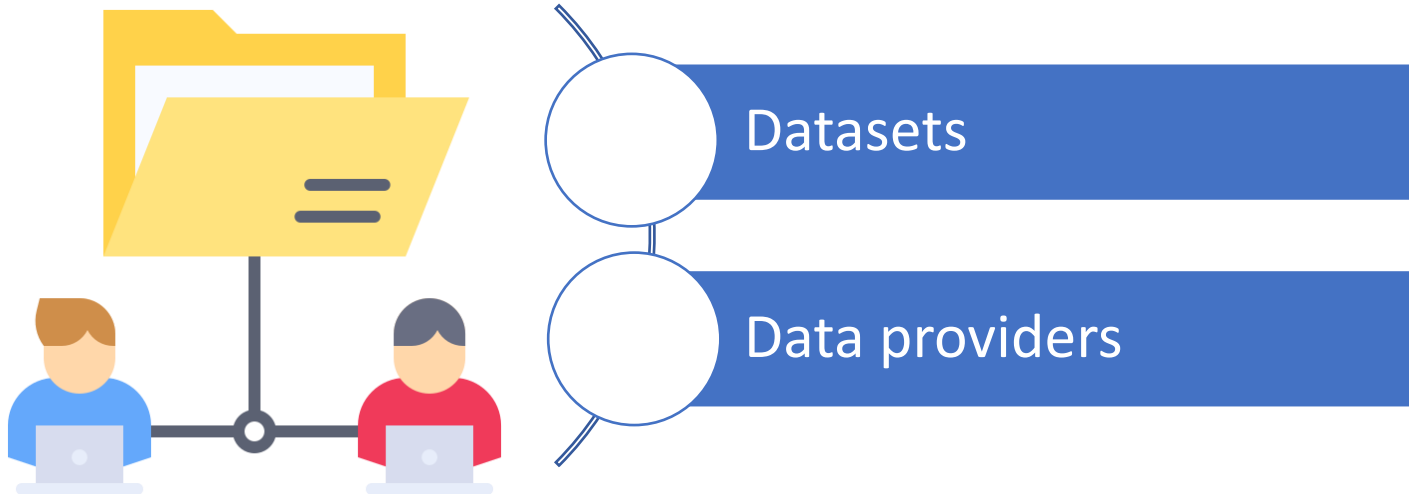
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Data Flows



- Reliable, regular data flows are essential that;
 - Define data needs and data uses;
 - Manage the delivery of the required datasets from a range of data providers on a regular basis;
 - Continuously improve data and reducing uncertainty.

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Systems and Tools



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Stakeholder Engagement



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