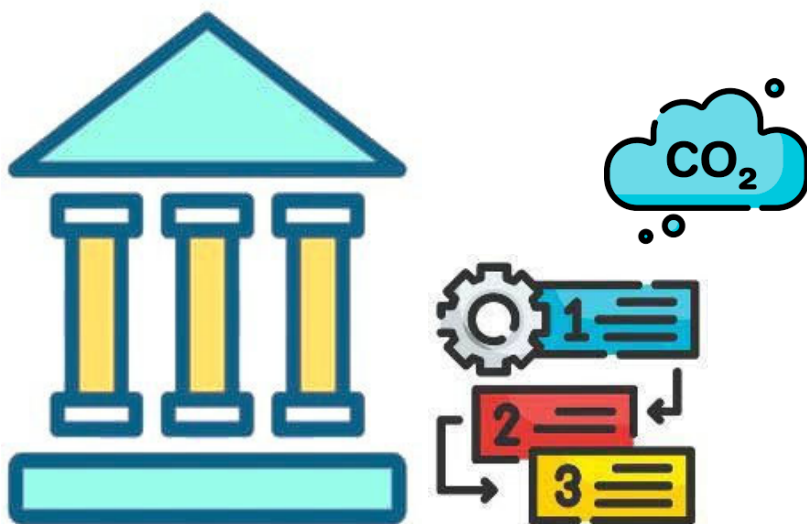


Capacity Building program for Indian Experts on National Greenhouse Gas Inventory preparation as per the ETF Guidelines



Institutional Arrangement for National GHG Inventory

Jaypalsinh Chauhan

Asia Transparency Network Coordinator

25 April 2024

*Organized by the Capacity Building Initiative for Transparency
Global Support Programme (CBIT-GSP)*

ipcc
INTERGOVERNMENTAL PANEL ON climate change





copenhagen
climate centre

Contents

1. Introduction to the institutional arrangement
2. Overview of the current institutional arrangement of India for managing and overseeing emissions reporting
3. Discussion on roles and responsibilities of key stakeholders

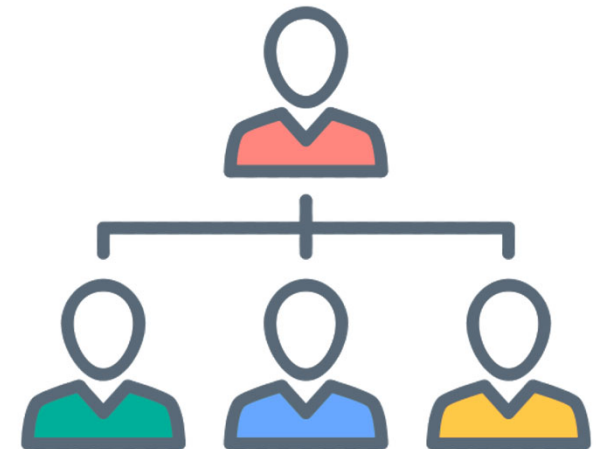


copenhagen
climate centre

1. Introduction to the institutional arrangement

What are Institutional Arrangements?

- They are formal or informal **institutional**, **legal** and **procedural** agreements between the lead inventory agency, national inventory management team, and other institutions.
- They are specific to the **circumstances of each nation**.
- They define the **responsibilities** associated with preparing the national inventory, including which **agencies and experts** will **provide data**.



National Arrangements - Goals

- Ensure that the inventory process is based on relevant COP decisions:
 - ❖ **Decision 17/CP.8** on the guidelines for non-Annex I Party national communications
 - ❖ Other relevant COP decisions and SBSTA/SBI conclusions.
- Ensure that **nationally appropriate procedures** for collecting, processing, communicating and archiving inventory data and information are in place.
- Ensure **coordination** among all relevant government departments, national agencies, academia, research community and other stakeholders.
- Ensure the **quality** of the inventory data.

Why do Institutional Arrangements matter for GHG Inventories?



They help a Party meet its reporting requirements under the Convention and the Paris Agreement by ensuring that GHG inventories are prepared in accordance with the relevant COP/CMA decisions.



CBIT-GSP
CLIMATE TRANSPARENCY



UN
environment
programme

UN
environment
programme

copenhagen
climate centre

Relevant CoP/CMA decisions

[Decision 18 / CMA.1 adopted common Modalities, Procedures and Guidelines \(MPGs\) for the transparency framework for action and support referred to in Article 13 of the Paris Agreement](#)



✘ **MPGs, para. 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”.

What are the Major Benefits of Institutional Arrangements?



Provide **structure and confidence** in the inventory process.



Designate **agency or person responsible**, so inventory preparers can be confident that data is available.



Clarify **roles and responsibilities** early in the process. The Inventory team knows who will do what and who will lead.



What are National Arrangements for?

- Help each Party meet reporting requirements by ensuring that the GHG inventory is prepared in accordance with the relevant COP decisions (e.g., 17/CP.8, 18/CMA.1, 5/CMA.3).
- To ensure continuity through the development of national capacities and capabilities
- To ensure the sustainability of the GHG preparation process:
 - ❖ Will also help with the regular preparation of biannual reports in accordance with relevant decisions under the UNFCCC process.
- To inform international, national and local policy making.
- To foster consistent estimation approaches across government agencies and offices.
- To coordinate responses to requests for information.
- To ensure high quality and objective inventory information.

Who cares?



□ A wide audience of stakeholders...

- ❖ Decision makers and policy advisors
- ❖ International climate change community
- ❖ Provincial and local agencies
- ❖ The public and interest groups (e.g., NGOs)
- ❖ Businesses
- ❖ Scientists.



National Government



copenhagen
climate centre

- What are the main **drivers of emissions** and removals?
- What are the **uncertainties** and **reliability** of the GHG estimates?
- What are the past **trends of emissions** and **removals** (nationally and from individual activities)?
- What are the effects of existing or planned policies and measures (including policies that may aggravate emissions)?
- Is there consensus among government agencies and key stakeholders on our emission estimates?



Other Stakeholders



CBIT-GSP
CLIMATE TRANSPARENCY



UN environment
programme

UN environment
programme

copenhagen
climate centre

□ International community:

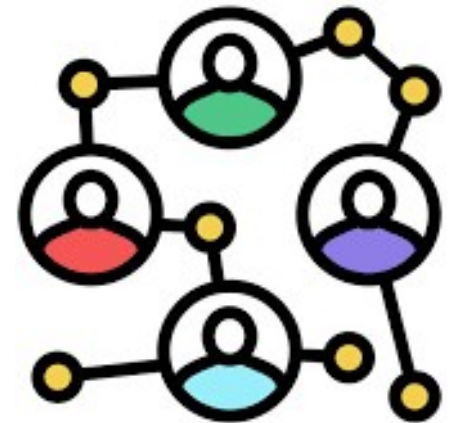
- ❖ Are your GHG estimates credible and transparent?
- ❖ Does your GHG inventory fulfil the reporting requirements of the UNFCCC?

□ Businesses and NGOs:

- ❖ How to quantify and get credit for activities that reduce emissions or sequester carbon?
- ❖ What activities, industries, companies or policies have been responsible for significant increases or decreases in GHG emissions or removals?

□ Scientists:

- ❖ Where does our country lack information to support political decisions?
- ❖ What are the priorities for research and measurement?
- ❖ What are the scientific uncertainties in the emission and sink estimates?



Inventory Management System

□ Three key stages:

- ❖ **Planning**
- ❖ **Preparation** (e.g., data collection and GHG estimation)
- ❖ **Management** (cross-cutting issues, reporting, documenting, archiving).



Inventory Planning



copenhagen
climate centre

- **Identify all institutions to be involved:**
 - ❖ Appoint national inventory agency
 - ❖ Allocate responsibilities for inventory preparation and management
 - ❖ Define formal approval process within government.

- **Develop schedule:**
 - ❖ Timeframe and specific milestones
 - ❖ Make arrangements to collect data from statistical agencies, companies, industry associations, etc.

- **Create QA/QC plan.**

- **Integrate continuous improvement.**



Planning arrangements for inventory compilation



CBIT-GSP
CLIMATE TRANSPARENCY



UN
environment
programme

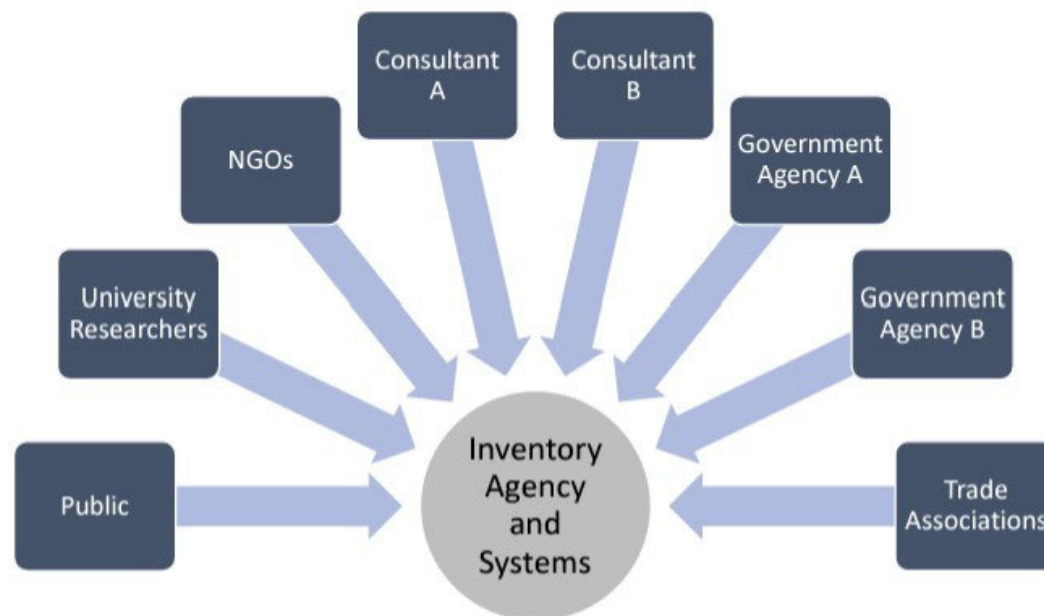
UN
environment
programme

copenhagen
climate centre

Requirement of Institutional Arrangement pops up under **planning stage (planning arrangements)** of the GHG Inventory Compilation Cycle.

- 1. Determine Lead Agency/ National Focal Point:** oversees planning, compilation of report, review, documentation.
- 2. Identify/Establish arrangements:** between coordination agency and data institutions, such as universities.
- 3. Gather Inventory compilers:** team of experts that are within a specific ministry, are consultants, etc.

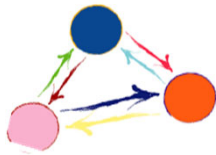
Planning should include **identifying the arrangements** (e.g. Memorandum of Understanding, letters, etc.) required to clearly articulate roles/ responsibilities and the anticipated flow of information



Functions of Sustainable Institutional Arrangement



Other key points



- Institutional arrangements include the interactions between organisations that are involved with the GHG inventory inputs, compilation processes, and outputs.
- This could include environment, energy, transport, agricultural, and statistical ministries and/or agencies, academic/research institutions, private organisations and career experts and consultants.
- Countries may also consider the need for new or modified laws or directives establishing requirements for data collection, archiving, reporting, and quality management to formalize institutional arrangements for national GHG inventory compilation in the context of existing national statistical data collection systems.
- A sustainable process for compilation and continuous improvement is an important aspect of institutional arrangements.

What should you be aware of?



Conflicts of Responsibility

- multiple people/agencies assigned the same task



Unassigned Responsibility

- an inventory function is not assigned to a ministry or staff member at all

GHG Inventory Agency: Responsibilities



copenhagen
climate centre

□ **A single national entity to be responsible for the overall inventory, to:**

- ❖ **Arrange with collaborating entities** that contribute data, research, estimate emissions or provide expert reviews
- ❖ **Act as the legal authority** to collect and disseminate data necessary for the preparation of the inventory
- ❖ **Ensure inventory processes** are in compliance with COP decisions
- ❖ **Define and apply procedures** for collecting data, preparing inventory, communicating results, submitting report and archiving
- ❖ **Liaise** among government departments, national agencies
- ❖ **Ensure the implementation of QA/QC.**



GHG Inventory Preparation



CBIT-GSP
CLIMATE TRANSPARENCY

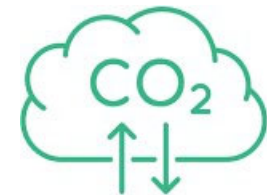


UN 
environment
programme

UN 
environment
programme

copenhagen
climate centre

- Identify **key categories** and significant subcategories (see IPCC good practice guidance (2000) chapter 7 and IPCC good practice guidance (2003) chapter 5).
- Select **methods** and **emission factors** (GPG decision trees at sector category level).
- Collect **activity data** (both statistical and parametric).
- Manage **recalculations** (if needed) (see IPCC good practice guidance (2000) chapter 7 and IPCC good practice guidance (2003) chapter 5).
- Implement **QA/QC plan**: (see IPCC good practice guidance (2000) chapter 8 and IPCC good practice guidance (2003) chapter 5)
 - ❖ **Basic checks** should be completed on entire inventory (Tier 1)
 - ❖ **More in-depth investigations** into key categories (Tier 2).
- Documentation.



GHG 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.**





copenhagen
climate centre

3. Discussion on roles and responsibilities of key stakeholders

Possible structure for GHG inventory team



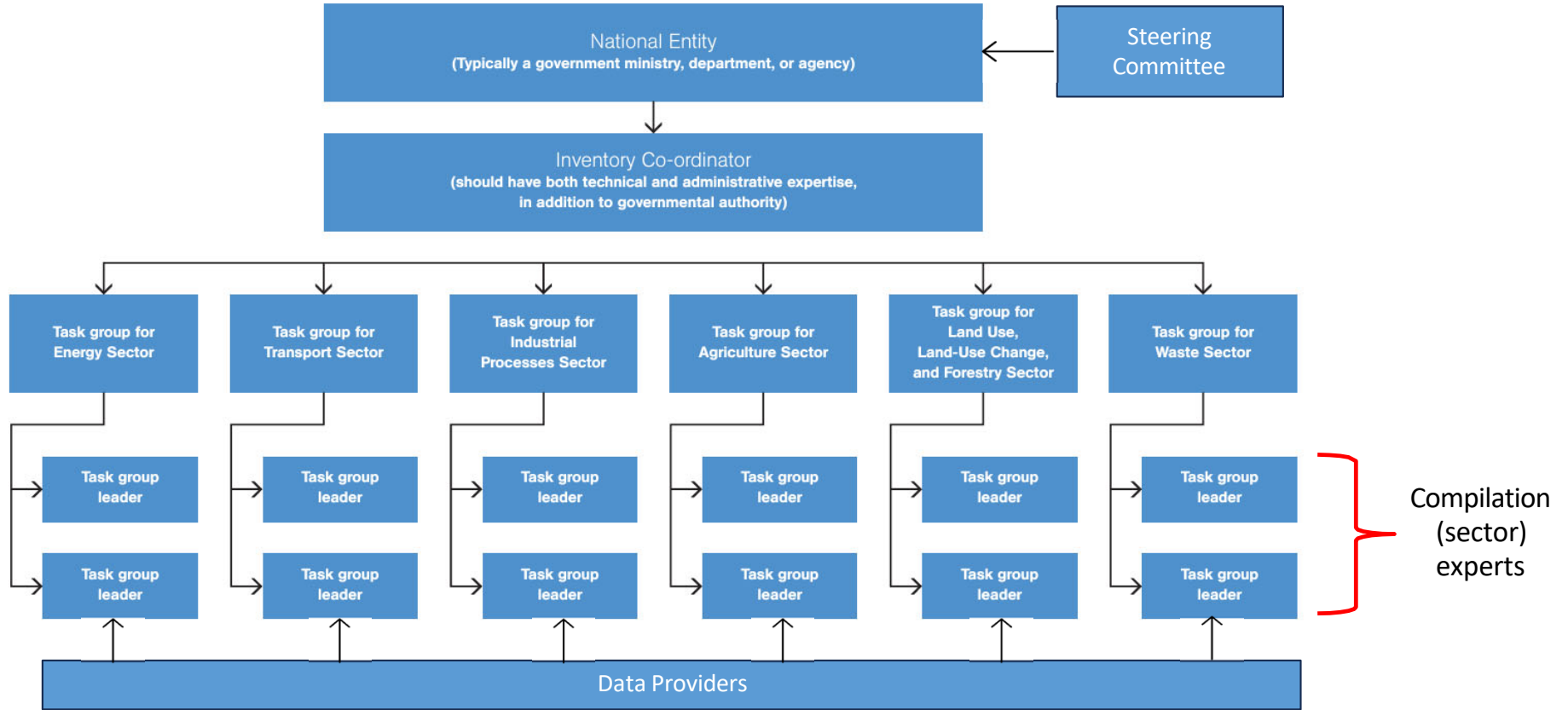
CBIT-GSP
CLIMATE TRANSPARENCY



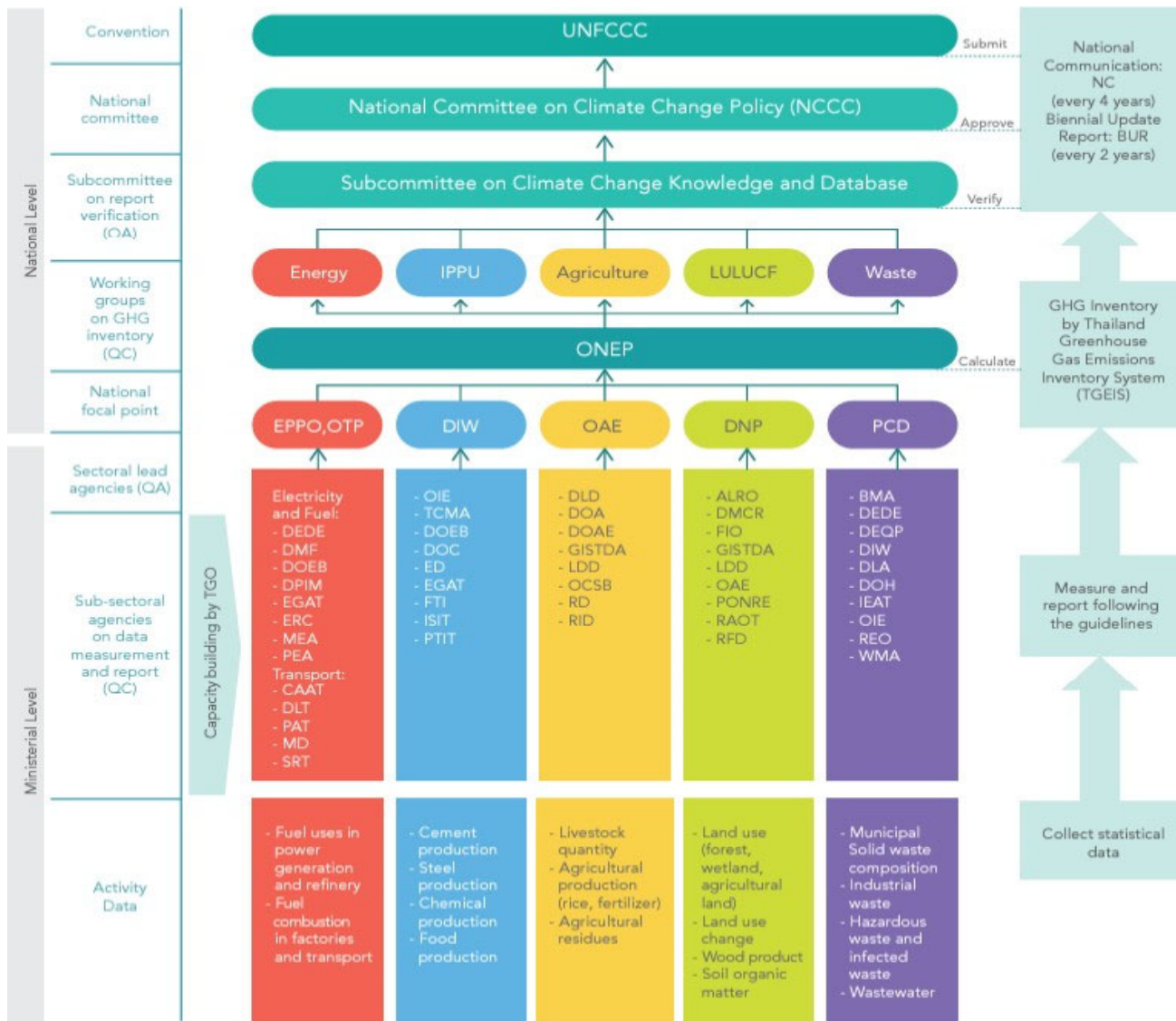
UN
environment
programme

UN
environment
programme

copenhagen
climate centre



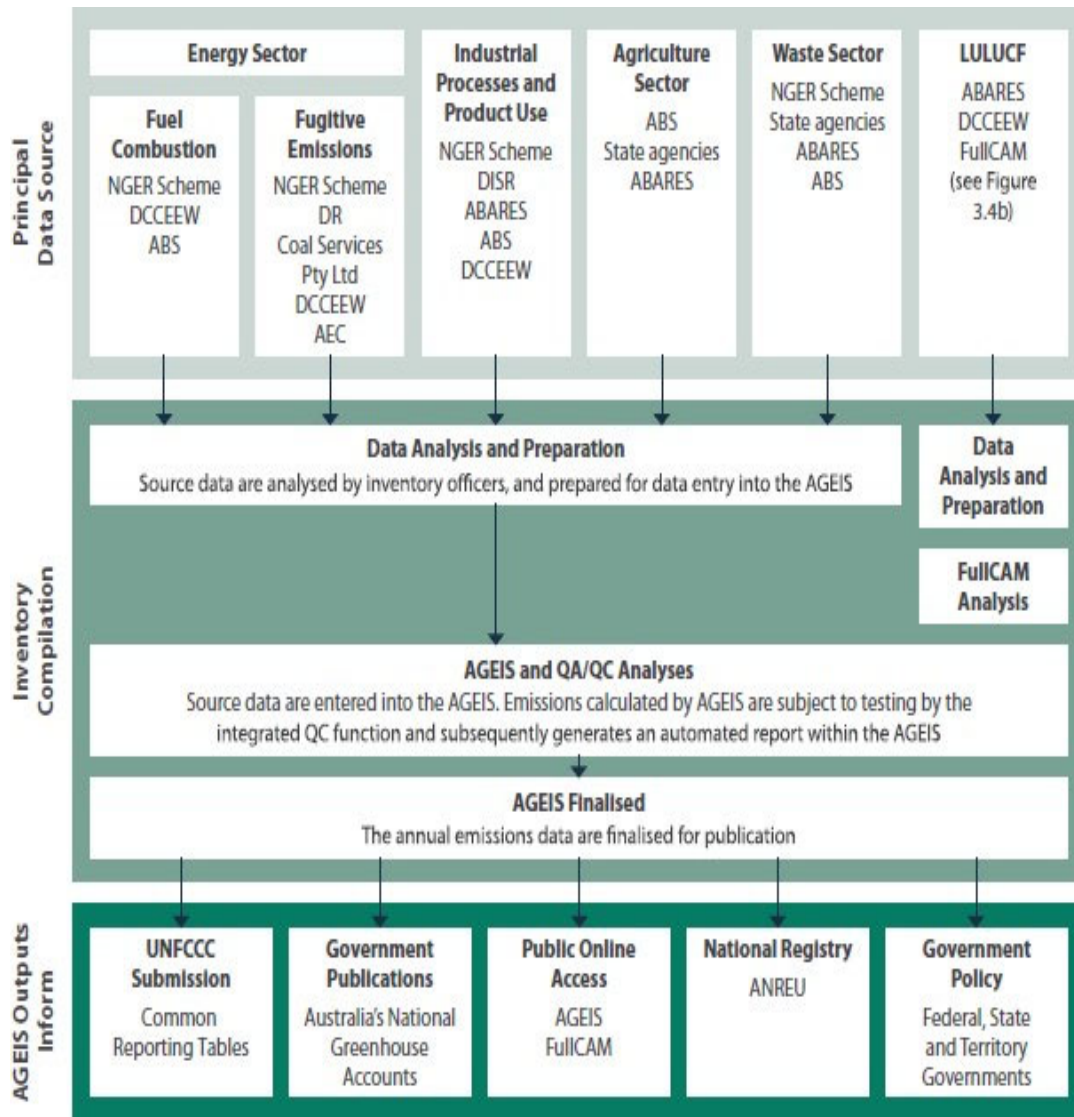
***There are numerous approaches other than use of a Steering committee that can bring outside input into the GHG inventory process, such as through a public review period for the GHG inventory.



Example:

Institutional Arrangements for National GHG Inventory preparation in Thailand

- ALRO = Agricultural Land Reform Office
- BMA = Bangkok Metropolitan Administration
- CAAT = The Civil Aviation Authority of Thailand
- DEDE = Department of Alternative Energy Development and Efficiency
- DEQP = Department of Environmental Quality Promotion
- DIW = Department of Industrial Works
- DLD = Department of Livestock Development
- DLA = Department of Local Administration
- DLT = Department of Land Transport
- DMCR = Department of Marine and Coastal Resources
- DMF = Department of Mineral Fuels
- DNP = Department of National Parks, Wildlife and Plant Conservation
- DOA = Department of Agriculture
- DOC = Department of Customs
- DOAE = Department of Agricultural Extension
- DOEB = Geo-Informatics and Space Technology Development Agency
- DOH = Iron and Steel Institute of Thailand
- ED = Land Development Department
- EGAT = Marine Department
- EPPO = Metropolitan Electricity Authority
- ERC = Office of Agricultural Economics
- FIO = Office of the Cane and Sugar Board
- FTI = The Office of Industrial Economics
- GISTDA = The Office of Transport and Traffic Policy and Planning
- ISIT = Port Authority of Thailand
- LDD = Pollution Control Department
- MD = Provincial Electricity Authority
- MEA = Provincial Offices of Natural Resources and Environment
- OAE = Petroleum Institute of Thailand
- OCSB = Rubber Authority of Thailand
- OTF = Rice Department
- PAT = Regional Environment Office
- PCD = Royal Irrigation Department
- PEA = Royal Forest Department
- PONRE = State Railway of Thailand
- PTIT = Thai Cement Manufacturers Association
- RAOT = Wastewater Management Authority
- RD =
- REO =
- RID =
- RFD =
- SRT =
- TCMA =
- WMA =



CBIT-GSP
CLIMATE TRANSPARENCY



UN
environment
programme

UN
environment
programme

copenhagen
climate centre

Example:

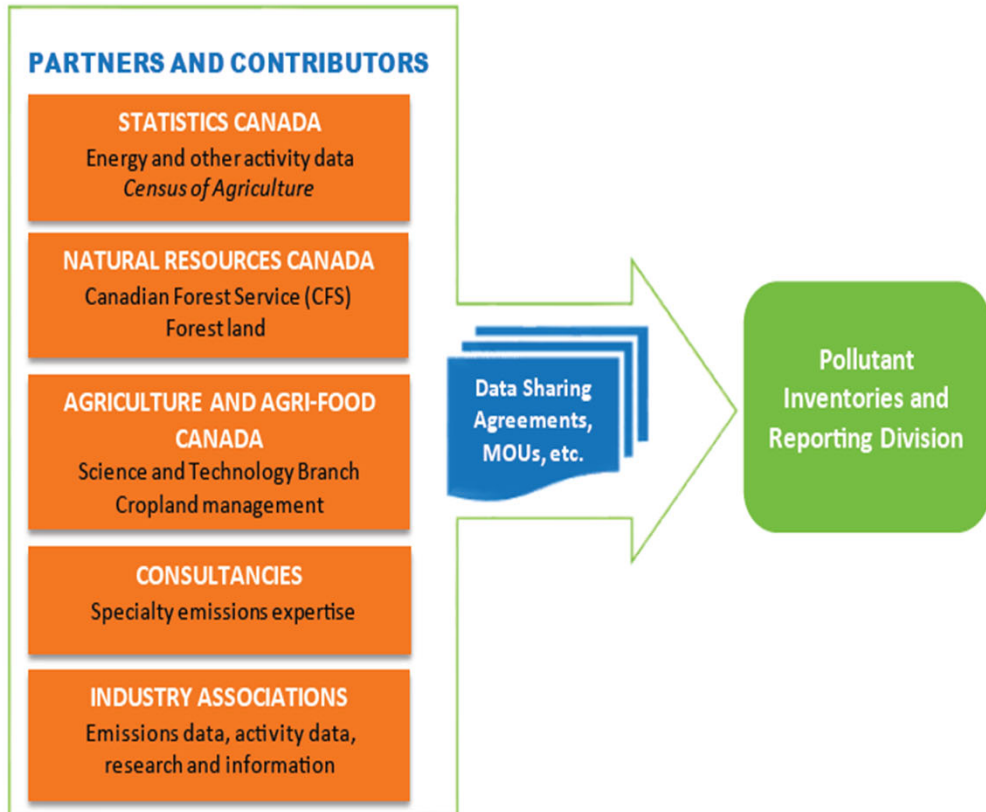
Institutional Arrangements for National GHG Inventory preparation in **Australia**

Department of Climate Change, Energy, the Environment and Water inventory asset structures and relationship

Acronym Key

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences	DCCEEW	Department of Climate Change, Energy, the Environment and Water
ABS	Australian Bureau of Statistics	DISR	Department of Industry, Science and Resources
AEC	Australian Electoral Commission	DR	Department of Resources (Queensland)
AGEIS	Australian Greenhouse Emissions Information System	FullCAM	Full Carbon Accounting Model
ANREU	Australian National Registry of Emissions Units	LULUCF	Land use, land use change and forestry
Bureau	Bureau of Meteorology	NGER	National Greenhouse and Energy Reporting
CRC	Cooperative Research Centres	QA	Quality assurance
		QC	Quality control

Partners in and Contributors to National Inventory Arrangements



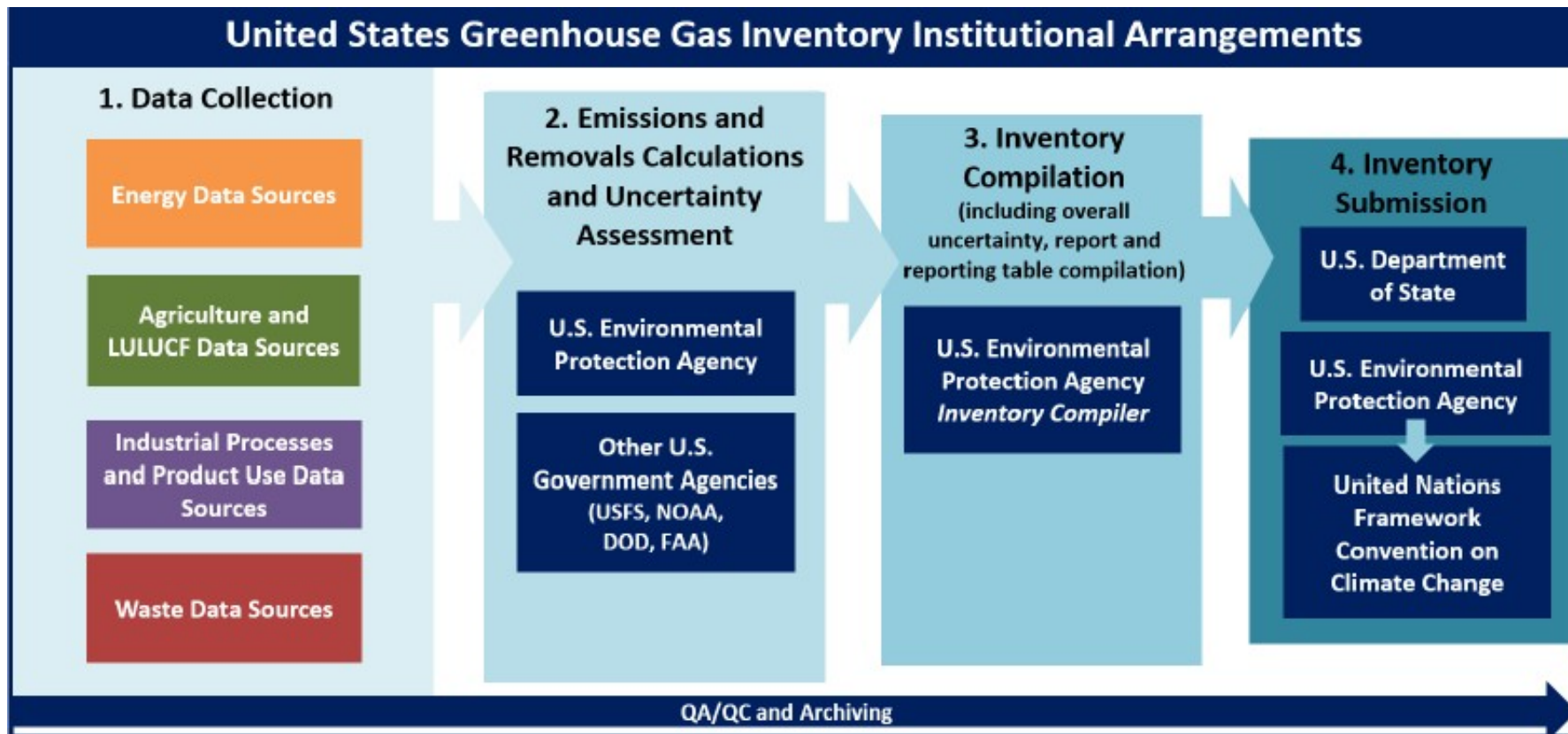
Example:

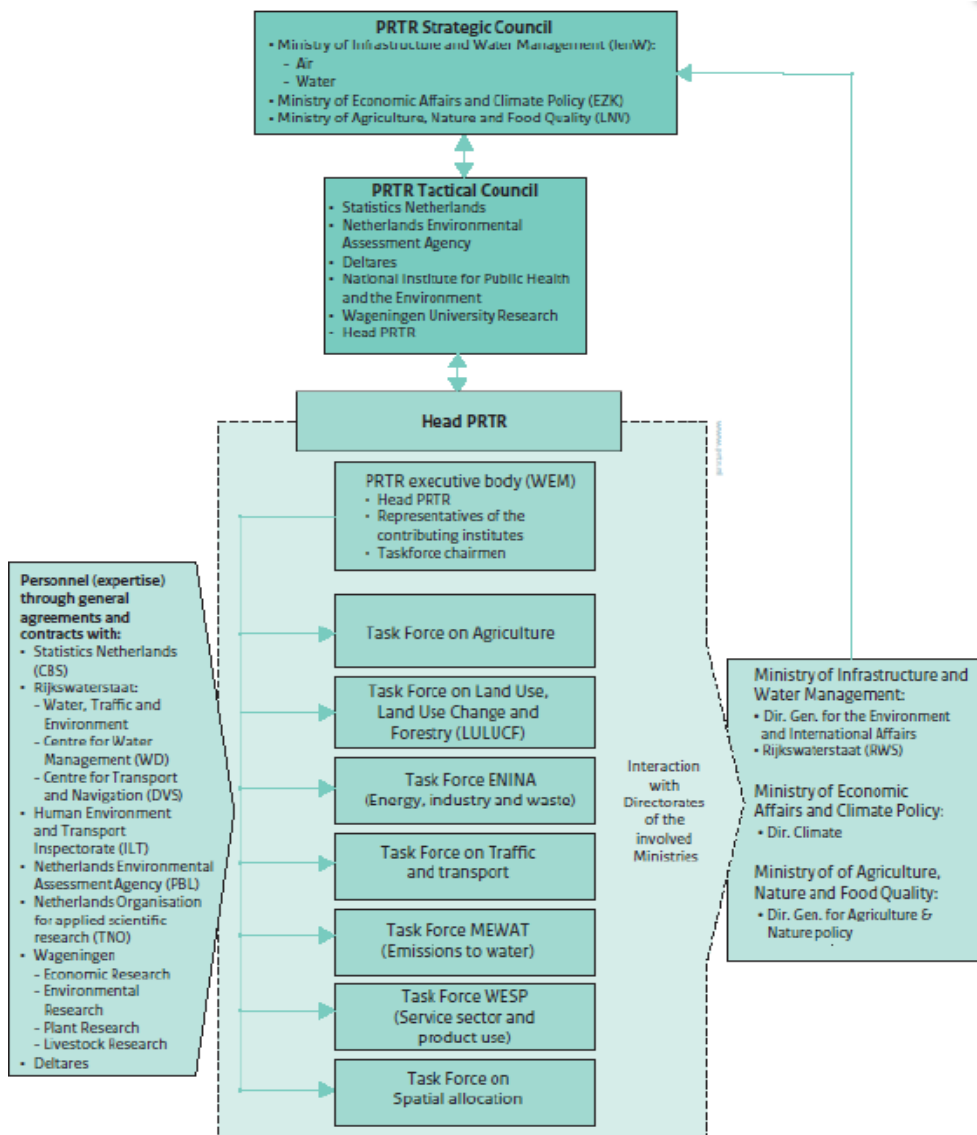
Institutional Arrangements for National GHG Inventory preparation in **Canada**

Note: An MOU or a memorandum of understanding is an agreement between two or more parties outlined in a formal document.

Example:

Institutional Arrangements for National GHG Inventory preparation in **United States**





CBIT-GSP
CLIMATE TRANSPARENCY



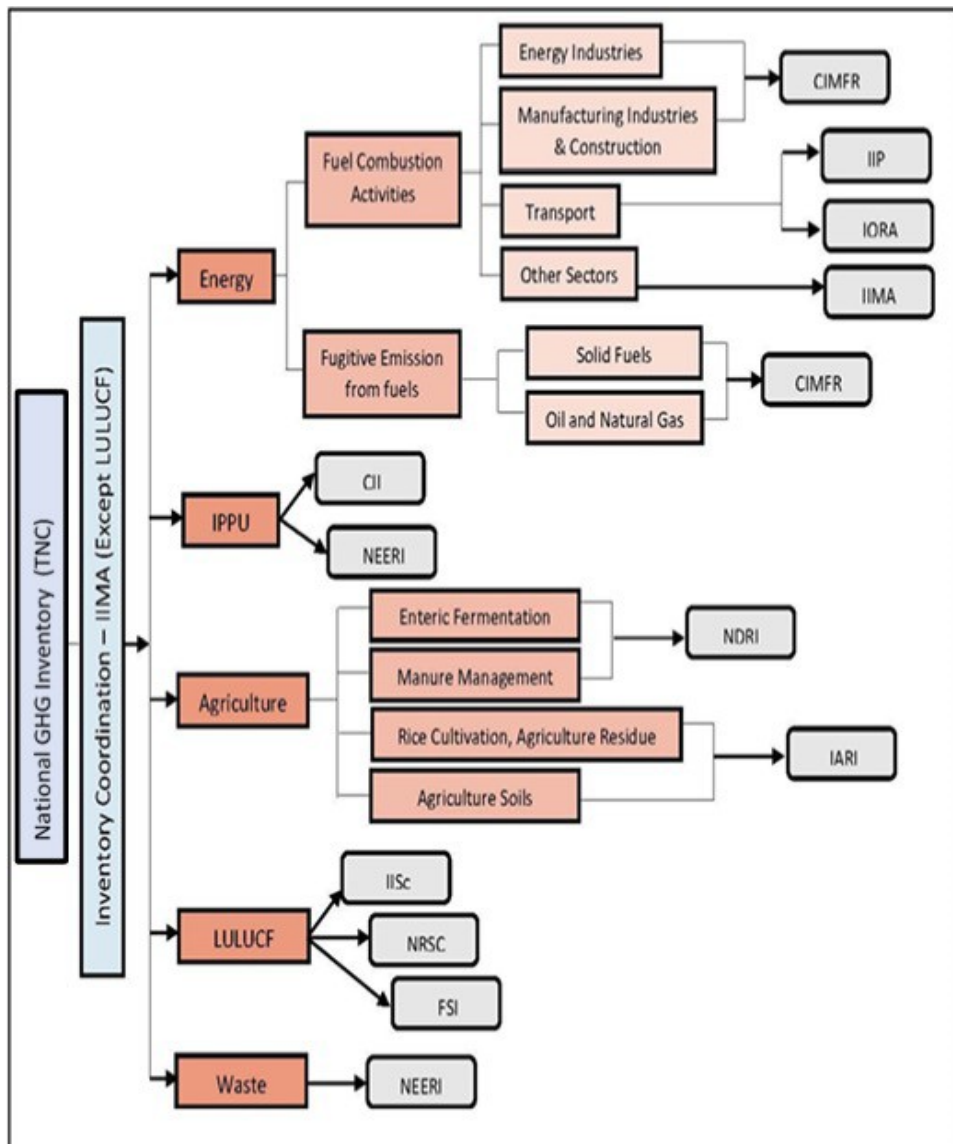
UN environment programme

UN environment programme

copenhagen climate centre

Example:

Organisational arrangements for Pollutant Release and Transfer Register (PRTR) system in **Netherlands**



Example:

Institutional Arrangements for National GHG Inventory preparation in **India**

Acronyms:

- CII: Confederation of Indian Industry, New Delhi
- CIMFR: Central Institute of Mining and Fuel Research, Dhanbad
- FSI: Forest Survey of India, Dehradun
- IARI: Indian Agricultural Research Institute, New Delhi
- IIMA: Indian Institute of Management, Ahmedabad
- IIP: Indian Institute of Petroleum, Dehradun
- IISc: Indian Institute of Science, Bengaluru
- IORA: IORA Ecological Solutions, New Delhi
- NDRI: National Dairy Research Institute, Karnal
- NEERI: National Environmental Engineering Research Institute, Nagpur
- NRSC: National Remote Sensing Centre, Hyderabad

Establishing systems and tools



copenhagen climate centre

Existing Supporting Templates and Guides under EPA Toolkit for Building National GHG Inventory Systems

- [Memorandum of Cooperation Template](#)
- [Sample Scope of Work Template](#)

A screenshot of the EPA website's "Greenhouse Gas Emissions" section. The page features a navigation bar with "Environmental Topics", "Laws & Regulations", "Report a Violation", and "About EPA". The main content area is titled "Greenhouse Gas Emissions" and includes a search bar and a "CONTACT US" link. A sidebar on the left lists various topics: "GHG Emissions and Removals Home", "Overview of Greenhouse Gases", "Sources of GHG Emissions and Removals", "Global Emissions and Removals", "National Emissions and Removals", "State and Tribal GHG Data and Resources", "Facility-Level Emissions", and "Gridded Methane Emissions". The main content area displays the "Toolkit for Building National GHG Inventory Systems" with a central diagram of interlocking gears. The gears are labeled: "Inventory Planning", "National Inventory Improvement Plan", "Archiving System", "GHG Inventory Management System", "Institutional Arrangements", and "Methods and Data Documentation".





CBIT-GSP
CLIMATE TRANSPARENCY



UN 
environment
programme

UN 
environment
programme

copenhagen
climate centre

US-EPA Templates

- **US-EPA – Template Workbook for Developing a National GHG Inventory System**
 - ❖ <http://epa.gov/climatechange/emissions/ghginventorycapacitybuilding/templates.html>
 - ❖ STEP 1: Identify current inventory management team
 - ❖ STEP 2: Provide sectoral roles and arrangements
 - ❖ STEP 3: Provide improvements to institutional arrangements
 - ❖ STEP 4: Review and complete inventory cycle timeline



copenhagen climate centre

Designated GHG Inventory Agency

Designated National GHG Inventory Preparation Agency/Organization	UNFCCC Focal Point (Name) and UNFCCC Focal Point Agency	Describe the arrangements or relationship between Inventory Agency/Organization and UNFCCC Focal Point Agency, if different.



National Inventory Management Team

Role	Name	Organization	Contact Information	Comments
<i>Inventory Director/Coordinator</i>				
<i>Energy Sector Lead</i>				
<i>Industrial Processes Lead</i>				
<i>Agriculture Sector Lead</i>				
<i>LULUCF Sector Lead</i>				
<i>Waste Sector Lead</i>				
<i>Archive (Data and Document) Manager/Coordinator</i>				
<i>QA/QC coordinator</i>				
<i>Uncertainty Analysis coordinator</i>				
<i>Other: e.g., GHG Policy Specialist who tracks capacity building efforts and IPCC processes</i>				

Reference: UNFCCC CGE Training material



copenhagen climate centre

Sectoral Institutional Arrangements

Role	Organization	Contact(s) [Name]	Contact Information [E-Mail, Phone, etc.]	Participated in meetings on GHG inventory development? [Yes/No]	Comments [See instructions above]
<i>Technical coordinator (Could be source/sector lead from Table 1.2)</i>					
<i>Consultant compiling estimates</i>					
<i>Expert reviewer</i>					
<i>Data provider</i>					
<i>Other</i>					

Reference: UNFCCC CGE Training material

Potential Improvements in the Management Structure of the National Inventory System

Sector	Strengths in Management Structure of National Inventory System	Potential Improvements in Management Structure of National Inventory System
<i>Energy</i>		
<i>Industrial Processes</i>		
<i>Agriculture</i>		
<i>Waste</i>		
<i>LULUCF</i>		
<i>Other [Optional]</i>		



www.climate-transparency-platform.org

Welcome to the
Climate
Transparency
Platform

LEARN MORE

Thank you for your attention !

Please reach out to us for any question, comments or suggestions!



CBIT-GSP
Asia Network Coordinator

Jaypalsinh CHAUHAN
jaypalsinh.chauhan@un.org



CBIT-GSP
Global Coordinator

Fatima-Zahra TAIBI
fatima-zahra.taibi@un.org



CBIT-GSP
Project Officer

Susanne KONRAD
susanne.konrad@un.org



CBIT-GSP
Transparency Adviser

Khetsiwe KHUMALO
khetsiwe.khumalo@un.org



CBIT-GSP
Project Officer

Juliette LUNEL
juliette.lunel@un.org



CBIT-GSP
CLIMATE TRANSPARENCY



copenhagen
climate centre