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# BUILDING CAPACITY TO REPORT ON EMISSIONS

*Tracking Mitigation Actions in Africa*

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SAMAH ELSAYED

# Measurement and Performance Tracking Project

A WRI initiative, supported by







Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety

Focusing on enhancing **capacity** to measure emissions/emissions reductions and track performance towards meeting climate and energy goals.



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# Areas of Work

-  National Greenhouse Gas Inventories
-  Greenhouse Gas Mitigation Accounting
-  Institutions
-  Civil Society Policy Implementation
-  Industry
-  Forestry and Land Use
-  International Sharing of Experiences

# Agenda

1. Why do we account for GHG emissions?
2. What are the various MRV areas a country may want to report on:
  - i. Internationally (National inventories, BUR, NAMAs etc.)
  - ii. Domestically (Emissions reductions associated with national policies, project level emissions, corporate emissions etc.)
  - iii. What is being MRV'd?
3. Capacities needed for MRV
  - i. Overview of core capacities
  - ii. Capacity challenges facing developing countries
  - iii. Common attributes of a successful inventory system
  - iv. Other lessons learned for overcoming institutional, technical and human resource capacity challenges
4. Assessing capacity
5. Building capacity through guidance- GHG Protocol Mitigation Accounting Initiative

## Why Account For Emissions?

*"You cannot manage what you cannot measure."*

- Policy Design and Decision Making: to help design low carbon policies to meet GHG reduction goals and understand which actions and policies are effective
- Performance tracking: to evaluate the effectiveness of mitigation actions after implementation and track progress toward GHG reduction goals
- Reporting: to ensure transparency in reporting the GHG effects of mitigation actions, policies, and goals
- Facilitation of support: for mitigation actions and enable NAMA-based financing or crediting
- Quantification: to translate mitigation actions into quantified emissions reductions and co-benefits



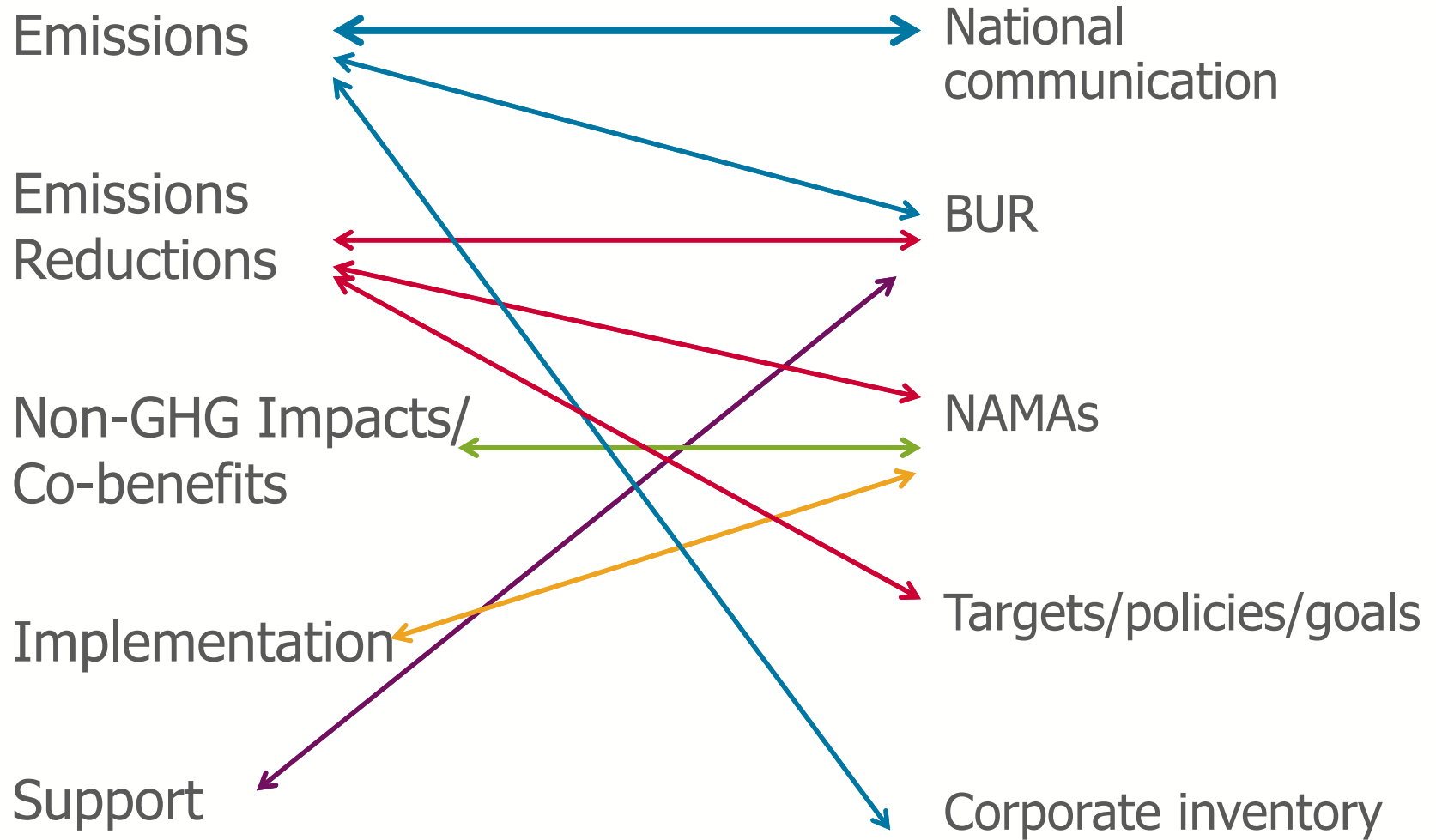
## What are the international reporting requirements?

National Communications	<ul style="list-style-type: none"><li>• Every four years</li><li>• Includes a national inventory component</li><li>• UNFCCC and IPCC guidelines</li></ul>
Biennial Update Reports	<ul style="list-style-type: none"><li>• First round by Dec. 2014</li><li>• National GHG inventory:<ul style="list-style-type: none"><li>• UNFCCC and IPCC guidelines</li><li>• Within 4 years of calendar year</li></ul></li><li>• Mitigation actions in tabular format<ul style="list-style-type: none"><li>• Goals and progress indicators</li><li>• Assumptions and methodologies</li><li>• Results achieved, estimated reductions</li></ul></li><li>• Finance, technology and capacity building<ul style="list-style-type: none"><li>• Constraints and gaps</li><li>• Support received</li></ul></li></ul>
MRV of NAMAs	<ul style="list-style-type: none"><li>• Some requirements specified under BUR</li><li>• No guidelines or methodologies developed by UNFCCC- however some developed by organizations including WRI's Mitigation Accounting Guidance</li></ul>

## What may countries want to measure and report on domestically?

Target	e.g. a national goal such as reduction of GHG emissions by 30% compared to BAU
Policy	e.g. a cap-and-trade program
Project	e.g. project to deploy 500MW of wind capacity in a country
Sub-national inventory	e.g. municipal inventory, state inventory
Corporate Level	All emissions within boundary of a company
Facility Level	Similar to corporate level but just at one, usually high-emitting, operating unit
Product Level	Carbon footprint of one product, cradle to grave

## What are countries MRVing?





## Overview of Core Capacities for MRV

Capacity Category	Examples
<b>Human Resource</b>	<ul style="list-style-type: none"><li>• Capacity and skills of individual staff, including managerial abilities and technical skills.</li><li>• Recruitment and retention of skilled staff.</li></ul>
<b>Institutions</b>	<ul style="list-style-type: none"><li>• Ability to perform functions to achieve objectives.</li><li>• Effective institutional arrangements, processes and coordination mechanisms, leadership, and institutional mandates.</li><li>• Capability to identify problems and develop and implement solutions.</li></ul>
<b>Technical</b>	<ul style="list-style-type: none"><li>• Availability and quality of data and information.</li><li>• Access to appropriate methodologies.</li><li>• Retention of institutional memory, archiving, and documentation procedures.</li><li>• Collection and dissemination of information.</li><li>• Technical and technological infrastructure (e.g. data collection platforms and monitoring technology).</li></ul>
<b>Financial Resource</b>	<ul style="list-style-type: none"><li>• Adequate financial resources and the ability to manage these resources.</li></ul>

## Capacity Challenges Facing Developing Countries

- Countries faced with whether to adapt existing institutional systems and mandates vs. setting up new institutions and systems.
- A lack of clarity around institutional mandates for MRV
- No formalized agreements between different ministries/institutions
  - Data
  - Coordination
- No mechanisms for long term retention of institutional memory and capacity i.e. institutional knowledge is lost with changes in personnel or over time.
- Outsourcing of MRV activities- lack of staff capacity building within institutions
- Lack of quality of data and information.
- No centralized system for sharing/storing data.



# National GHG Inventory: Case Study Development

## WHY?

- To document and share the details of country experiences widely;
- Assess common capacity challenges (no inventory is perfect!) and provide country-relevant successes and solutions.
- Brazil, Colombia, India, Mexico and South Africa

## WHAT?

- Coordination and management of the national inventory by the lead Institution
- Initiating a national inventory system and moving toward a sustainable system
- Producing an inventory for the LULUCF sector



## Common Attribute of a Successful GHG Inventory System:

### **Sufficient, well-trained personnel in a single national coordinating agency**

- For example, Mexico's national inventory coordinating agency—the National Institute of Ecology and Climate Change (INECC)—relied heavily on specialists at external organizations, including an academic institution, to help prepare its first two national GHG inventories.
- In preparation for the third national inventory, INECC began to centralize the inventory expertise into one department, appointing coordinators for each one of the IPCC sectors.
- Consequently, these coordinators were able to gradually assume responsibility for overall inventory management and design, including quality control and the preparation and submission of the reports.
- This approach consolidated and strengthened overall inventory expertise within the government and has made it easier for practitioners to make improvements to the inventory process over time.

## Common Attribute of a Successful GHG Inventory System:

### Inter-institutional coordination to facilitate regular collection, use, and archiving of data

- In Colombia, for example, the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM)—the inventory coordinating agency—established interagency collaboration in the form of working groups.
- These groups facilitated data collection, ensured quality and flow of information, and identified data gaps across all IPCC sectors.
- Each group is composed of a sectoral coordinator and a mix of part-time staff from associated institutions. Within each working group, information is reviewed and country-specific activity data and emission factors are selected.
- The adoption of coordination agreements between key data providers and the lead inventory agency can help establish formal procedures for the planning, preparation, and management of national inventories as well as identify roles and responsibilities of the organizations involved in its compilation.

## Common Attribute of a Successful GHG Inventory System:

### Access to accurate data and technical resources to support the inventory process

- Robust data, measurement systems, and other technical assets are essential for national inventories.
- For example, geospatial information can help inventory practitioners better track emissions from forest loss. India's land use, land-use change, and forestry inventory has long had the support of a number of programs and projects aimed at providing quality data and improving technical capacities. Two examples include:
  - The National Remote Sensing Centre (NRSC), which created a GIS-based information portal to disseminate the information derived from the Indian remote-sensing satellite; and
  - India's Department of Space, which launched the land use and land cover mapping project to generate spatial information at various scales in real time.
- By prioritizing technical developments, countries can dramatically improve the quality of data collected to ensure more accurate analyses and produce better inventories.

## **Common Attributes of a Successful MRV System: Institutional Needs (Mandates and Clarity of Roles)**

- Clearly designated mandates of authority, i.e., all entities are aware of their specific responsibilities, as well as the roles designated to other institutions
- Strong leadership from the designated lead institution
- Data sharing agreements, such as a Memoranda of Understanding (MOUs) and/or legal mechanisms requiring the necessary data between the lead institution and data providers (e.g. trade associations or companies)



## Common Attributes of a Successful MRV System: Institutional Needs (Coordination)

- Central department mandated with compiling data and information and ensuring coordination across relevant ministries.
- Clear and efficient process for sharing data and information across institutions.
- Effective coordination and information sharing mechanisms across bodies and within a specific institution, as well as a systematic procedure for ensuring that climate and MRV concerns were successfully integrated into national priorities and policies;
- Intergovernmental bodies can play an important role in improving efficiency and information sharing.
- Steering group to coordinate donor activities.



## Common Attributes of a Successful MRV System: Technical Needs

- A system for data management that encompasses:
  - processes, such as collecting, inputting, storing and sharing data
  - the technical platform(s) used to facilitate these tasks.
- Integrated data management systems/registry.
- A repository for GHG emissions data.
- Documentation of the inventory process .
- Archiving of historic data and information to prevent loss of institutional memory.
- A means to share data between staff/ institutions.
- Open access to data, which support experience exchange with other countries as well as research activities.
- Use of consistent and appropriate methodologies

## Common Attributes of a Successful MRV System: Human Resource Needs

- Adequate numbers of staff dedicated exclusively to MRV activities.
- Permanent staff which requires a move from project based model for MRV/inventories. Sustainable funding for MRV can help to minimize staff-turnover.
- Trained staff at national, sub-national and sectoral levels. Staff capacity building can include training on:
  - The design, implementation, and operation of MRV systems.
  - Data collection and management.
  - Accounting methodologies.
- Institutional mechanism for sustained training and support (as opposed to one-off activities).
- Long-term retention of institutional memory and capacity, i.e., institutional knowledge is not lost with changes in personnel or over time.

## Assessing Institutional Capacity

- What are the MRV needs associated with domestic/international reporting priorities?
- Is there one institution in charge of leading and coordinating the national measurement and performance tracking system? Are there clear mandates, roles and responsibilities to the relevant organizations involved, in order to ensure effective management of the system?
- What is the process for information sharing and transfer between and within institutions involved in measurement and performance tracking?
- What technical platforms are in place or under development to measure and track performance and bring together information from different institutions? Are there existing platforms used for other policies that could be applied to measuring and tracking climate policy?
- What financial resources are dedicated to measurement and performance tracking systems? What is the source of this support? How does it compare to previous years? Where is greater financial investment needed?



## Assessing Institutional Capacity

- What human resources are dedicated to supporting the measurement and performance tracking systems across ministries and institutions involved in measurement and performance tracking?
- What mechanisms are in place to build and retain technical expertise, knowledge of institutional processes, and associated human resources for measurement and performance tracking? For example, are there trainings available, manuals, internal online platforms for information sharing or mentoring relationships? Is there communication with other countries in order to share knowledge and expertise? Are there incentives in place to retain technical experts over the longer term?
- How do various measurement and reporting systems overlap (e.g. national inventories, corporate inventories, policy tracking, etc.)? What mechanisms, if any, are in place to streamline these processes?
- What donors and other external actors are involved in MRV activities? What are they doing? Are these activities coordinated? If not is this causing issues?



# Building Capacity Through Guidance: GHG Protocol Mitigation Accounting Initiative

## Two GHG Protocol standards:

### Policies and Actions Standard

- How to quantify GHG effects from specific policies and actions
- Examples: increased energy efficiency, increased renewable energy, efficiency standards, trading programs, deployment of new product lines and technologies

### Mitigation Goals Standard

- How to track and report progress toward national or sub-national GHG reduction goals
- Examples: intensity-based goals, deviations from BAU scenarios, carbon neutrality, etc

# **Building Capacity Through Guidance:** **GHG Protocol Mitigation Accounting Initiative**

## **Standard development process**

- Secretariat (WRI)
- Advisory Committee
- Technical Working Groups
- Review Group
- Pilot Testers

# Building Capacity Through Guidance: GHG Protocol Mitigation Accounting Initiative

## Context

- Increasing need to quantify GHG effects of policies and actions
- Where policy effects have been quantified, often lack of consistency and transparency
- Where they have not been quantified, often lack of capacity
- No international, cross-sector guidelines exist for how to quantify GHG effects of policies and actions larger than projects

## **Building Capacity Through Guidance:** **GHG Protocol Mitigation Accounting Initiative**

### **Purpose of Policies and Actions Standard**

- Provide standardized approaches and guidance on how to quantify GHG effects of policies and actions
- Guide users in answering the following questions:
  - Before implementation: What effect is a given policy or action likely to have on GHG emissions?
  - During implementation: How to track progress of a policy or action?
  - After implementation: What effect has a given policy or action had on GHG emissions?
- Focus is on attributing changes in GHG emissions to specific policies and actions, not only tracking indicators



# **Building Capacity Through Guidance:** **GHG Protocol Mitigation Accounting Initiative**

## **Types of policies and actions**

- Regulations and standards
- Taxes and charges
- Tradable permits
- Voluntary agreements
- Subsidies and incentives
- Information instruments
- R&D policies
- Public procurement policies
- Infrastructure programs
- Deployment of new products or technologies
- Financing and investment

# Building Capacity Through Guidance: GHG Protocol Mitigation Accounting Initiative

## Purpose of Mitigation Goals Standard

- Provide standardized approaches and guidance on how to track progress toward GHG mitigation goals
- Guide users in answering the following questions:
  - For jurisdictions that do not have a mitigation goal: Which factors to consider when developing a mitigation goal
  - Before the goal period: How to estimate future GHG reductions associated with meeting the goal
  - During the goal period: How to track and report progress toward meeting the goal
  - After the goal period: How to evaluate and report whether the goal has been achieved

## Building Capacity Through Guidance: GHG Protocol Mitigation Accounting Initiative

### Examples of mitigation goals

- **Australia:** 80% reduction below 2000 levels by 2050
- **Brazil:** Between 36.1% and 38.9% below projected emissions in 2020
- **California:** reduce to 1990 levels by 2020
- **Chile:** 20% reduction below the BAU in 2020, as projected from 2007
- **China:** 40-45% reduction in CO2 emissions per unit of GDP by 2020 compared with the 2005 level
- **Costa Rica:** Will implement a 'long-term economy-wide transformational effort to enable carbon-neutrality'
- **European Union:** 20-30% below 1990 levels by 2020
- **New York City:** 30% below 2005 levels by 2030
- **South Africa:** 34% deviation below BAU by 2020
- **United States:** In the range of 17% below 2005 levels by 2020

**Building Capacity Through Guidance:**  
**GHG Protocol Mitigation Accounting Initiative**

**How to participate in the standard development process**

The draft standards are available at:

[www.ghgprotocol.org/mitigation-accounting](http://www.ghgprotocol.org/mitigation-accounting)

Participate in pilot testing in 2013

## Key Takeaways

- Countries best served by making incremental improvements, building on existing foundations and systems.
- Effective implementation requires in-country institutional frameworks, mandates and data sharing agreements.
- Reporting emissions, actions and support in standardized formats helps ensure consistency of the information and facilitate their evaluation.
- Investment in building in-house capacity building supports long term ability to measure and report on emissions.

