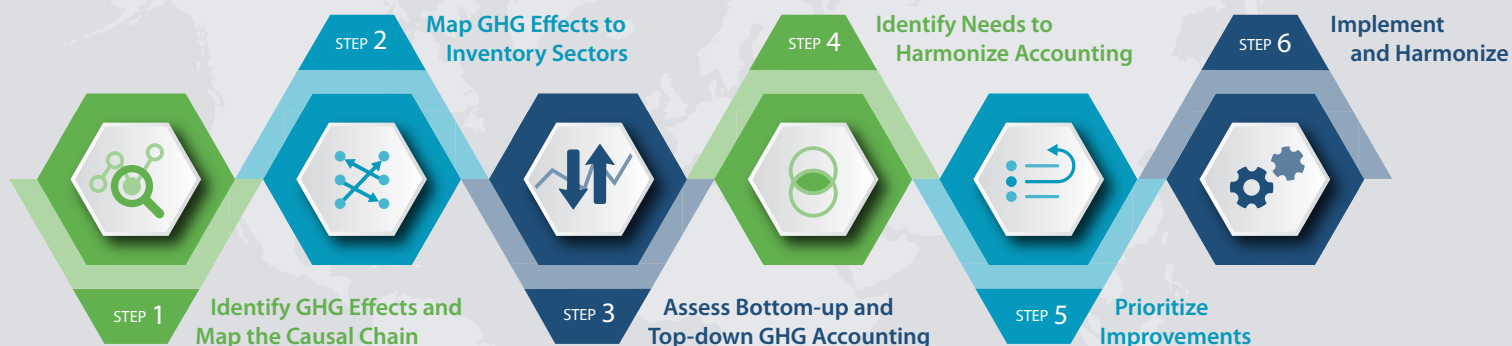


RALI GHG MRV Harmonization Approach



Step 1: Identify GHG effects and map the causal chain

Define the mitigation policy or action and map the causal chain of the policy's outcomes and greenhouse gas (GHG) effects, to outline:

- Which activities are included in the policy or action;
- The intended GHG reduction outcomes of the action (e.g., reducing fuel consumption or lowering the carbon intensity of the electricity grid);
- The unintended GHG outcomes of the action (e.g., rebound effects)
- The geographic, temporal, or other defining boundary of the activity to be included in the GHG assessment.

Resources such as the GHG Protocol's Policy and Action Standard provide guidance on how to support this step.



Step 2: Map GHG effects to Inventory sectors

Map the GHG impacts from the mitigation activity to the standardized sectors and source categories as defined by the *Intergovernmental Panel on Climate Change* (IPCC) and included in the country's national GHG emissions inventory. Under this step, clearly define the specific pathways for reducing GHG emissions. For example, the activity will "reduce fuel consumed in the residential sector" or "reduce the amount of feedstock used in industrial activities." The outcome of this step will be an understanding of:

- Where each GHG impact of the mitigation activity influences emissions reported in the Inventory;
- Whether GHG impacts occur in multiple national inventory sectors and/or source categories; and
- Where GHG impacts that fall into multiple categories will be assigned to avoid double counting.

GHG managers should map the GHG impacts from the mitigation activities to IPCC sectors included in the country's national GHG emissions inventory. It will be important to gauge which source categories and gases are included in the country's Inventory, since it may be possible that mitigation activities are not currently captured in the GHG Inventory.



Step 3: Assess bottom-up and top-down GHG accounting

Assess the current data and methods used for bottom-up (mitigation activity) and top-down (national Inventory) GHG accounting.

Step 3a: Top-Down Assessment. Assess how GHG emissions are estimated by identifying the data, methodologies, and emission factors used in the IPCC source categories identified under Step 2. For each source category, determine:

- | | | |
|--|------------------------|---|
| ▪ The data points used in calculations | ▪ Units of measurement | ▪ Methodology tier used in the Inventory |
| ▪ Sources of data | ▪ Data quality | ▪ Level of uncertainty associated with the data and/or methodology. |
| ▪ Frequency of data collection | ▪ Level of aggregation | |

Step 3b: Bottom-Up Assessment. Assess how each intended GHG impact of the policy or action is or will be measured by evaluating the existing MRV process or by defining performance metrics to measure outcomes (e.g., the number of miles traveled or gallons of gasoline). For each mitigation activity, evaluate:

- Performance metrics that will be used to measure progress
- Data quality
- Currently available data that can be used to report on the performance metrics
- Frequency of data collection
- Units of measurement
- Level of aggregation
- Methodologies used to assess GHG impacts
- Level of uncertainty associated with the data and/or methodologies.



Step 4: Identify needs to harmonize GHG accounting

Compare the data elements of bottom-up and top-down GHG accounting to identify needs for alignment. Determine where data align between the mitigation activity MRV and the Inventory sources, and evaluate whether the data resolution, methodologies, and emission factors are sufficiently granular to capture and measure emission reductions from the mitigation activity. Examples of this evaluation include:

- The frequency and timing of underlying survey data collection used in the Inventory compared with the timing of energy use reductions from the mitigation activity.
- Whether the grid electricity emission factor used for the mitigation activity is comparable to the implied electricity generation resulting from the national Inventory, and whether changes in local or regional energy generation mix are captured in the national Inventory emission factors.
- Whether moving to a higher Tier methodology in the Inventory could allow the national inventory to incorporate mitigation activity data.
- Whether data collection for the mitigation activity can be altered to better align with the national Inventory data collection.

Wherever the data resolution, methodologies, or emission factors are not aligned, identify the key improvements necessary to harmonize the mitigation activity and inventory data. The outcome of this step should be concrete recommendations for changes to Inventory or mitigation activity methodologies and data resolution.



Step 5: Prioritize harmonization improvements

Prioritize improvements to the national Inventory system and mitigation activity methods using a decision framework that includes key objectives, weighted by importance. Priorities could be set based on the following considerations:

- The size of the mitigation activity relative to national emissions;
- The activity's expected contribution toward the country's NDC target;
- The timeline and implementation status of the mitigation activity; or
- How frequently data sources used in the Inventory are updated.



Step 6: Implement and harmonize

Work with project implementers, agencies, and other key stakeholders to modify current Inventory and mitigation MRV systems (data resolution, methodologies, and institutional arrangements) to address the data harmonization gaps. Depending on the country's context, this could include:

- Defining additional data collection requirements;
- Modifying institutional arrangements for collecting data;
- Increasing the frequency or rigor of data collection;
- Increasing the Tier of inventory methodologies; or
- Splicing subnational data with national data in the Inventory.

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