



FUNDAMENTALS OF ORGANIZATIONAL GHG ACCOUNTING

FOR ENVIRONMENTAL AND GHG SPECIALISTS

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ENVIRONMENTAL SPECIALIST CURRICULUM





INVENTORY QUALITY MANAGEMENT

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LEARNING OBJECTIVES





This lesson provides a general framework for quality management relevant to companies, other organizations, and programs

This lesson will introduce the following tools in inventory quality management:

- ✓ Quality management plans
- ✓ Desktop reviews
- ✓ Verification

These tools and techniques can be used at the corporate or program level to ensure a quality management framework is implemented.

PURPOSE OF INVENTORY QUALITY MANAGEMENT



✓ In the face of an uncertain future, high quality information will have greater value and more uses in a voluntary reporting context.

➤ In the case of future mandatory regulation, high inventory quality may place a company in a better competitive or strategic position.

✓ Quality management provides a systematic process for preventing and correcting errors, as well as communicating credibility to stakeholders.

✓ The primary objective of inventory quality management is to ensure the credibility of a company's GHG inventory.

DEFINING INVENTORY QUALITY



The goal of quality management is to ensure that the 5 GHG accounting principles are put into practice in the GHG inventory

✓ Relevance refers to the need for the inventory to reflect the organization's emissions and decision-making needs

✓ Completeness means accounting for all sources and activities within the inventory boundary, and justifying any exclusions

✓ Consistency ensures the ability to meaningfully compare inventory data over time

✓ Transparency necessitates full disclosure of all assumptions; citation of methodologies; and leaving an audit trail

✓ Accuracy refers to the need to provide a reasonable assurance of the information's integrity

BENEFITS OF QUALITY MANAGEMENT



Companies generally experience the following benefits of inventory quality management:

✓ Enhanced utility of information for management decisions

✓ Enhanced credibility with the company's stakeholders

✓ Better preparation to join various types of GHG emissions programs.

Quality control framework : A practical framework is needed to help organizations conceptualize and design a quality management system and help plan for future improvements. This includes:

QUALITY CONTROL FRAMEWORK

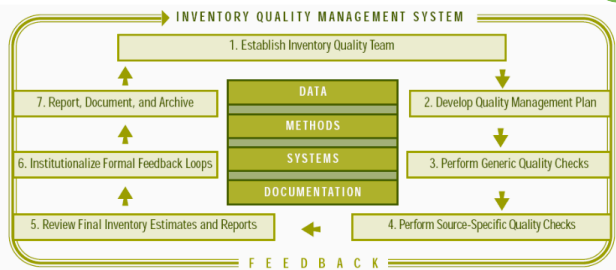
Methods: Technical aspects of GHG inventory preparation (e.g. calculation tools). The design of an inventory program and quality management system should provide for the selection, application, and updating of inventory methodologies as identify when new research and methodologies are available that can lead to improvements or enhance data quality.

Data: Raw information (e.g. activity levels, emission factors, processes, and operations). The design of the quality control procedures should facilitate data collection at a high quality, in addition to maintenance and improvement in collection procedures.

Systems: Institutional and managerial procedures for preparing GHG inventories. This includes the quality management team.

Documentation: Records of methods, data, processes, systems, assumptions, and estimates.

INVENTORY QUALITY MANAGEMENT SYSTEM - COMPANY IMPLEMENTATION MEASURES



1.(Establish an inventory quality team): The team should be responsible for implementing a quality management system and continually improving inventory quality. The team should coordinate interactions between relevant business units, facilities and external entities such as government agency programs, research institutions, verifiers, or consulting firms.

2.(Develop a quality management plan): This plan describes the steps a company is taking to implement its quality management system, which should be incorporated into the design of its inventory program from the beginning, although further rigor and coverage of certain procedures may be phased in over multiple years. Quality management plans are described further in this lesson.

INVENTORY QUALITY MANAGEMENT SYSTEM – COMPANY IMPLEMENTATION MEASURES



3.(Perform generic quality checks): These apply to data and processes across the entire inventory, focusing on appropriately rigorous quality checks on data handling, documentation, and emission calculation activities.

4.(Perform source-specific quality checks): This includes more rigorous investigations into the appropriate application of boundaries, recalculation procedures, and adherence to accounting and reporting principles for specific emission source categories, as well as the quality of the data input used and a qualitative description of the major causes of uncertainty in the data.

5.(Review final inventory estimates and reports): After the inventory is completed, an internal technical review should focus on its engineering, scientific, and other technical aspects. Subsequently, an internal managerial review should focus on securing official corporate approval of and support for the inventory.



INVENTORY QUALITY MANAGEMENT SYSTEM – COMPANY IMPLEMENTATION MEASURES



6.(Institutionalize formal feedback loops): The results of the reviews in step five, as well as the results of every other component of a company's quality management system, should be fed back via formal feedback procedures to the person or team identified in step one.

7.(Establish reporting, documentation, and archiving procedures.) The system should contain record-keeping procedures that specify what information will be documented for internal purposes, how that information should be archived, and what information is to be reported for external stakeholders. Like internal and external reviews, these record-keeping procedures include formal feedback mechanisms.



INVENTORY QUALITY MANAGEMENT PLANS



A quality management plan helps to institutionalize the inventory preparation process within the company. It can be used in conjunction with a desktop review and/or verification.

Quality management plans typically cover issues such as:

- ▀ Inventory boundary conditions
- ▀ Emissions quantification and methodologies
- ▀ Data management
- ▀ Base year and base year recalculation
- ▀ Management issues
- ▀ Review / verification

Inventory management plans are prescribed by some GHG programs, including USEPA Climate Leaders and the Philippine GHG Accounting & Reporting Program. Climate Leaders provides example management plans.



DESKTOP REVIEWS

- ✓ A desktop review can be done by staff of the reporting company not involved in developing the inventory, or by external contractors or GHG program staff.
- ✓ A desktop review can include reviews of:
 - Inventory management plan (ex ante)
 - Inventory documentation and estimates (ex post)
- ✓ Desktop reviews can confirm that the management plan or inventory report contains the required information and that there are no obvious omissions or errors.
- ✓ Desktop reviews typically cannot confirm the accuracy of the reported data.
- ✓ Third-party verification
 - Verification is an objective assessment of the accuracy and completeness of reported GHG information and the conformity of this information to pre-established principles. It will be discussed in detail in Lesson 12.

COMPARING QUALITY MANAGEMENT APPROACHES

Approach	Objective	When applied	By whom (usually)
Quality Management Plan	Design and implement a high-quality inventory	Before inventory is conducted (<i>ex ante</i>), and updated regularly.	Organization (internal)
Desktop Review	Ensure inventory report contains required elements; no obvious lack of compliance with program specifications	After completing GHG inventory (<i>ex post</i>)	Organization (internal) or GHG program staff (external)
Third-party Verification	Ensure inventory free of material misstatement	After completing GHG inventory	External third party with no conflict of interest

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