

GHG Accounting and Reporting Principles

As with financial reporting, generally accepted GHG accounting and reporting principles are intended to underpin and guide GHG accounting and reporting to ensure that the reported information represents a faithful, true, and fair account of an organization's GHG emissions.

GHG accounting and reporting practices are evolving and are new to many businesses; however the principles are derived in part from generally accepted financial accounting and reporting principles. The principles, listed below and described in more detail in this chapter, reflect the outcome of a collaborative process involving stakeholders from a wide range of technical, environmental, and accounting disciplines.

- **Relevance.** Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users—both internal and external to the company.
- **Completeness.** Account for and report all GHG emissions sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.
- **Consistency.** Use consistent methodologies to allow meaningful comparison of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

- **Transparency.** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- **Accuracy.** Ensure that the quantification of GHG emissions is systematically neither over nor under true emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

Relevance

For an organization's GHG report to be relevant means that it contains the information that users—both internal and external to the company—need for their decision making. An important aspect of relevance is the selection of an appropriate inventory boundary that reflects the substance and economic reality of the company's business relationships, not merely its legal form. The choice of the inventory boundary is dependent on the characteristics of the company, the intended purpose of the information, and the needs of the users. When choosing the inventory boundary, a number of factors should be considered, such as:

- **Organizational structures:** control (operational and financial), ownership, legal agreements, joint ventures, etc. *Climate*

Leaders Partners inventory GHG emissions from all U.S. operations, and have the option of including international operations as well.

- Operational boundaries: onsite and offsite activities, processes, services, and impacts. *The Core and Optional Modules of the Climate Leaders program provide guidance on the types of operations that should be included in your inventory.*
- Business context: *Partners are creating corporate inventories to design and achieve entity-wide GHG emissions reduction goals. Partners may find that the consistency of the Climate Leaders program with other GHG management or tracking programs facilitates use of the inventory for other purposes as well.*

More information on setting appropriate boundaries is provided in:

- Chapter 3: Setting Organizational Boundaries
- Chapter 4: Setting Operational Boundaries

Completeness

All relevant emissions sources within the chosen inventory boundary need to be included so that a comprehensive and meaningful inventory is compiled. In practice, a lack of data or the cost of gathering data may be a limiting factor. *An essential component of a complete inventory is a description of which greenhouse gases are included. Partners include CO₂, CH₄, N₂O, SF₆, PFCs, and HFCs to the extent that these gases exist in their operations.*

Sometimes it is tempting to define a minimum emissions accounting threshold (often referred

to as a materiality threshold) stating that a source not exceeding a certain size can be omitted from the inventory. Technically, such a threshold is simply a predefined and accepted negative bias in estimates (i.e., an underestimate). Although it appears useful in theory, the practical implementation of such a threshold is not compatible with the completeness principle of *Climate Leaders*. To utilize a materiality specification, the emissions from a particular source or activity would have to be quantified to ensure that they were under the threshold. However, once emissions are quantified, most of the benefit of having a threshold is lost.

A threshold is often used to determine whether an error or omission is a material discrepancy. This is not the same as a de minimus for defining a complete inventory. Instead, *Partners* need to make a good faith effort to provide a complete, accurate, and consistent accounting of their GHG emissions. For cases where emissions cannot be estimated, or are estimated at an insufficient level of quality, it is important that this is transparently documented and justified. *Under the Climate Leaders Program, this doesn't necessarily require a rigorous quantification of all sources, but, at a minimum, an estimate based on available data should be developed for all sources.* Verifiers can determine the potential impact and relevance of the exclusion, or lack of quality, on the overall inventory report. *It is important to include as much information as possible so that the process of gathering quality data can be refined in later years. To facilitate completeness, consistency, and transparency in the data gathering process, part of the Climate Leaders program includes the development an Inventory Management Plan. Development of this plan facilitates better monitoring and data gathering of GHG emissions*

sources. More information on completeness is provided in:

- Chapter 6: Identifying and Calculating GHG Emissions
- Chapter 7: Managing Inventory Quality
- Chapter 10: Verification of GHG emissions

Consistency

Users of GHG information will want to track and compare GHG emissions over time to identify trends and assess the performance of the reporting company. The consistent application of accounting approaches, inventory boundary, and calculation methodologies is essential to producing comparable GHG emissions data over time. The GHG information for all operations within an organization's inventory boundary needs to be compiled in a manner that ensures that the aggregate information is internally consistent and comparable over time. If there are changes in the inventory boundary, methods, data or any other factors affecting emission estimates, they need to be transparently documented and justified. *A specific format for reporting the corporate emissions summary is required for Climate Leaders' Partners so that data reporting consistency can be maintained. Partners who choose to voluntarily report their facility level data to the Climate Leaders program may do so using any format they choose.*

More information on this is provided in:

- Chapter 5: Tracking Emissions Over Time
- Chapter 9: Reporting GHG Emissions

Transparency

Transparency relates to the degree to which information on the processes, procedures, assumptions, and limitations of the GHG inventory are disclosed in a clear, factual, neutral and understandable manner based on clear documentation and archives (i.e., an audit trail). Information needs to be recorded, compiled, and analyzed in a way that would enable internal reviewers and external verifiers to attest to its credibility. Specific exclusions or inclusions need to be clearly identified and justified, assumptions disclosed, and appropriate references provided for the methodologies applied and the data sources used. The information should be sufficient to enable a third party to derive the same results if provided with the same source data. A "transparent" report will provide a clear understanding of the issues in the context of the reporting company and a meaningful assessment of performance. An independent external verification is a good way of ensuring transparency and determining that an appropriate audit trail has been established and documentation provided. *The Climate Leaders program provides an Inventory Management Plan checklist to guide Partners towards construction of a Inventory Management Plan, which in turn, provides for a transparent, verifiable inventory.*

More information on this is provided in:

- Chapter 9: Reporting GHG Emissions
- Chapter 10: Verification of GHG Emissions

Accuracy

Data should be sufficiently precise to enable intended users to make decisions with reasonable assurance that the reported information is credible. GHG measurements, estimates, or calculations should be systematically neither over nor under the actual emissions value, as far as can be judged, and that uncertainties are reduced as far as practicable. The quantification process should be conducted in a manner that minimizes uncertainty. *Use of the calculation guidance provided in the Climate Leaders Core Modules, coupled with development of the Climate Leaders Inventory Management Plan, can significantly enhance data accuracy and transparency as well as promote credibility.*

More information on how to increase your inventory's accuracy and on how to minimize data uncertainties is provided in:

- Chapter 7: Managing Inventory Quality