

GHG Tracking and Reporting Feature

The GHG tracking module in EnergyCAP complies with the IPCC requirements to track the emissions from six internationally-recognized types of greenhouse gases relating to human activity: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Emissions are reported in metric tons of CO₂ equivalent (MT CO₂ Eq) as the “universal” reporting standard but various conversions may also be applied if users determine other reporting units are desired. Under the Kyoto protocol, it was decided that the values of GWP calculated for the IPCC Second Assessment Report (SAR) are to be used for converting the various greenhouse gas emissions into comparable CO₂ equivalents. The more current IPCC Third Assessment Report (TAR) or Fourth Assessment Report (AR4) GWP values have yet to be adopted. The SAR is used so current estimates of aggregate greenhouse gas emissions for 1990 through 2004 are consistent and comparable with estimates developed prior to the publication of the TAR or AR4.

The GHG Protocol Initiative standards identify operational boundaries for corporations and institutions to ‘scope’ their sources of emissions in order to provide accountability for prevention of “double counting” or conversely, “double credits.” They categorize emissions as three distinct scopes that form the backbone of the GHG inventory and reporting format:

- **Scope 1 Emissions:** Includes all “direct” sources of GHG emissions from sources that are owned or controlled by the corporation or institution, including (but not limited to): production of electricity, heat, or steam in owned or controlled boilers, furnaces, etc; transportation (using corporate or fleet vehicles) of materials, products, waste, and community members; and fugitive emissions (from unintentional leaks).
- **Scope 2 Emissions:** Accounts for “indirect” sources GHG emissions from the generation of purchased utilities consumed by the corporation or institution. A purchased utility is defined as one that is bought or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where the utility is generated and thus are separated from direct emissions reported by the utility company in order to avoid double counting.
- **Scope 3 Emissions:** GHG Protocol Initiative considers this an optional reporting category that allows for the treatment of all other “indirect emissions”. Scope 3 emissions are a consequence of the activities of the company or institution, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services.

Concern is often expressed that accounting for indirect emissions will lead to double counting when two different companies include the same emissions in their respective inventories. Whether or not double counting occurs depends on how consistently companies with shared ownership or trading program administrators choose the same approach to set the organizational boundaries. Whether or not double counting matters, depends on how the reported information is used.

Double counting must be avoided when compiling national inventories under the Kyoto Protocol, but these are usually compiled via a top-down exercise using national economic data, rather than aggregation of bottom-up company data. Compliance regimes are more likely to focus on the “point of release” of emissions (i.e., direct emissions) and/or indirect emissions from use of electricity or other purchased utilities. For GHG risk management and voluntary reporting, double counting is less important.

For participating in GHG markets or obtaining GHG credits, it would be unacceptable for two organizations to claim ownership of the same emissions commodity. Therefore, it is necessary to make sufficient provisions to ensure that this does not occur between participating companies.

Any emissions should be categorized by the particular scope under which they fall. This way, emissions can be reported to government agencies or tracked from a number of different viewpoints. For the typical EnergyCAP user, 90% of the GHG emissions will be related to energy and will fall under scope 1 or scope 2 emissions. Scope 3 emissions tracking is not available in EnergyCAP at this time because they represent a small portion of overall emissions and are much more subjective and difficult to track.

The EnergyCAP GHG Tracking feature allows users to select from one of two scope types (direct or indirect emissions) per commodity. Within each of the scope types the user can choose the appropriate scope such as, direct-mobile, direct-stationary, indirect-purchased electricity, indirect-purchased steam, etc.

Each of the scope types entails different calculation methods. These are detailed in the specific software manual sections on Indirect and Direct Emissions.