



FAQ

The following is a list of some of the most commonly asked questions regarding the GHG Protocol's GHG accounting tools. Please read through these FAQs before [contacting](#) the GHG Protocol Initiative.

If your question is not answered below and you believe it would be a good addition to the FAQ list, please send your suggestions to [Mary Sotos](#).

- [General Technical Accounting Questions](#)
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General Technical ACCOUNTING Questions

- [What are the calculation tools? Is it mandatory to use them?](#)
- [What is the difference between direct and indirect emissions?](#)
- [What emissions factors do the calculation tools use?](#)

What are the calculation tools? Is it mandatory to use them?

The calculations tools are electronic Excel spreadsheets with accompanying step-by-step guidance documents. A guidance document includes:

- An overview of the protocol with information on the sector, sources, and process(es) that it covers;
- One or more approaches for determining CO2 and other GHG emissions, e.g., direct measurement, mass balance, etc.;
- Guidance on collecting activity data and selecting appropriate emission factors;
- Likely emissions sources and the scopes they fall under (specific to a particular sector);
- Additional information, such as quality control practices and program specific information.

The spreadsheets help carry out any necessary emissions calculations.

These tools were developed in partnership with industry experts and represent best practice quantification methodologies. The calculation tools are available on the GHG Protocol website and are meant to complement the Protocol and make calculations easier, but their use is not mandatory.

What is the difference between direct and indirect emissions?

The GHG Protocol defines direct and indirect emissions as follows:

- Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity.
- Indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity.

The GHG Protocol further categorizes these direct and indirect emissions into three broad scopes:

- Scope 1: All direct GHG emissions.
- Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.
- Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g. T&D losses) not covered in Scope 2, outsourced activities, waste disposal, etc.

Calculation Tools

- [Tools Overview](#)
- [Sector Toolsets](#)
 - [Adipic Acid](#)
 - [Aluminum](#)
 - [Ammonia](#)
 - [Cement](#)
 - [HCFC-22](#)
 - [Iron & Steel](#)
 - [Lime](#)
 - [Nitric Acid](#)
 - [Pulp & Paper](#)
 - [Refrigeration & A/C](#)
 - [Semiconductors](#)
 - [Wood Products](#)
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- [Frequently Asked Questions](#)
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What emissions factors do the GHG Protocol calculation tools use?

Each tool generally involves the use of 'emission factors,' which relate the amounts of greenhouse gases emitted by a business to a set amount of activity performed by that business. Default values are always provided for the emission factors in case businesses cannot develop custom values. So, in many cases companies need only activity data, such as the amount of distance traveled or fuel combusted, to calculate their emissions.

The default emission factors are averages based on the most extensive data sets available and they are largely identical to those used by the Intergovernmental Panel on Climate Change (IPCC), the premier authority on accounting practices at the national level. However, the GHG Protocol recommends that businesses should use custom values whenever possible. This is because the industrial processes or the composition of fuels used by businesses may differ with time and by region.

Specific accounting questions

- How should I report emissions from leased facilities and vehicles?
- How should I account for emissions resulting from the use of products/materials manufactured by my company?
- Should transmission and distribution (T&D) emission losses be categorized as Scope 1, 2 or 3?
- Why are emissions from the burning of biomass not included in Scope 1, 2 or 3? How should I report them?
- I report the emissions from generated electricity under Scope 2. Should I also include the emissions from the production and transportation of the fuel used to create this electricity?
- How can I separate Scope 2 and Scope 3 emissions when the emission factors for purchased electricity are from a life cycle analysis?
- There is a significant amount of customer transportation (i.e. taxis, shuttles, cars) to and from my organization. Should these transportation emissions be included in my emissions inventory as Scope 3?
- Fuel is transported to my organization, and the empty trucks are transported back to the fuel source. Should I include the transportation emissions from both legs of the trip?
- Should organizations which enable third parties to conduct polluting activities (i.e., building managers) include the emissions from these activities in their inventory under Scope 3?

How should I report emissions from leased facilities and vehicles?

This issue is discussed in Appendix F to the Corporate Standard, 'Categorizing Emissions from Leased Assets'.

Emissions from leased facilities and vehicles (leased assets) may be classified as Scope 1, Scope 2, or Scope 3, depending on the source of emissions, which approach a company uses to establish its organizational boundary, and which type of leasing arrangement is in place. Leased assets that fall within a company's organizational boundary should be classified as Scope 1 or 2 (depending on whether they are direct emissions or indirect emissions from electricity), while those that do not fall within a company's organizational boundary should be classified as Scope 3.

If a company is using the equity share or financial control approach to establish its organizational boundary, then leased assets would fall within a company's organizational boundary if they are considered wholly owned assets in financial accounting and are recorded as such on the balance sheet. This would be the case with finance or capital leases, which by definition "transfer substantially all the risks and rewards of ownership to the lessee". (Guidance document of the new Purchased Electricity Heat and Steam Tool)

If a company is using the operational control approach to establish its organizational boundary, then leased assets would fall within a company's organizational boundary if an operating lease exists. All leases not defined as finance or capital leases by the above terms are considered operating leases.

How should I account for emissions resulting from the use of products/materials manufactured by my company?

According to the GHG Protocol Corporate Standard, emissions resulting from the use of sold products may be included as Scope 3 emissions in an inventory. However, since these emissions are often very difficult to quantify, the benefits of including them in a corporate inventory should first be weighed against the potentially high costs of collecting the data.

Should transmission and distribution (T&D) emission losses be categorized as Scope 1, 2 or 3?

The following guidelines for T&D emission losses should be followed to help avoid double counting. Note that published electricity grid emission factors do not generally include T&D losses.

For a company that purchases its electricity from a T&D system, but does not own any part of the system, T&D losses should not be included in a Scope 2 inventory. They may be included in a Scope 3 inventory labeled “generation of electricity that is consumed in a T&D system”.

For a company that purchases its electricity and transports it through a T&D system, T&D losses should be included in Scope 2 emissions, since the losses are a portion of direct emissions from the “use” (loss) of purchased electricity.

For a company that owns the T&D system and also produces the electricity that runs through it, T&D losses should be included in Scope 1 emissions. This is because the emissions are a direct emission resulting from the production of a good.

Why are emissions from the burning of biomass not included in Scope 1, 2 or 3? How should I report them?

Due to the biogenic differences between fossil fuels and biomass, they are categorized differently in national inventories. Emissions of CO₂ from the combustion of biomass are reported for informational purposes, but not included in national totals. This is because any net additions of CO₂ to the atmosphere resulting from biomass combustion should be captured by analyzing land-use, land-use change activities and their associated effects on terrestrial biomass carbon stocks. In other words, the “emissions” are counted when the trees are cut, not when they are burned. If, at the national level, biomass harvests exceed growth and regeneration, the resultant depletion of national biomass stocks result in a net “emission” (flux to the atmosphere).

When reporting corporate-level greenhouse gas inventories, the accounting of terrestrial carbon stock changes associated with harvesting and combustion of biomass may fall within the organizational boundaries of different companies, i.e., the wood being burned is not cut on land owned by the company. Recognizing this situation, and considering the national inventory practices, the Corporate Standard requires that CO₂ emissions from biomass combustion be reported separately from the other scopes in a memo item.

When calculating emissions from the burning of biomass by electricity providers, the amount of CO₂ emissions would reflect the amount of biomass they use, i.e., if they burn only biomass, their emission factor would be zero. Unlike CO₂ emissions, the combustion of biomass does in all cases result in net additions of CH₄ and N₂O to the atmosphere, and therefore emissions of these two greenhouse gases as a result of biomass combustion should be accounted for in emission inventories under Scope 1.

I report the emissions from generated electricity under Scope 2. Should I also include the emissions from the production and transportation of the fuel used to create this electricity?

No, Scope 2 emissions include only the indirect emissions connected with the consumption of purchased electricity. These production and transportation emissions could be included in your company's Scope 3 emissions (an optional category); however it would make more sense for these emissions to be placed under the electricity generator's inventory where they are likely to be direct emissions.

How can I separate Scope 2 and Scope 3 emissions when the emission factors for purchased electricity are from a life cycle analysis?

It may be impossible to separate out Scope 2 and 3 emissions when the emission factors for purchased electricity come from a life cycle analysis. If a company is not participating in a specific initiative that requires separating these two for reporting purposes, it may be sufficient to clearly report that the emission factors being used include sources that would normally be categorized in Scope 2 and Scope 3. However, the disadvantage of this approach is that it would then be difficult for stakeholders to compare the Scope 2 and/or Scope 3 of different companies if one company uses an emission factor that comes from a life cycle analysis. Depending on the situation, therefore, it may be more straightforward to find an emission factor that does not consider lifecycle impacts.

Below are a number of resources that may provide such information. See the guidance document for the Purchased Electricity, Heat and Steam Tool (Section III.B) for a detailed hierarchy of preferred emission factor data sources.

For large companies who have a direct supply and transmission contract with a specific electricity supplier, the best place to look would be the electricity supplier itself. They would likely be able to provide an emission factor based on the specific fuel type and transmission technology used. When available, this emission factor is likely to be the most accurate.

If site-specific data are not available, companies should seek a regional or power pool emission factor from a government agency in the host country of the electricity provider. Since electricity grids rarely follow state borders, regional or power pool emission factors are likely to be more accurate than those calculated by state organizations. For companies in the United States, the USEPA's eGRID (<http://www.epa.gov/cleanenergy/egrid/index.htm>) provides aggregate data for regions and sub-regions in the US. In Canada, the Canadian GHG Challenge Registry (www.ghgregistries.ca) publishes provincial grid emission factors.

If regional and site-specific data is not available, companies should use an appropriate national average factor. Such factors are calculated by the International Energy Agency and can be found in the "EFs Electricity Intl All Fuels" worksheet of the Purchased Electricity, Heat and Steam Tool.

There is a significant amount of customer transportation (i.e. taxis, shuttles, cars) to and from my organization. Should these transportation emissions be included in my emissions inventory as Scope 3?

These emissions would be included in the Scope 3 section of your inventory. They may however, be hard to measure accurately given the large number of variables, e.g., which legs of the trip to include, the average distance per trip, the number of vehicles per day, the number of passengers per vehicle, the type of vehicles driven, etc. However, if an organization is trying to get a metro system in place or promote expansion and use of a current system, including these emissions could be extremely useful in comparing the GHG benefits from such an initiative and influential in promoting it.

Another reason to include these emissions would be if they comprise a relatively large share of the organization's GHG inventory. If this is the case, these emissions should be tracked and reported under Scope 3 customer travel. See Chapter 4 of the Corporate Standard for more guidance and case studies.

Fuel is transported to my organization, and the empty trucks are transported back to the fuel source. Should I include the transportation emissions from both legs of the trip?

Yes, keeping in mind that transportation emissions from owned or operated vehicles must be included in Scope 1, while emissions from third party operators would be included under Scope 3.

Should organizations which enable third parties to conduct polluting activities (i.e., building managers) include the emissions from these activities in their inventory under Scope 3?

The answer depends on a number of factors: the relative size of the emissions, whether the organization has the ability to reduce the emissions, and any liability or policy concerns associated with including the emissions/reductions of a third party. In many cases, the emissions will be a small portion of the organization's inventory. However, if emissions data is available and there is a compelling reason to include them in the inventory (relatively large source of emissions, use them to influence third party activities), they may be reported under Scope 3. Note that it is especially important to transparently report the source of the emissions.

NOTE: The activities referred to are different from the services normally offered by the parent organization to third parties (i.e., building maintenance or electricity) - which should always be included in the inventory.

Reporting and verification questions

- Do I have to report my emissions information to WRI and WBCSD?
- Is the GHG Protocol a verification standard? Does the GHG Protocol verify GHG inventories?
- Does the GHG Protocol set a materiality threshold?

Do I have to report my emissions information to WRI and WBCSD?

No. WRI and WBCSD are not regulatory bodies. Their role is to initiate and guide the development of high quality GHG accounting and reporting protocols and standards, which may be used by regulatory bodies and any other entities interested in GHG accounting and reporting.

Is the GHG Protocol a verification standard? Does the GHG Protocol verify GHG inventories?

No. The GHG Protocol focuses only on accounting and reporting of GHG emissions. However, the Protocol does offer guidelines on how to develop your inventory in order to make it more amenable to verification.

Does the GHG Protocol set a materiality threshold?

A materiality threshold establishes an acceptable percentage (or absolute quantity) difference between the company's emissions inventory and the verifier's belief of what the company's emissions would be if all omitted sources were accounted for. For example, if a company does not include a certain set of sources that the verifier thinks should be included, and those sources are estimated to emit more than the materiality threshold, this would be material discrepancy and emissions from at least some of those sources would need to be inventoried.

The GHG Protocol was designed to help companies meet multiple reporting objectives. It was therefore inappropriate for the GHG Protocol to set a "one size fits all" materiality threshold. A materiality threshold is best set by a GHG program/initiative. If however a company is reporting outside a GHG program, this does not preclude a company from determining its own threshold in collaboration with a third party verifier, consistent with the nature of its sources and reporting objectives.

Does the GHG Protocol certify verifiers?

No, the GHG Protocol does not certify verifiers. Many registries and programs have listings of certified verifiers. A company or organization participating in a GHG program or registry would need to check to see whether the program requires verification of GHG inventories and what verifiers are certified.

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