World Business Council for Sustainable Development

WORLD RESOURCES INSTITUTE

The Greenhouse Gas Protocol Initiative
the foundation for sound and sustainable climate strategies

Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Supplement to the GHG Protocol Corporate Accounting and Reporting Standard

DRAFT FOR STAKEHOLDER REVIEW

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EXECUTIVE SUMMARY

Overview of Standard Development Process

The Greenhouse Gas Protocol Initiative is a multi-stakeholder partnership of businesses, non-governmental organizations (NGOs), governments and others convened by the World Resources Institute (WRI), a U.S.-based environmental NGO, and the World Business Council for Sustainable Development (WBCSD), a Geneva, Switzerland-based coalition of 200 international companies. Launched in 1998, the GHG Protocol's mission is to develop internationally accepted greenhouse gas accounting and reporting standards and guidelines, and promote their adoption worldwide. The GHG Protocol has produced a number of standards, including the *GHG Protocol Corporate Accounting and Reporting Standard (2004)*, the most commonly used methodology to measure and report corporate GHG emissions.

In 2008, the GHG Protocol launched a process to develop two new standards:

- **GHG Protocol *Corporate Value Chain (Scope 3) Accounting and Reporting Standard* (to be published in 2011)[1]:** a step-by-step methodology for companies to quantify and report their corporate value chain (Scope 3) related GHG emissions, and is intended to be used in conjunction with the *GHG Protocol Corporate Accounting and Reporting Standard*

- **GHG Protocol Product *Accounting and Reporting Standard* (to be published in 2011):** a methodology to quantify and report the greenhouse gas emissions associated with individual products throughout their life cycle

The GHG Protocol Initiative follows a broad, inclusive multi-stakeholder process to develop greenhouse gas accounting and reporting standards with participation from businesses, government agencies, nongovernmental organizations, and academic institutions from around the world. The standard development process for the GHG Protocol *Scope 3 Standard* has occurred in parallel with the process to develop the GHG Protocol *Product Standard*. This joint process includes active participation from a large and diverse set of stakeholders and organizations. The 25-member Steering Committee provided strategic and technical direction to the process. Seven Technical Working Groups, consisting of over 160 members, developed the first draft of the standards through frequent consultations. A Stakeholder Advisory Group, comprised of more than 1,200 participants, provided feedback on the first drafts of the standards. A Road Testing group of over 60 companies piloted one or both standards within their organizations and provided feedback on the practicality and usability of the standards based on their experiences.

This second draft of the *Scope 3 Standard* was developed between July 2010 and October 2010. Revisions from the first draft (November 2009) were based on:

- Written comments from over 60 organizations in the stakeholder advisory group on the *Draft for Stakeholder Review* (November 2009)
- Stakeholder comments received during five in-person stakeholder workshops, attended by over 350 participants (November – December 2009)
- Feedback from 35 road testing companies during an in-person road testing workshop (May 2010)
- Written feedback from 35 road testing companies on the *Draft for Road Testing* (July 2010)
- Feedback from the Steering Committee (June 2010)
- Feedback received from Technical Working Group members during two webinars (April 2010 and August 2010)

The next steps to finalizing the *Scope 3 Standard* include:

- 30 day public comment period on the second draft of the *Scope 3 Standard*
- Revise the second draft based on feedback received
- Finalize requirements and key guidance of the standard by Winter 2011
- Publish the final standard by Spring/Summer 2011

[1] The GHG Protocol *Corporate Value Chain (Scope 3) Accounting and Reporting Standard* is also referred to as the GHG Protocol *Scope 3 Standard*.

Purpose of the GHG Protocol Corporate Value Chain (Scope 3) Standard

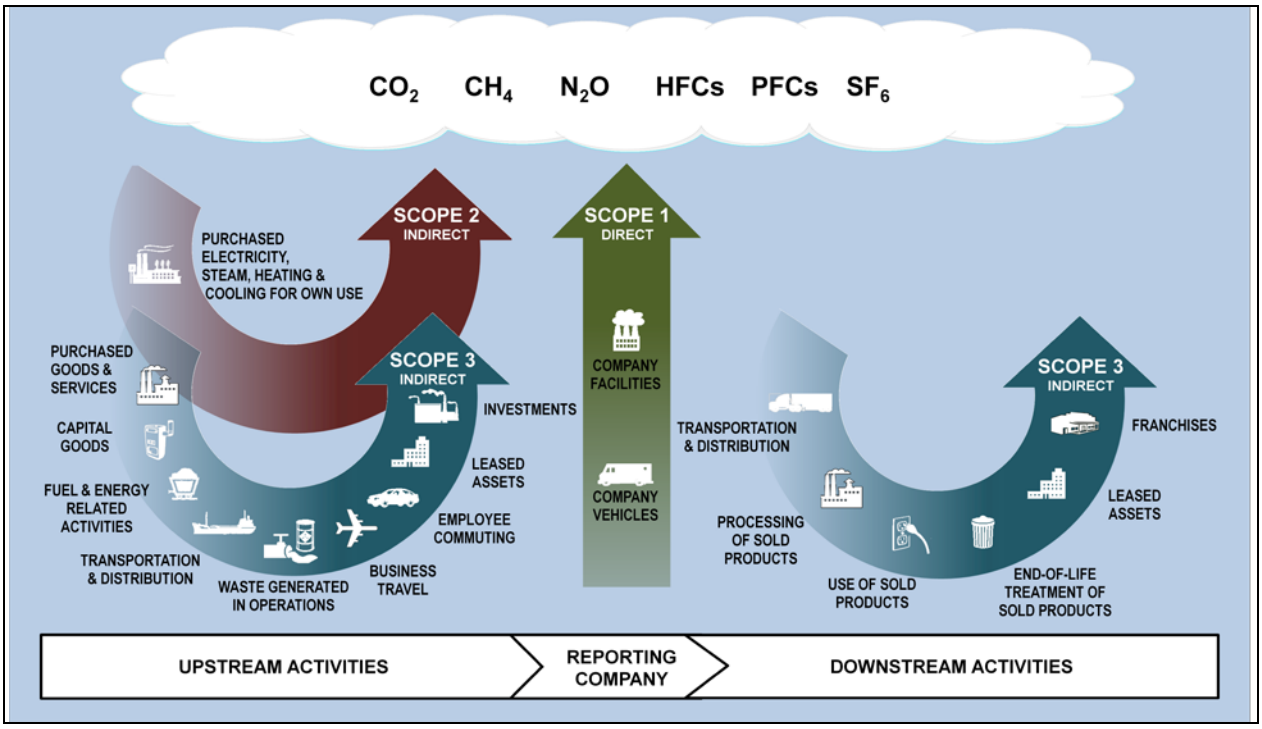
Since the launch of the *GHG Protocol Corporate Standard* in 2001 and its revision in 2004, business capabilities and needs in the field of greenhouse gas (GHG) accounting and reporting have grown significantly. Corporate leaders are now adept at calculating emissions from GHG sources that they own or control (i.e., scope 1 emissions) and emissions from the use of purchased energy (i.e., scope 2 emissions). See Figure 1 for an overview of the scopes.

Scope 3 emissions are often the largest source of emissions for companies and therefore often represent the largest opportunity for greenhouse gas reductions. Scope 3 emissions include upstream activities such as the production of goods and services purchased by the company, as well as downstream activities such as consumer use and disposal of products sold by the company. A comprehensive approach to corporate GHG emissions measurement, management and reporting – incorporating scope 1, scope 2, and scope 3 emissions – enables companies to focus on the greatest opportunities to reduce emissions within the full value chain, leading to more sustainable decisions about the products companies produce, buy, and sell.

This standard provides a step-by-step approach for companies to quantify and report their scope 3 GHG emissions. It is a tool to help businesses develop effective strategies to reduce their scope 3 emissions by making informed choices about their value chain activities, as well as a standard framework to support consistent public reporting of corporate value chain emissions.

The standard is intended to be used by companies of all sizes in all economic sectors. It can also be applied to other types of organizations, such as government agencies, NGOs, and universities.

Figure 1: Overview of Scopes and Emissions Across the Value Chain



This standard is a supplement to the GHG Protocol *Corporate Accounting and Reporting Standard, Revised Edition* (2004) and is meant to be used in conjunction with the existing *Corporate Standard*. Under the *Corporate Standard*, companies are required to report all scope 1 and scope 2 emissions, while reporting scope 3 emissions is optional. This standard is designed to create further consistency in scope 3 inventories through additional requirements and guidance for scope 3 accounting and reporting.

Companies reporting their corporate GHG emissions have two reporting options (see Figure 2).

Figure 2: Reporting Options for Users of the GHG Protocol

Reporting Option	Scope 1	Scope 2	Scope 3
Report in conformance with the GHG Protocol *Corporate Standard*	**Required**	**Required**	**Optional**: Companies may report any scope 3 emissions the company chooses.
Report in conformance with the GHG Protocol *Corporate Standard* & the GHG Protocol *Scope 3 Standard*	**Required**	**Required**	**Required**: Companies shall report scope 3 emissions following the requirements of the *Scope 3 Standard.*

Business Goals of Scope 3 Accounting & Reporting

Compiling a scope 3 inventory allows companies to significantly improve their understanding of their value chain GHG impacts, as a step toward value chain GHG management and achieving GHG emissions reductions. The standard is developed to assist companies in achieving the following business goals.

Figure 3: Business goals served by a scope 3 GHG inventory

Business Goal	Description
Understand risks and opportunities associated with emissions in the entire value chain	• Identify climate-related risks in the value chain • Identify new market opportunities • Guide investment and procurement decisions
Identify GHG reduction opportunities, set reduction targets, and track performance	• Identify GHG hot spots and reduction opportunities and prioritize GHG reduction efforts across the value chain • Set scope 3 GHG reduction targets • Measure and report GHG performance over time
Supply chain engagement and management	• Partner with companies in the value chain to achieve GHG reductions • Expand GHG accountability, transparency, and management in the supply chain • Enable greater transparency on companies' efforts to engage suppliers • Reduce energy use, costs, and risks in the supply chain and avoid future costs related to energy and emissions
Report to stakeholders and participate in GHG reporting programs	• Meet needs of stakeholders through public disclosure of GHG emissions and progress on GHG targets • Participate in voluntary reporting programs to disclose GHG related information to stakeholder groups (e.g., investors) • Report to government reporting programs at the international, national, regional or local level • Improve corporate reputation and accountability through public disclosure

Requirements in the GHG Protocol *Scope 3 Standard*

The following table provides a list of the requirements in the GHG Protocol *Scope 3 Standard*.

Chapter	Requirements
Accounting & Reporting Principles *Chapter 2*	• GHG accounting and reporting of a scope 3 inventory shall be based on the following principles: relevance, completeness, consistency, transparency, and accuracy.
Setting the Boundary *Chapter 5*	• Companies shall account for and report all scope 3 emissions and disclose and justify any exclusions. • Companies shall follow the principles of relevance, completeness, accuracy, consistency and transparency when deciding whether to exclude any activities from the scope 3 inventory.
Setting a GHG Target & Tracking Emissions Over Time *Chapter 9*	• Companies shall choose and report a scope 3 base year and specify their reasons for choosing that particular year. • Companies shall recalculate base year emissions when significant changes in the company structure or inventory methodology occur. • Companies shall develop a base year emissions recalculation policy and clearly articulate the basis and context for any recalculations.
Reporting *Chapter 11*	Companies shall report all scope 3 emissions, following the requirements in this standard, in addition to reporting all scope 1 and 2 emissions according to the *GHG Protocol Corporate Standard*. A public GHG emissions report that is in accordance with the *GHG Protocol Scope 3 Standard* shall include the following information: • A description of the company and inventory boundary, including the consolidation approach chosen and a description of the businesses and operations included in the boundary • The reporting period covered • Total scope 1 emissions and total scope 2 emissions • Scope 3 emissions reported separately by scope 3 category • Emissions data for CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 in tonnes of CO_2 equivalent • A list of scope 3 activities included in the report • A list of scope 3 activities excluded from the report with justification of their exclusion • Year chosen as scope 3 base year, and an emissions profile over time that is consistent with and clarifies the chosen policy for making base year emissions recalculations • Appropriate context for any significant emissions changes that trigger base year emissions recalculations • For each scope 3 category, a description of the methodologies, allocation methods, and types and sources of data used to calculate scope 3 emissions • For each scope 3 category, a description of the accuracy and completeness of reported scope 3 emissions data • For each scope 3 category, the percentage of emissions calculated using primary data • Total supplier scope 1 and scope 2 emissions data, allocated to the reporting company using a consistent metric and reported separately from the reporting company's scope 1, scope 2 and scope 3 emissions • The methodology used to quantify and allocate supplier emissions data • The percentage of Tier 1 suppliers accounted for (as a percentage of the reporting company's total spend)

Overview of Scope 3 Emissions

The GHG Protocol *Corporate Standard* divides a company's emissions into direct and indirect emissions.

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

Direct and indirect emissions are categorized into three "scopes" (see Figure 4)

Figure 4. Overview of the Scopes

Emissions Type	Scope	Definition	Examples
Direct Emissions	Scope 1	Emissions from operations that are owned or controlled by the reporting company	Emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment
Indirect Emissions	Scope 2	Emissions from the generation of purchased or acquired electricity, steam, heating or cooling consumed by the reporting company	Use of purchased electricity, steam, heating or cooling
	Scope 3	All other indirect emissions that occur in the value chain of the reporting company, including both upstream and downstream emissions	Production of purchased products, transportation of purchased products, use of sold products

The GHG Protocol *Scope 3 Standard* divides scope 3 emissions into upstream and downstream emissions. The distinction is based on the financial transactions of the company. Upstream emissions are related to purchased goods and services. Downstream emissions are related to sold goods and services.

- Upstream emissions include indirect GHG emissions from purchased or acquired goods and services, up to the point of receipt by the reporting company; emissions from investments not included in scope 1 or 2; and emissions from employee commuting.
- Downstream emissions include indirect GHG emissions from sold goods and services, subsequent to sale by the reporting company.

The *Scope 3 Standard* categorizes the upstream and downstream scope 3 emissions into 15 distinct categories. The categories are intended to provide companies with a systematic framework to organize, understand, and report on the diversity of scope 3 activities within a corporate value chain. The categories are designed to be mutually exclusive, such that there is no double counting of emissions between categories, or between other scope 1 and 2 emissions. Figure 1 provides an overview of the scopes and the various scope 3 categories. Refer to the appendix for detailed descriptions of each scope 3 category.

Setting the Boundary

Determining which scope 3 emissions to include in the inventory (i.e., setting the boundary) is a critical decision in the inventory process. The GHG Protocol *Corporate Standard* allows companies flexibility in choosing which, if any, scope 3 activities to include in the GHG inventory. By setting scope 3 boundary requirements, this standard is designed to create additional completeness and consistency in scope 3 accounting and reporting.

The GHG Protocol *Scope 3 Standard* requires that companies account for and report all scope 3 emissions and disclose and justify any exclusions. Companies are required to follow the principles of relevance, completeness, accuracy, consistency and transparency when deciding whether to exclude any activities from the scope 3 inventory.

Companies should first map their value chain to identify the scope 3 activities that are included in the inventory. This step is an internal exercise to help companies identify scope 3 activities and is not required for reporting externally.

Accounting for Downstream Emissions

The applicability of downstream scope 3 categories depends on whether products sold by the reporting company are final products or intermediate products. In certain cases, the eventual end use of sold intermediate products may be unknown. For example, a company may produce an intermediate product with many potential downstream applications, each of which has a different GHG emissions profile, and be unable to reasonably estimate the downstream emissions associated with the various end uses of the intermediate product. If such a case, companies may disclose and justify the exclusion of downstream emissions in the report.

Disclosing & Justifying Exclusions

Some categories may not be applicable to all companies. For example, some companies may not have leased assets or franchises. In such cases, companies should simply report zero emissions or "not applicable" for categories that are not applicable.

In some situations, companies may have scope 3 emissions, but be unable to estimate the emissions due to a lack of data or other limiting factors. Companies are required to follow the principles of relevance, completeness, accuracy, consistency and transparency when deciding whether to exclude any activities from the scope 3 inventory.

Companies should not exclude any activities from the scope 3 inventory that would compromise the relevance of the reported inventory. Companies should ensure that the scope 3 inventory:

- Appropriately reflects the GHG emissions of the company, and
- Serves the decision-making needs of users, both internal and external to the company.

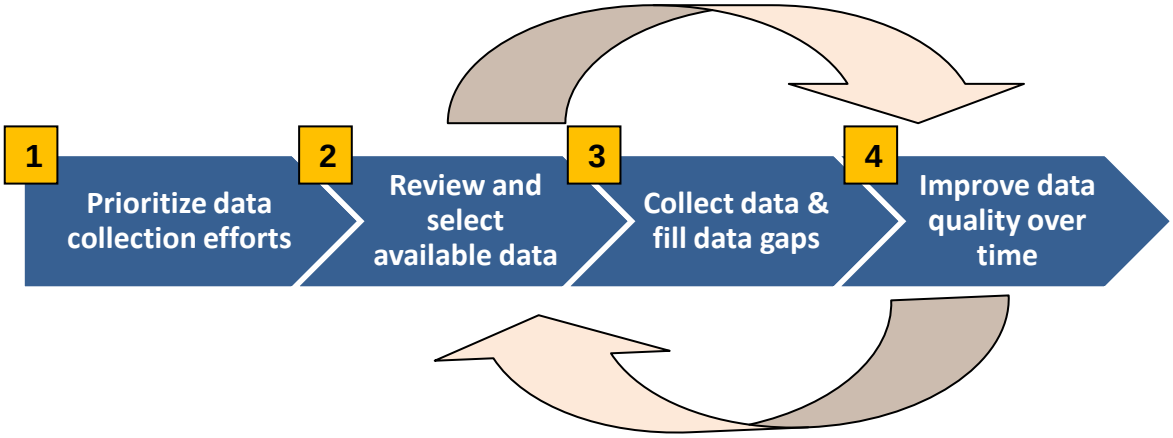
To ensure that the scope 3 inventory is relevant, companies should not exclude any activities that contribute significantly to the company's total anticipated scope 3 emissions or that are otherwise relevant.

Companies are required to transparently disclose and justify any exclusions.

Collecting Data

After a company has identified its activities included in the scope 3 boundary, the next step is to collect the necessary data to calculate the company's scope 3 emissions. The standard outlines the four step approach to collecting and evaluating data (see Figure 5).

Figure 5: Iterative process for collecting and evaluating data



The quality of the scope 3 inventory depends on the quality of the data used to calculate emissions. After prioritizing the most relevant scope 3 activities, companies should review and assess available data sources. The appropriate level of data quality depends on the company's business goals. Companies should ensure that the data quality of the scope 3 inventory is sufficient to ensure that the inventory is relevant – both internally and for a company's stakeholders – and supports effective decision making.

The standard outlines two types of data used to calculate scope 3 emissions: primary data and secondary data. See Figure 6 for a description of these data types.

Figure 6: Types of Data

Data Type	Description
Primary Data	Data from specific activities within a company's value chain.
Secondary Data	Data that is not from specific activities within a company's value chain.

Primary data and secondary data each have advantages. For example, primary data best enables performance tracking of individual value chain partners and supply chain GHG management, while secondary data can be a useful tool for prioritizing investments in primary data collection and tracking emissions from minor sources (see Figure 7).

Figure 7: Advantages of Primary Data and Secondary Data

Data Type	Advantages
Primary Data (e.g., supplier data)	• Enables a variety of GHG reduction strategies, including supply chain GHG management and performance tracking of individual value chain partners • Reflects operational changes from actions taken to reduce emissions at individual facilities and companies (whereas secondary data does not reflect operational changes undertaken by value chain partners) • Expands GHG transparency and management throughout the supply chain to the companies that have control over emissions • Allows companies to better track progress toward GHG reduction goals by enabling performance tracking of company- and product-specific improvements
Secondary data (e.g., from databases)	• Allows companies to calculate emissions when primary data is unavailable or of insufficient quality • Enables estimation of GHG impacts further upstream and downstream of a company's operations (whereas primary data is difficult to obtain beyond a company's Tier 1 or Tier 2 suppliers) • Allows companies to understand the relative magnitude of various scope 3 activities, identify hot spots, and prioritize investments in primary data collection, supplier engagement, and GHG reduction efforts

The standard includes guidance on assessing data quality using the criteria in Figure 8 as a guide to obtaining the highest quality data available for a given emissions activity. Companies should select data that are the most representative in terms of technology, time, and geography; most complete; and most precise.

Figure 8: Data Quality Indicators[2]

Criteria	Description	Guidance
Technological representativeness	The degree to which the data set reflects the actual technology(ies) used	Companies should select data that is technologically specific.
Temporal representativeness	The degree to which the data set reflects the actual time (e.g., year) or age of the activity	Companies should select data that is temporally specific.
Geographical representativeness	The degree to which the data set reflects the actual geographic location of the activity (e.g., country or site)	Companies should select data that is geographically specific.
Completeness (*for measurements only*)	The degree to which the data is statistically representative of the relevant activity. Completeness includes the percentage of locations for which data is available and used out of the total number that relate to a specific activity. Completeness also addresses seasonal and other normal fluctuations in data.	Companies should select data that is the most complete.
Precision (*for measurements only*)	Measure of the variability of the values used to derive the data from an activity (e.g., low variance = high precision).	Companies should select data that is the most precise.

[2] Adapted from Weidema and Wesnaes (1996)

Allocating Emissions

Companies may need to allocate emissions when calculating scope 3 emissions, especially when receiving primary data from suppliers or other value chain partners. Likewise, companies may need to allocate emissions when providing primary data to customers that are accounting for their scope 3 emissions.

Allocation is the process of partitioning GHG emissions from a single facility or other system[3] among its various outputs. Allocation is necessary when:

- A single facility or other system produces multiple outputs, and
- Emissions are only measured for the entire facility or system as a whole

In such a case, emissions from the shared facility or other system need to be allocated to (or divided between) the various outputs (see Figure 8.1 below).

If avoiding allocation is not possible, companies should first determine total facility or system emissions, then determine the most appropriate method for allocating emissions. The most appropriate allocation method for a given activity depends on individual circumstances. Companies should select the allocation approach that:

- Best reflects the causal relationship between the production of the outputs and the resulting emissions;
- Results in the most accurate and credible emissions estimates;
- Best supports effective decision-making and GHG reduction activities; and
- Adheres to the principles of relevance, accuracy, completeness, consistency and transparency.

Accounting for Supplier Emissions

Scope 3 accounting is focused on tracking the emissions associated with specific activities in the value chain, such as the production of purchased products, transportation of purchased products, and use of sold products. Many companies are also tracking the emissions of specific entities in their value chains. Engaging value chain partners is a critical component of value chain GHG management for multiple purposes, including collecting emissions data, tracking emissions performance, and reducing emissions.

Companies are required to report information about supplier emissions when reporting scope 3 emissions in order to provide additional transparency on steps companies are taking to collect data from suppliers and engage suppliers in GHG management. For purposes of scope 3 reporting, supplier emissions are limited to the scope 1 and 2 emissions of the reporting company's relevant Tier 1 suppliers. Tier 1 suppliers are companies with which the reporting company has a purchase order for goods or services (e.g., materials, parts, components, etc.).

Supplier emissions reflect the operational performance of a reporting company's suppliers, rather than the cradle-to-gate emissions of the goods and services the reporting company purchases, which are accounted for in Category 1, and other types of upstream emissions accounted for in Category 2 through Category 9. Supplier emissions data is reported separately from scope 3 emissions to avoid double counting with Category 1 through Category 15.

The standard also provides additional information on identifying suppliers, collecting data from suppliers, allocating emissions, aggregating emissions, and reporting supplier emissions.

[3] In this chapter, the term "system" is used to refer to any source of emissions (e.g., a company, business unit, facility, vehicle, etc.)

Setting a Reduction Target & Tracking Emissions Over Time

Greenhouse gas accounting and reporting allows companies to track GHG performance over time and demonstrate performance to stakeholders. Companies may track scope 3 emissions over time in response to a variety of business goals, including:

- Public reporting
- Establishing GHG reduction targets and demonstrating performance toward achieving them
- Managing risks and opportunities
- Addressing the needs of investors and other stakeholders

Companies should follow these steps in tracking scope 3 performance over time:

1. Choose a base year and determine base year emissions
2. Set scope 3 reduction goals
3. Recalculate and update base year emissions
4. Account for scope 3 emissions and reductions over time

Reporting

The *Scope 3 Standard* requires companies to report all scope 3 emissions, following the requirements in this standard, in addition to reporting all scope 1 and 2 emissions according to the *GHG Protocol Corporate Standard*.

The *Scope 3 Standard* requires companies to report the following information:

- A description of the company and inventory boundary, including the consolidation approach chosen and a description of the businesses and operations included in the boundary
- The reporting period covered
- Total scope 1 emissions and total scope 2 emissions
- Scope 3 emissions reported separately by scope 3 category
- Emissions data for CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 in tonnes of CO_2 equivalent
- A list of scope 3 activities included in the report
- A list of scope 3 activities excluded from the report with justification of their exclusion
- Year chosen as scope 3 base year; rationale for choosing the base year; an emissions profile over time that is consistent with and clarifies the chosen policy for making base year emissions recalculations; and appropriate context for any significant emissions changes that trigger base year emissions recalculations
- For each scope 3 category, a description of the methodologies, allocation methods, and types and sources of data used to calculate scope 3 emissions (including emission factors and GWP values)
- For each scope 3 category, a description of the accuracy and completeness of reported scope 3 emissions data (see Chapter 2 for guidance on accuracy and completeness, and Section 6.2 and Appendix D for guidance on data quality and uncertainty)
- For each scope 3 category, the percentage of emissions calculated using primary data
- Total supplier scope 1 and scope 2 emissions data, allocated to the reporting company using a consistent metric and reported separately from the reporting company's scope 1, scope 2 and scope 3 emissions
- The methodology used to quantify and allocate supplier emissions data
- The percentage of Tier 1 suppliers accounted for (as a percentage of the reporting company's total spend)

Appendix

Table 1. Scope 3 Categories

	Category	Category Description
Upstream Scope 3 Emissions	**1. Purchased Goods & Services**	• Extraction, production, and transportation of goods & services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 - 9
	2. Capital Goods	• Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year
	3. Fuel- and Energy-Related Activities Not Included in Scope 1 or 2	• All activities related to fuel and energy consumed by the reporting company, not already accounted for in scope 1 or 2: A. Extraction, production, and transportation of fuels consumed by the reporting company B. Extraction, production, and transportation of fuels consumed in the generation of electricity, steam, heating and cooling consumed by the reporting company C. Generation of electricity, steam, heating and cooling that is consumed (lost) in a T&D system (reported by end user) D. Generation of electricity, steam, heating, and cooling that is purchased by the reporting company and sold to end users (reported by utility company or energy retailer)
	4. Transportation & Distribution (Upstream)	• Third-party transportation & distribution of products purchased by the reporting company in the reporting year, including transportation & distribution between a company's Tier 1 suppliers and its own operations; between a company's own facilities; and between a company and its customers (paid for by the reporting company) • Any transportation & distribution services purchased by the reporting company (including inbound and outbound logistics)
	5. Waste Generated in Operations	• Third-party disposal/treatment of waste generated in the reporting company's operations in the reporting year
	6. Business Travel	• Transportation of employees for business-related activities in vehicles owned or operated by third parties
	7. Employee Commuting	• Transportation of employees between their homes and their worksites
	8. Leased Assets (Upstream)	• Operation of assets leased by the reporting company in the reporting year and not included in scope 1 and 2 (reported by lessee)
	9. Investments	• Operation of investments not included in scope 1 and 2, including equity investments and debt investments

Downstream Scope 3 Emissions	**10. Transportation & Distribution (Downstream)**	• Third-party transportation & distribution of sold products between the point of sale and the end consumer (not paid for by the reporting company), including retail and storage
	11. Processing of Sold Products	• Processing of sold intermediate products by downstream value chain partners (e.g., manufacturers)
	12. Use of Sold Products	• Consumer use of goods and services sold by the reporting company in the reporting year
	13. End-of-Life Treatment of Sold Products	• Waste disposal/treatment of products sold by the reporting company (in the reporting year) at the end of their life
	14. Leased Assets (Downstream)	• Operation of assets owned by the reporting company and leased to other entities in the reporting year, not included in scope 1 and 2 (reported by lessor)
	15. Franchises	• Operation of franchises, not included in scope 1 and 2 (reported by franchisor)

Table 2. Supplier Emissions

Supplier Emissions	**Supplier Emissions**	• Scope 1 and 2 emissions of the reporting company's relevant Tier 1 suppliers