GREENHOUSE GAS PROTOCOL

Technical Guidance for Calculating Scope 3 Emissions (version 1.0)

Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard

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Introduction

An effective corporate climate change strategy requires a detailed understanding of a company's greenhouse gas (GHG) emissions. Until recently, companies have focused on emissions from their own operations under scope 1 and scope 2 of the GHG Protocol. Increasingly companies understand the need to also account for GHG emissions along their value chains and product portfolios to comprehensively manage GHG-related risks and opportunities.

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard *(referred to as the* Scope 3 Standard*), the parent document to this guidance, offers an internationally accepted method to enable GHG management of companies' value chains. This guidance document serves as a companion to the* Scope 3 Standard *to offer companies practical guidance on calculating their scope 3 emissions. It provides information not contained in the* Scope 3 Standard, *such as methods for calculating GHG emissions for each of the 15 scope 3 categories, data sources, and worked examples.*

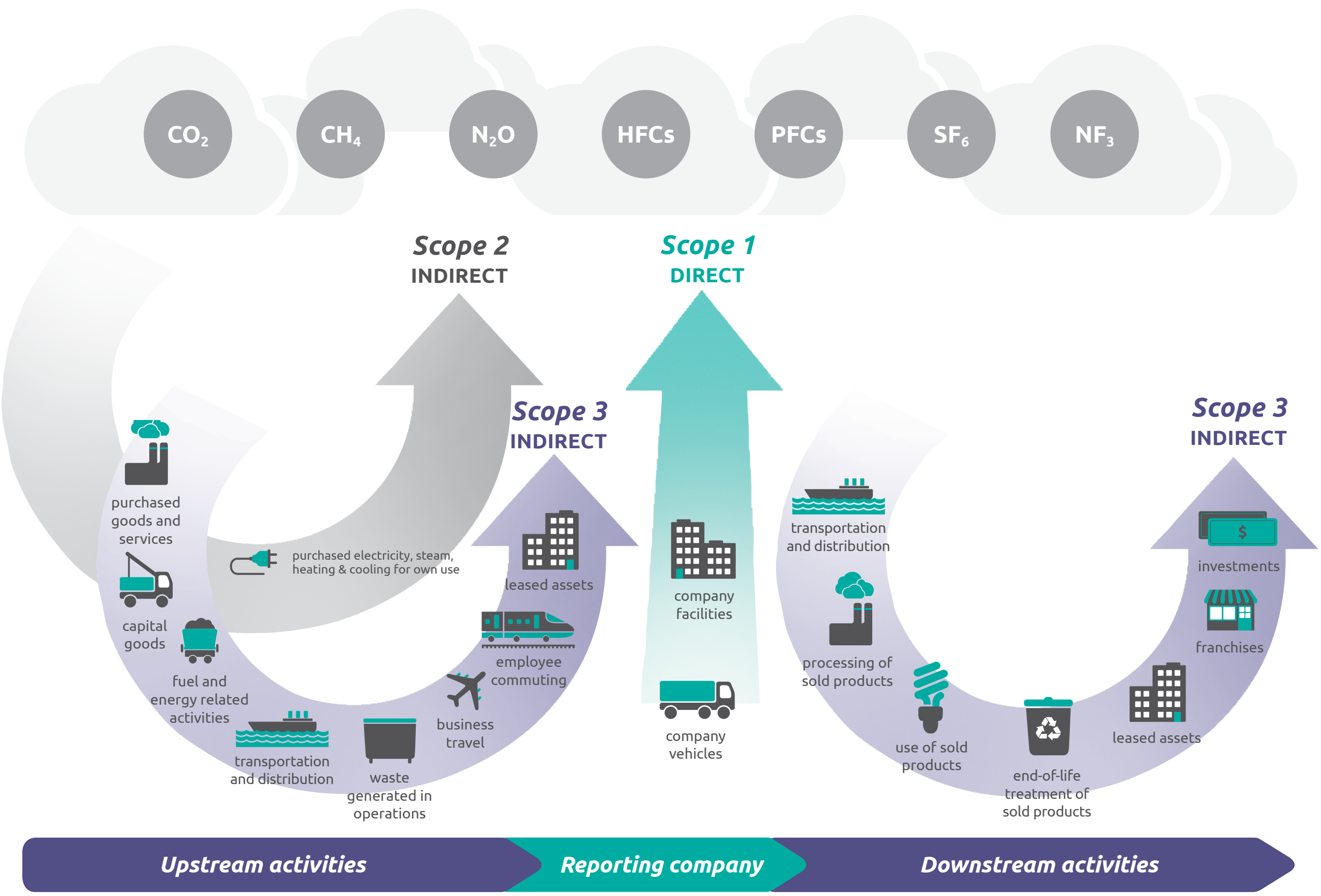
Please refer to the Scope 3 Standard *for requirements and guidance related to scope 3 accounting and reporting.*

Descriptions of scope 3 categories

Figure I shows the 15 distinct reporting categories in scope 3 and also shows how scope 3 relates to scope 1 (direct emissions from owned or controlled sources) and scope 2 (indirect emissions from the generation of purchased purchased electricity, steam, heating and cooling consumed by the reporting company). Scope 3 includes all other indirect emissions that occur in a company's value chain. The 15 categories in scope 3 are intended to provide companies with a systematic framework to measure, manage, and reduce emissions across a corporate value chain. The categories are designed to be mutually exclusive to avoid a company double counting emissions among categories.

Table I gives descriptions of each of the 15 categories. The Scope 3 Standard requires companies to quantify and report scope 3 emissions from each category.

Figure [I] Overview of GHG Protocol scopes and emissions across the value chain



Source: Figure 1.1 of *Scope 3 Standard.*

Table [I] Description and boundaries of scope 3 categories

Upstream scope 3 emissions

Category	*Category description*	*Minimum boundary*
1. Purchased goods and services	• Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 - 8	• All upstream (cradle-to-gate) emissions of purchased goods and services
2. Capital goods	• Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year	• All upstream (cradle-to-gate) emissions of purchased capital goods
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)	• Extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in scope 1 or scope 2, including: **a.** Upstream emissions of purchased fuels (extraction, production, and transportation of fuels consumed by the reporting company) **b.** Upstream emissions of purchased electricity (extraction, production, and transportation of fuels consumed in the generation of electricity, steam, heating, and cooling consumed by the reporting company) **c.** Transmission and distribution (T&D) losses (generation of electricity, steam, heating and cooling that is consumed (i.e., lost) in a T&D system) – reported by end user **d.** Generation of purchased electricity that is sold to end users (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 only	**a.** For upstream emissions of purchased fuels: All upstream (cradle-to-gate) emissions of purchased fuels (from raw material extraction up to the point of, but excluding combustion) **b.** For upstream emissions of purchased electricity: All upstream (cradle-to-gate) emissions of purchased fuels (from raw material extraction up to the point of, but excluding, combustion by a power generator) **c.** For T&D losses: All upstream (cradle-to-gate) emissions of energy consumed in a T&D system, including emissions from combustion **d.** For generation of purchased electricity that is sold to end users: Emissions from the generation of purchased energy

Table [I] Description and boundaries of scope 3 categories (continued)

Upstream scope 3 emissions

Category	*Category description*	*Minimum boundary*
4. Upstream transportation and distribution	• Transportation and distribution of products purchased by the reporting company in the reporting year between a company's tier 1 suppliers and its own operations (in vehicles and facilities not owned or controlled by the reporting company) • Transportation and distribution services purchased by the reporting company in the reporting year, including inbound logistics, outbound logistics (e.g., of sold products), and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company)	• The scope 1 and scope 2 emissions of transportation and distribution providers that occur during use of vehicles and facilities (e.g., from energy use) • ***Optional:*** The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure
5. Waste generated in operations	• Disposal and treatment of waste generated in the reporting company's operations in the reporting year (in facilities not owned or controlled by the reporting company)	• The scope 1 and scope 2 emissions of waste management suppliers that occur during disposal or treatment • ***Optional:*** Emissions from transportation of waste
6. Business travel	• Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company)	• The scope 1 and scope 2 emissions of transportation carriers that occur during use of vehicles (e.g., from energy use) • ***Optional:*** The life cycle emissions associated with manufacturing vehicles or infrastructure
7. Employee commuting	• Transportation of employees between their homes and their worksites during the reporting year (in vehicles not owned or operated by the reporting company)	• The scope 1 and scope 2 emissions of employees and transportation providers that occur during use of vehicles (e.g., from energy use) • ***Optional:*** Emissions from employee teleworking
8. Upstream leased assets	• Operation of assets leased by the reporting company (lessee) in the reporting year and not included in scope 1 and scope 2 – reported by lessee	• The scope 1 and scope 2 emissions of lessors that occur during the reporting company's operation of leased assets (e.g., from energy use) • ***Optional:*** The life cycle emissions associated with manufacturing or constructing leased assets

Table [I] Description and boundaries of scope 3 categories (continued)

Downstream scope 3 emissions

Category	*Category description*	*Minimum boundary*
9. Downstream transportation and distribution	• Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company)	• The scope 1 and scope 2 emissions of transportation providers, distributors, and retailers that occur during use of vehicles and facilities (e.g., from energy use) • ***Optional:*** The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure
10. Processing of sold products	• Processing of intermediate products sold in the reporting year by downstream companies (e.g., manufacturers)	• The scope 1 and scope 2 emissions of downstream companies that occur during processing (e.g., from energy use)
11. Use of sold products	• End use of goods and services sold by the reporting company in the reporting year	• The direct use-phase emissions of sold products over their expected lifetime (i.e., the scope 1 and scope 2 emissions of end users that occur from the use of: products that directly consume energy (fuels or electricity) during use; fuels and feedstocks; and GHGs and products that contain or form GHGs that are emitted during use) • ***Optional:*** The indirect use-phase emissions of sold products over their expected lifetime (i.e., emissions from the use of products that indirectly consume energy (fuels or electricity) during use)
12. End-of-life treatment of sold products	• Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life	• The scope 1 and scope 2 emissions of waste management companies that occur during disposal or treatment of sold products
13. Downstream leased assets	• Operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in scope 1 and scope 2 – reported by lessor	• The scope 1 and scope 2 emissions of lessees that occur during operation of leased assets (e.g., from energy use). • ***Optional:*** The life cycle emissions associated with manufacturing or constructing leased assets

Table [I] Description and boundaries of scope 3 categories (continued)

Downstream scope 3 emissions

Category	Category description	Minimum boundary
14. Franchises	• Operation of franchises in the reporting year, not included in scope 1 and scope 2 – reported by franchisor	• The scope 1 and scope 2 emissions of franchisees that occur during operation of franchises (e.g., from energy use) • ***Optional:*** The life cycle emissions associated with manufacturing or constructing franchises
15. Investments	• Operation of investments (including equity and debt investments and project finance) in the reporting year, not included in scope 1 or scope 2	• See the description of category 15 (Investments) in section 5.5 for the required and optional boundaries

Source: Table 5.4 from the *Scope 3 Standard*

How to use this document

The 15 sections in this document correspond to the 15 scope 3 categories in table II. Each section follows the structure below:

- Category description (from chapter 5 of the *Scope 3 Standard*)
- Summary of calculation methods (and decision tree if applicable)
- For each calculation method:
  - Activity data needed
  - Emission factors needed
  - Data collection guidance
  - Calculation formula
  - Example(s)

The Scope 3 Standard contains a lot of important information that is not repeated in this calculation guidance document, including business goals for conducting a scope 3 assessment; accounting and reporting principles; setting the scope 3 boundary; setting reduction targets; and reporting. This document should be used in conjunction with the *Scope 3 Standard* when calculating emissions. The following Scope 3 Standard chapters contain information that is especially relevant to performing various emissions calculations:

- Chapter 4, which defines the accounting and reporting principles (relevance, completeness, consistency, transparency, accuracy)
- Chapter 5, which defines each of the 15 scope 3 categories and provides detailed descriptions of which activities are included in each scope 3 category
- Chapter 6, which provides guidance on setting the scope 3 boundary
- Chapter 7, which provides guidance on collecting data, including prioritizing data collection efforts, selecting among different types of data, and ensuring data quality
- Chapter 8, which provides guidance on allocating emissions
- Chapter 10, which describes assurance procedures
- Chapter 11, which defines scope 3 reporting requirements
- Appendix B, which describes uncertainty in scope 3 inventories
- Appendix C, which describes how to create a data management plan