



Scope 3 Frequently Asked Questions

Most text in this document is taken directly from the GHG Protocol *Scope 3 Standard*. For further details on scope 3 emissions accounting, please refer to the GHG Protocol [Scope 3 Standard](#) and [Scope 3 Calculation Guidance](#).

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1. Why is accounting for scope 3 emissions important?

Scope 3 often represents the largest source of emissions for companies. It also presents the most significant opportunities to influence GHG reductions and achieve a variety of GHG-related business objectives (listed below). Developing a full corporate GHG emissions inventory – incorporating scope 1, scope 2, and scope 3 emissions – enables companies to understand their full emissions impact across the value chain and focus efforts where they can have the greatest impact.

The *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, or *Scope 3 Standard*, published in 2011, is a supplement to the *GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition* (2004). The *Scope 3 Standard* builds upon the *Corporate Standard* to promote additional completeness and consistency in the way companies account for and report on indirect emissions from value chain activities through additional requirements and guidance for scope 3 accounting and reporting.¹

Scope 3 can represent over 90% of a company's scope 1, 2 and 3 emissions. Scope 3 includes many of companies' most significant impacts, such as emissions in the supply chain from producing the materials a company purchases (e.g. from outsourced manufacturing) and the emissions from the products the company makes and sells (e.g. emissions from cars produced and sold by automakers).

A company's impacts, risks and opportunities related to GHG emissions and climate change depends on their upstream and downstream impacts, not only their direct operations. A complete GHG inventory across scope 1, scope 2 and scope 3 is needed to enable companies to understand and manage climate-related impacts, risks and opportunities. Scope 3 emissions have significant opportunities for strategic engagement and management for companies to make key decisions or influence choices concerning the selection of suppliers and other value chain partners, material inputs, investments, and product types and design.

Scope 3 emissions reporting is increasingly commonplace, as shown by thousands of companies reporting to reporting platforms such as CDP and participating in the Science-Based Targets initiative. As an example, over 1,100 companies have approved science-based targets as part of SBTi and all of these companies completed and submitted a full scope 3 inventory for their validation.

2. What are business goals for measuring and reporting scope 3 emissions?

Developing a scope 3 inventory strengthens companies' understanding of their value chain GHG emissions as a step towards effectively managing emissions-related risks and opportunities and reducing value chain GHG emissions.

¹ The GHG Protocol follows a broad and inclusive multi-stakeholder process to develop greenhouse gas accounting and reporting standards with participation from businesses, government agencies, NGOs, and academic institutions from around the world. In 2008, WRI and WBCSD launched a three-year process to develop the *GHG Protocol Scope 3 Standard*. A 25-member Steering Committee of experts provided strategic direction throughout the process. The first draft of the *Scope 3 Standard* was developed in 2009 by Technical Working Groups consisting of 96 members (representing diverse industries, government agencies, academic institutions, and non-profit organizations worldwide). In 2010, 34 companies from a variety of industry sectors road-tested the first draft and provided feedback on its practicality and usability, which informed a second draft. Members of a Stakeholder Advisory Group (consisting of more than 1,600 participants) provided feedback on each draft of the standard.

Table [2.1] Business goals served by a scope 3 GHG inventory

Business goal	Description
Identify and understand risks and opportunities associated with value chain emissions	<ul style="list-style-type: none"> • Identify GHG-related risks in the value chain • Identify new market opportunities • Inform investment and procurement decisions
Identify GHG reduction opportunities, set reduction targets, and track performance	<ul style="list-style-type: none"> • Identify GHG “hot spots” and prioritize reduction efforts across the value chain • Set scope 3 GHG reduction targets • Quantify and report GHG performance over time
Engage value chain partners in GHG management	<ul style="list-style-type: none"> • Partner with suppliers, customers, and other 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 • Reduce costs through improved supply chain efficiency and reduction of material, resource, and energy use
Enhance stakeholder information and corporate reputation through public reporting	<ul style="list-style-type: none"> • Improve corporate reputation and accountability through public disclosure • Meet needs of stakeholders (e.g., investors, customers, civil society, governments), enhance stakeholder reputation, and improve stakeholder relationships through public disclosure of GHG emissions, progress toward GHG targets, and demonstration of environmental stewardship • Participate in government- and NGO-led GHG reporting and management programs to disclose GHG-related information

Table [2.2] Examples of GHG-related risks and opportunities related to scope 3 emissions

Type of risk	Examples
Regulatory	GHG emissions-reduction laws or regulations introduced or pending in regions where the company, its suppliers, or its customers operate
Supply chain costs and reliability	Suppliers passing higher energy- or emissions-related costs to customers; supply chain business interruption risk
Product and technology	Decreased demand for products with relatively high GHG emissions; increased demand for competitors’ products with lower emissions
Litigation	GHG-related lawsuits directed at the company or an entity in the value chain
Reputation	Consumer backlash, stakeholder backlash, or negative media coverage about a company, its activities, or entities in the value chain based on GHG management practices, emissions in the value chain, etc.

Type of opportunity	Examples
Efficiency and cost savings	A reduction in GHG emissions often corresponds to decreased costs and an increase in companies' operational efficiency.
Drive innovation	A comprehensive approach to GHG management provides new incentives for innovation in supply chain management and product design.
Increase sales and customer loyalty	Low-emissions goods and services are increasingly more valuable to consumers, and demand will continue to grow for new products that demonstrably reduce emissions throughout the value chain.
Improve stakeholder relations	Improve stakeholder relationships through proactive disclosure and demonstration of environmental stewardship. Examples include demonstrating fiduciary responsibility to shareholders, informing regulators, building trust in the community, improving relationships with customers and suppliers, and increasing employee morale.
Company differentiation	External parties (e.g. customers, investors, regulators, shareholders, and others) are increasingly interested in documented emissions reductions. A scope 3 inventory is a best practice that can differentiate companies in an increasingly environmentally-conscious marketplace.

3. What are examples of actions I can take to reduce scope 3 emissions?

Companies may implement a variety of actions to reduce scope 3 emissions. Table 9.7 provides an illustrative list of actions that companies can take to reduce emissions in the value chain.

Table [9.7] Illustrative examples of actions to reduce scope 3 emissions

Upstream scope 3 emissions

Category	Examples of actions to reduce scope 3 emissions
1. Purchased goods and services	<ul style="list-style-type: none"> • Replace high-GHG-emitting raw materials with low-GHG-emitting raw materials • Implement low-GHG-procurement/purchasing policies • Encourage tier 1 suppliers to engage their tier 1 suppliers (i.e., the reporting company's tier 2 suppliers) and disclose these scope 3 emissions to the customer in order to propagate GHG reporting throughout the supply chain
2. Capital goods	<ul style="list-style-type: none"> • Replace high-GHG-emitting capital goods with low-GHG-emitting capital goods
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)	<ul style="list-style-type: none"> • Reduce energy consumption • Change energy source (e.g., shift toward lower-emitting fuel/energy sources) • Generate energy on site using renewable sources
4. Upstream transportation and distribution	<ul style="list-style-type: none"> • Reduce distance between supplier and customer • Source materials locally if it leads to net GHG reductions • Optimize efficiency of transportation and distribution • Replace higher-emitting transportation modes (e.g. air transport) with lower-emitting transportation modes (e.g. marine transport) • Shift toward lower-emitting fuel sources
5. Waste generated in operations	<ul style="list-style-type: none"> • Reduce quantity of waste generated in operations • Implement recycling measures that lead to net GHG reductions • Implement lower-emitting waste treatment methods
6. Business travel	<ul style="list-style-type: none"> • Reduce the amount of business travel (e.g., encourage video conferencing and web-based meetings as an alternative to in-person meetings) • Encourage more efficient travel • Encourage lower-emitting modes of travel (e.g., rail instead of plane)
7. Employee commuting	<ul style="list-style-type: none"> • Reduce commuting distance (e.g., locate offices/facilities near urban centers and public transit facilities) • Create disincentives for commuting by car (e.g., parking policies) • Provide incentives for use of public transit, bicycling, carpooling, etc. • Implement teleworking/telecommuting programs • Reduce number of days worked per week (e.g., 4 days x 10 hour schedule instead of 5 days x 8 hour schedule)
8. Upstream leased assets	<ul style="list-style-type: none"> • Increase energy efficiency of operations • Shift toward lower-emitting fuel sources

Table [9.7] Illustrative examples of actions to reduce scope 3 emissions

Downstream scope 3 emissions

Category	Examples of actions to reduce scope 3 emissions
9. Transportation and distribution of sold products	<ul style="list-style-type: none"> • Reduce distance between supplier and customer • Optimize efficiency of transportation and distribution • Replace higher emitting transportation modes (e.g. air transport) with lower emitting transportation modes (e.g. marine transport) • Shift toward lower-emitting fuel sources
10. Processing of sold products	<ul style="list-style-type: none"> • Improve efficiency of processing • Redesign products to reduce processing required • Use lower-GHG energy sources
11. Use of sold products	<ul style="list-style-type: none"> • Develop new low- or zero-emitting products • Increase the energy efficiency of energy-consuming goods or eliminate the need for energy use • Shift away from products that contain or emit GHGs • Reduce the quantity of GHGs contained/released by products • Decrease the use-phase GHG intensity of the reporting company’s entire product portfolio • Change the user instructions to promote efficient use of products
12. End-of-life treatment of sold products	<ul style="list-style-type: none"> • Make products recyclable if it leads to net GHG reductions • Implement product packaging measures that lead to net GHG reductions (e.g., decrease amount of packaging in sold products, develop new GHG-saving packaging materials, etc.) • Implement recycling measures that lead to net GHG reductions
13. Downstream leased assets	<ul style="list-style-type: none"> • Increase energy efficiency of operations • Shift toward lower-emitting fuel sources
14. Franchises	<ul style="list-style-type: none"> • Increase energy efficiency of operations (e.g., set efficiency standards) • Shift toward lower-emitting fuel sources
15. Investments	<ul style="list-style-type: none"> • Invest in lower-emitting investments, technologies, and projects

Key considerations and methods to quantify scope 3 emissions

4. How are scope 3 emissions organized?

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.

Emissions are further divided into three scopes (see table 5.1). Direct emissions are included in scope 1. Indirect emissions are included in scope 2 and scope 3. While a company has control over its direct emissions, it has influence over its indirect emissions. A complete GHG inventory therefore includes scope 1, scope 2, and scope 3.

Table [5.1] 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
	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 indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions	Production of purchased products, transportation of purchased products, or use of sold products
Indirect emissions			

The *Scope 3 Standard* categorizes 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, for any one reporting company, there is no double counting of emissions between categories. Each scope 3 category is comprised of multiple scope 3 activities that individually result in emissions. Each category is described in detail in the *Scope 3 Standard* (Chapter 5).

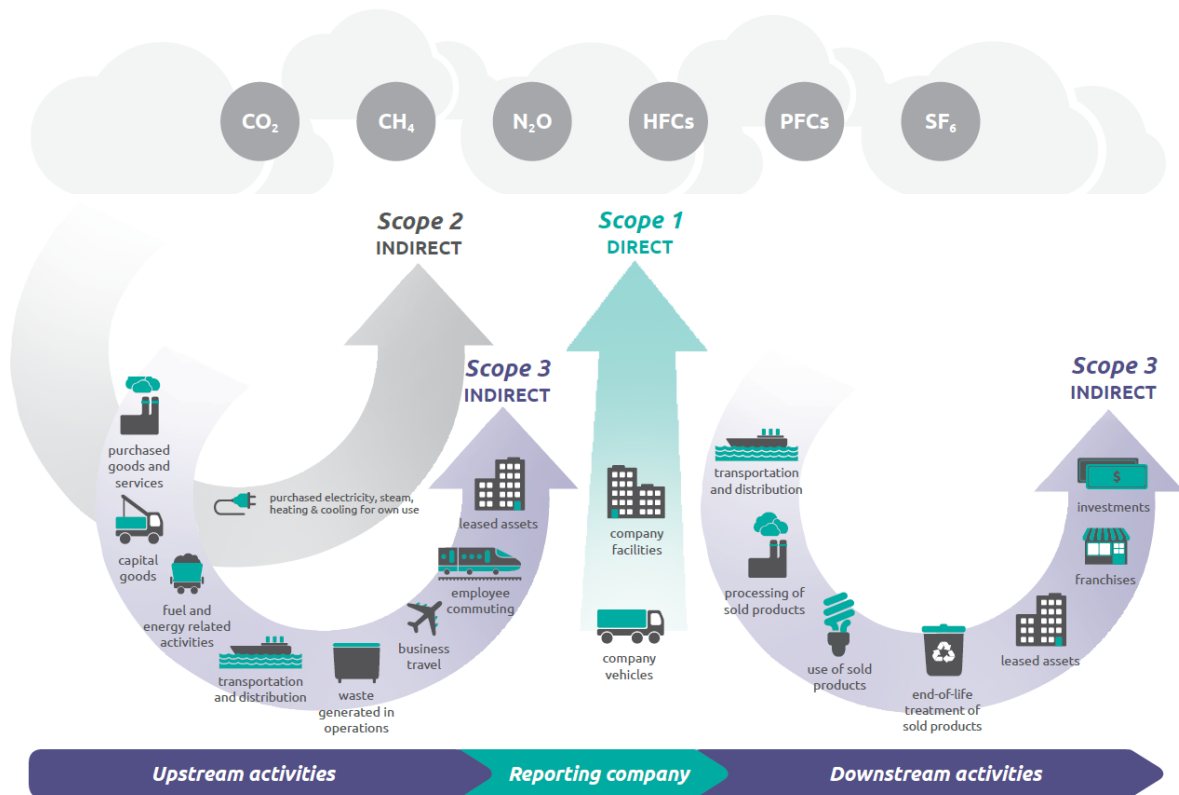
The scope 3 categories are organized into upstream and downstream emissions. The distinction is based on the financial transactions of the reporting company:

- **Upstream emissions** are indirect GHG emissions related to purchased or acquired goods and services.
- **Downstream emissions** are indirect GHG emissions related to sold goods and services.

Table [5.3] List of scope 3 categories

Upstream or downstream	Scope 3 category
Upstream scope 3 emissions	<ol style="list-style-type: none"> 1. Purchased goods and services 2. Capital goods 3. Fuel- and energy-related activities (not included in scope 1 or scope 2) 4. Upstream transportation and distribution 5. Waste generated in operations 6. Business travel 7. Employee commuting 8. Upstream leased assets
Downstream scope 3 emissions	<ol style="list-style-type: none"> 9. Downstream transportation and distribution 10. Processing of sold products 11. Use of sold products 12. End-of-life treatment of sold products 13. Downstream leased assets 14. Franchises 15. Investments

Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain



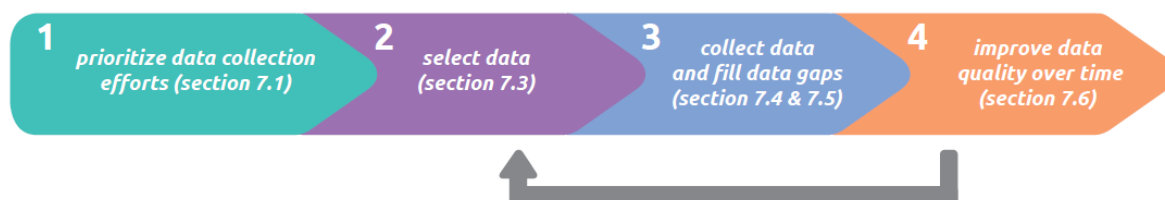
The *Scope 3 Standard* identifies the minimum boundaries of each scope 3 category to standardize the boundaries of each category and help companies understand which activities should be accounted for. The minimum boundaries are intended to ensure that major activities are included in the scope 3 inventory, while clarifying that companies need not account for the value chain emissions of each entity in its value chain, ad infinitum. Companies may account for additional emissions beyond the minimum boundary where relevant.

5. How do I collect scope 3 emissions data?

Collecting scope 3 emissions data is likely to require wider engagement within the reporting company, as well as with suppliers and partners outside of the company, than is needed to collect scope 1 and scope 2 emissions data. Companies may need to engage several internal departments, such as procurement, energy, manufacturing, marketing, research and development, product design, logistics, and accounting.

Chapter 7 of the *Scope 3 Standard* provides a four-step approach to collecting and evaluating data (see figure 7.1).

Figure [7.1] Iterative process for collecting and evaluating data



6. How do I prioritize scope 3 data collection efforts?

Companies should prioritize data collection efforts on the scope 3 activities that are expected to have the most significant GHG emissions, offer the most significant GHG reduction opportunities, and are most relevant to the company's business goals. Collecting higher quality data for priority activities allows companies to focus resources on the most significant GHG emissions in the value chain, more effectively set reduction targets, and track and demonstrate GHG reductions over time (covered in chapter 9 of the *Scope 3 Standard*).

Companies may use a combination of approaches and criteria to identify priority activities. For example, companies may seek higher quality data for all activities that are significant in size, activities that present the most significant risks and opportunities in the value chain, and activities where more accurate data can be easily obtained. Companies may choose to rely on relatively less accurate data for activities that are expected to have insignificant emissions or where accurate data is difficult to obtain.

Prioritizing activities based on the magnitude of GHG emissions

The most rigorous approach to identifying priority activities is to use initial GHG estimation (or screening) methods to determine which scope 3 activities are expected to be most significant in size. A quantitative approach gives the most accurate understanding of the relative magnitudes of various scope 3 activities. To prioritize activities based on their expected GHG emissions, companies should:

- use initial GHG estimation (or screening) methods to estimate the emissions from each scope 3 activity (e.g., by using industry-average data, environmentally-extended input output data, proxy data, or rough estimates); and
- rank all scope 3 activities from largest to smallest according to their estimated GHG emissions to determine which scope 3 activities have the most significant impact.

Calculation methods for each scope 3 category that can be used for screening are provided in a separate document, *Technical Guidance for Calculating Scope 3 Emissions*, which is available at <https://ghgprotocol.org/scope-3-technical-calculation-guidance>.

Prioritizing activities based on financial spend or revenue

As an alternative to ranking scope 3 activities based on their estimated GHG emissions, companies may choose to prioritize scope 3 activities based on their relative financial significance. Companies may use a financial spend analysis to rank upstream types of purchased products by their contribution to the company's total spend or expenditure (for an example, see the AkzoNobel case study). For downstream emissions, companies may likewise rank types of sold products by their contribution to the company's total revenue.

Companies should use caution in prioritizing activities based on financial contribution, because spend and revenue may not correlate well with emissions. For example, some activities have a high market value, but have relatively low emissions. Conversely, some activities have a low market value, but have relatively high emissions. As a result, companies should also prioritize activities that do not contribute significantly to financial spend or revenue, but are expected to have a significant GHG impact.

Prioritizing activities based on other criteria

In addition to prioritizing data collection efforts on activities expected to contribute significantly to total scope 3 emissions or to spend, companies may prioritize any other activities expected to be most relevant for the company or its stakeholders, including activities that:

- the company has influence over;
- contribute to the company's risk exposure;
- stakeholders deem critical;
- have been identified as significant by sector-specific guidance; or
- meet any additional criteria developed by the company or industry sector (see table 6.1 for more information).

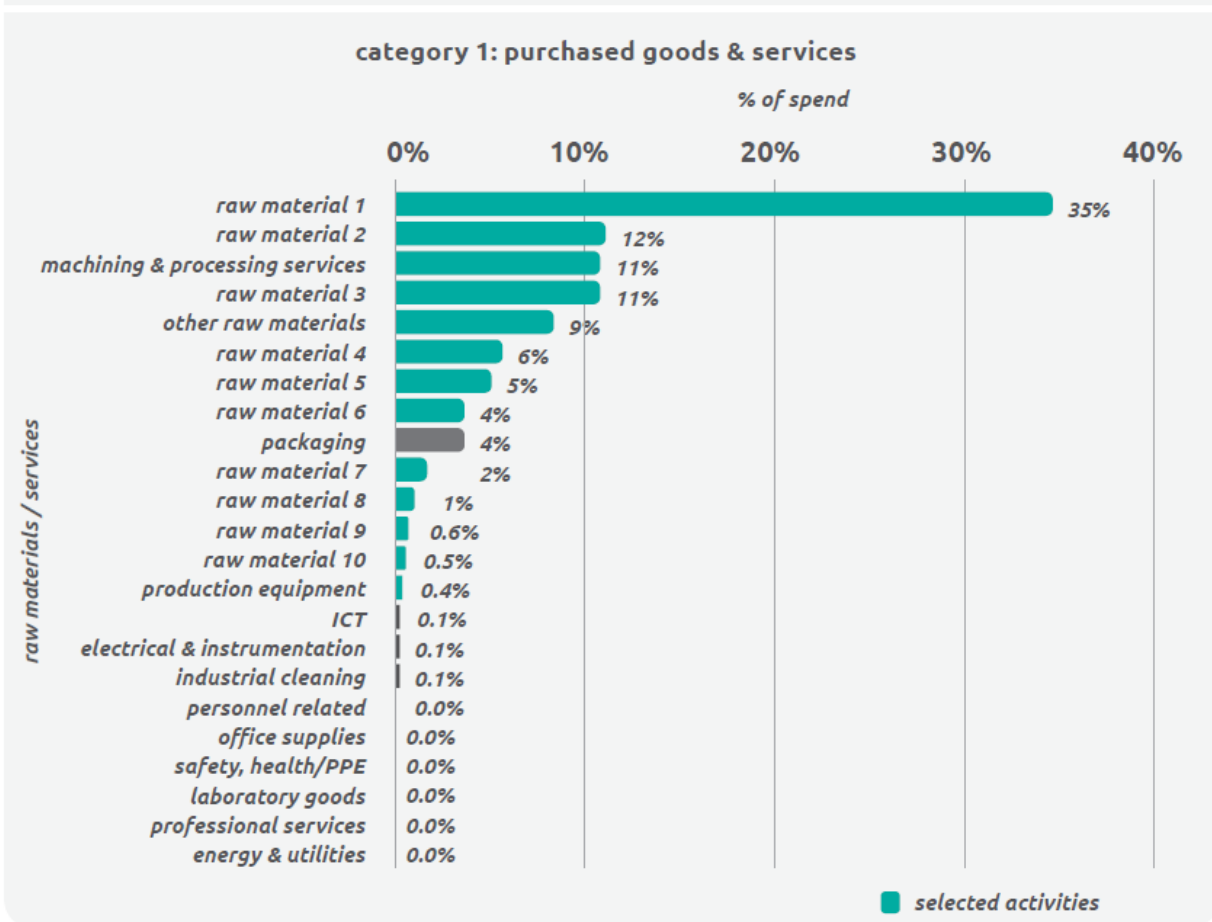
To prioritize scope 3 activities, companies may also assess whether any GHG- or energy-intensive materials or activities appear in the value chain of purchased and sold products.

AkzoNobel: Prioritizing scope 3 emissions from purchased goods and services

AkzoNobel, the largest global paints and coatings company and a major producer of specialty chemicals, applied a financial spend analysis to prioritize its purchased goods and services before collecting data for category 1. In three representative businesses used, AkzoNobel set out to identify the purchased goods and services that collectively accounted for at least 80% of the total spend, as well as any category in the remaining 20% that was individually more than 1% of total spend. The graph below illustrates the results of a financial

spend analysis for one of AkzoNobel's businesses. Based on the analysis, AkzoNobel focused data collection efforts on the raw materials that represented over 95% of total spend, marked in the graph.

AkzoNobel focused data collection efforts on the raw materials that represented over 95 percent of total spend.



7. What types of data can I use to calculate scope 3 emissions?

Companies may use two types of data to calculate scope 3 emissions:

- **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 includes data provided by suppliers or other value chain partners related to specific activities in the reporting company's value chain. Such data may take the form of primary activity data, or emissions data calculated by suppliers that are specific to suppliers' activities.

Secondary data includes industry-average data (e.g., from published databases, government statistics, literature studies, and industry associations), financial data, proxy data, and other generic data. In certain cases, companies may use specific data from one activity in the value chain to estimate emissions for another activity in the value chain. This type of data (i.e., proxy data) is considered secondary data, since it is not specific to the activity whose emissions are being calculated.

The quality of the scope 3 inventory depends on the quality of the data used to calculate emissions. Companies should collect data of sufficient quality to ensure that the inventory appropriately reflects the GHG emissions of the company, supports the company's goals, and serves the decision-making needs of users, both internal and external to the company. After prioritizing scope 3 activities, companies should select data based on the following:

- The company's business goals
- The relative significance of scope 3 activities
- The availability of primary and secondary data
- The quality of available data

In general, companies should collect high quality, primary data for high priority activities. To most effectively track performance, companies should use primary data collected from suppliers and other value chain partners for scope 3 activities targeted for achieving GHG reductions.

In some cases, primary data may not be available or may not be of sufficient quality. In such cases, secondary data may be of higher quality than the available primary data for a given activity. Data selection depends on business goals. If the company's main goal is to set GHG reduction targets, track performance from specific operations within the value chain, or engage suppliers, the company should select primary data. If the company's main goal is to understand the relative magnitude of various scope 3 activities, identify hot spots, and prioritize efforts in primary data collection, the company should select secondary data. In general, companies should collect secondary data for:

- Activities not prioritized based on initial estimation methods or other criteria
- Activities for which primary data is not available (e.g., where a value chain partner is unable to provide data)
- Activities for which the quality of secondary data is higher than primary data (e.g., when a value chain partner is unable to provide data of sufficient quality)

Companies are required to report a description of the types and sources of data (including activity data, emission factors, and GWP values) used to calculate emissions, and the percentage of emissions calculated using data obtained from suppliers or other value chain partners (covered in chapter 11 of the *Scope 3 Standard*).

See table 7.5 for a list of advantages and disadvantages of primary data and secondary data.

Table [7.5] Advantages and disadvantages of primary data and secondary data

	Primary data (e.g., supplier-specific data)	Secondary data (e.g., industry-average data)
Advantages	<ul style="list-style-type: none"> • Provide better representation of the company’s specific value chain activities • Enables performance tracking and benchmarking of individual value chain partners by allowing companies to track operational changes from actions taken to reduce emissions at individual facilities/companies and to distinguish between suppliers in the same sector based on GHG performance • Expands GHG awareness, transparency, and management throughout the supply chain to the companies that have direct control over emissions • Allows companies to better track progress toward GHG reduction targets (see chapter 9) 	<ul style="list-style-type: none"> • Allows companies to calculate emissions when primary data is unavailable or of insufficient quality • Can be useful for accounting for emissions from minor activities • Can be more cost-effective and easier to collect • Allows companies to more readily understand the relative magnitude of various scope 3 activities, identify hot spots, and prioritize efforts in primary data collection, supplier engagement, and GHG reduction efforts
Disadvantages	<ul style="list-style-type: none"> • May be costly • May be difficult to determine or verify the source and quality of data supplied by value chain partners 	<ul style="list-style-type: none"> • Data may not be representative of the company’s specific activities • Does not reflect operational changes undertaken by value chain partners to reduce emissions • Could be difficult to quantify GHG reductions from actions taken by specific facilities or value chain partners • May limit the ability to track progress toward GHG reduction targets (see chapter 9)

Data quality

Sources of primary data and secondary data can vary in quality. When selecting data sources, companies should use the data quality indicators provided in the *Scope 3 Standard* as a guide to obtaining the highest quality data available for a given emissions activity. The data quality indicators describe the representativeness of data (in terms of technology, time, and geography) and the quality of data measurements (i.e., completeness and reliability of data).

Companies should select data that are the most representative in terms of technology, time, and geography; most complete; and most reliable. To ensure transparency and avoid misinterpretation of data, companies are required to report a description of the data quality of reported emissions data covered in chapter 11 of the *Scope 3 Standard*.

8. How do I collect primary data from suppliers and other value chain partners?

Primary activity data may be obtained through meter readings, purchase records, utility bills, engineering models, direct monitoring, mass balance, stoichiometry, or other methods for obtaining data from specific activities in the company's value chain.

Where possible, companies should collect energy or emissions data from suppliers and other value chain partners in order to obtain site-specific data for priority scope 3 categories and activities. To do so, companies should identify relevant suppliers from which to seek GHG data. Suppliers may include contract manufacturers, materials and parts suppliers, capital equipment suppliers, fuel suppliers, third party logistics providers, waste management companies, and other companies that provide goods and services to the reporting company.

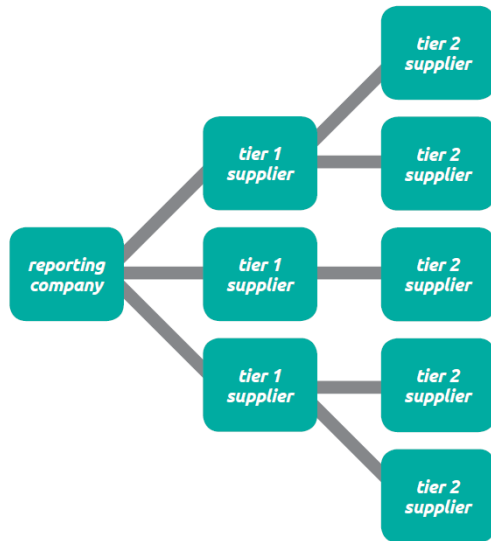
Companies should first engage relevant tier 1 suppliers (see figure 7.3). Tier 1 suppliers are companies with which the reporting company has a purchase order for goods or services (e.g., materials, parts, components, etc.). Tier 1 suppliers have contractual obligations with the reporting company, providing the leverage needed to request GHG inventory data.

To be comprehensive, companies may seek to obtain GHG emissions data from all tier 1 suppliers. However, a company may have many small tier 1 suppliers that together comprise only a small share of a company's total activities and spending. Companies may develop their own policy for selecting relevant suppliers to target for primary data collection. For example, a company may select suppliers based on their contribution to its total spend (see box 7.3). A company may also seek data from tier 2 suppliers, where relevant (see box 7.5). Tier 2 suppliers are companies with which tier 1 suppliers have a purchase order for goods and services (see figure 7.3). Companies should use secondary data to calculate emissions from activities where supplier-specific data is not collected or is incomplete.

Companies are required to report the percentage of emissions calculated using data obtained from suppliers or other value chain partners (covered in chapter 11 of the *Scope 3 Standard*).

Not all of a company's relevant suppliers may be able to provide GHG inventory data to the company. (See table 7.8 for a list of challenges and guidance for collecting primary data from suppliers.) In such cases, companies should encourage suppliers to develop GHG inventories in the future and may communicate their efforts to encourage more suppliers to provide GHG emissions data in the public report.

Figure [7.3] Tier 1 suppliers in a supply chain



Box [7.3] Example of prioritizing suppliers based on contribution to the company's total spend

As an example, a company may prioritize suppliers by following these steps:

1. Obtain a complete list of the reporting company's total spend or expenditure, by supplier
2. Rank tier 1 suppliers according to their contribution to the reporting company's total spend
3. Select the largest tier 1 suppliers that collectively account for at least 80 percent⁸ of spend (see figure 7.4)
4. Within the remaining 20 percent of spend, select any additional suppliers that are individually more than 1 percent of spend or that are relevant to the company for other reasons (e.g., contract manufacturers, suppliers that are expected to have significant GHG emissions, suppliers that produce or emit HFCs, PFCs, or SF₆, suppliers of high emitting materials, suppliers in priority spend categories as defined by the company, etc.)

Figure [7.4] Ranking a company's tier 1 suppliers according to spend



In this example, A-Z represent individual suppliers. The company selects suppliers A through I because they collectively account for 80 percent of the company's spend. The company also selects supplier J because it

individually represents more than 1 percent of supplier spend. The company uses secondary data to calculate emissions from activities where supplier-specific data is not collected or is incomplete.

Box [7.5] Expanding supplier GHG management beyond tier 1 suppliers

While companies should first engage tier 1 suppliers, significant value chain GHG impacts often lie upstream of a company's tier 1 suppliers. Tier 1 suppliers may outsource manufacturing or be several layers removed from the most GHG-intensive operations in a supply chain (e.g., raw material extraction or manufacturing).

As a result, companies may want to promote further proliferation of GHG management throughout the supply chain. As tier 1 data is gathered, companies may consider whether and how to approach deeper levels of the supply chain. Possible approaches include:

- Encouraging or requiring tier 1 suppliers to encourage their own tier 1 suppliers (i.e., the reporting company's tier 2 suppliers) to report their GHG inventories. Eventually ask tier 2 suppliers to require their tier 1 suppliers to do the same.

- Target specific tier 2 suppliers for GHG data requests in cases where tier 2 suppliers are responsible for the majority of GHG emissions associated with a product provided by a tier 1 supplier. In practice, this approach is likely to be difficult without close cooperation between a company and its complete supply chain. As an example, a firm that sells food products may work closely with both growers and processors in its supply chain.

Cascading GHG accounting and reporting throughout supply chains expands the number of companies directly involved in managing GHG emissions. Companies undertaking supply chain engagement efforts may optionally provide information about such efforts in the public report (see chapter 11).

Table [7.8] Challenges and guidance for collecting primary data from value chain partners

Challenges	Guidance
Large number of suppliers	<ul style="list-style-type: none"> • Target most relevant suppliers based on spend and/or anticipated emissions impact • Target suppliers where the reporting company has a higher degree of influence (e.g., contract manufacturers or suppliers where the reporting company accounts for a significant share of the supplier’s total sales)
Lack of supplier knowledge and experience with GHG inventories and accounting	<ul style="list-style-type: none"> • Target suppliers with prior experience developing GHG inventories • Identify the correct subject-matter expert at the company • Explain the business value of investing in GHG accounting and management • Request data suppliers already have collected, such as energy-use data, rather than emissions data • Provide clear instructions and guidance with the data request • Provide training, support, and follow-up
Lack of supplier capacity and resources for tracking data	<ul style="list-style-type: none"> • Make the data request as simple as possible • Use a simple, user-friendly, standardized data template or questionnaire • Provide a clear list of data required and where to find data (e.g., utility bills) • Use an automated online data collection system to streamline data entry • Consider use of a third party database to collect data • Engage and leverage resources from suppliers’ trade associations • Coordinate GHG data request with other requests • Follow up with suppliers
Lack of transparency in the quality of supplier data	<ul style="list-style-type: none"> • Request documentation on methodology and data sources used, inclusions, exclusions, assumptions, etc. • Minimize errors by requesting activity data (e.g., kWh electricity used, kg of fuels used) and calculating GHG emissions separately • Consider third party assurance
Confidentiality concerns of suppliers	<ul style="list-style-type: none"> • Protect suppliers’ confidential and proprietary information (e.g., through nondisclosure agreements, firewalls, etc.) • Ask suppliers to obtain third party assurance rather than submitting detailed activity data to avoid providing confidential information
Language barriers	<ul style="list-style-type: none"> • Translate the questionnaire and communications into local languages

9. How can I fill data gaps and improve data quality over time?

Companies can use secondary data to fill data gaps. When using secondary databases, companies should prioritize databases and publications that are internationally recognized, provided by national governments, or peer-reviewed. Companies should use the data-quality indicators when selecting secondary data sources. The data-quality indicators should be used to select secondary data that are the most representative to the company’s activities in terms of technology, time, and geography, and that are the most complete and reliable. A list of available secondary data sources is available at <https://ghgprotocol.org/life-cycle-databases>.

If data of sufficient quality are not available, companies may use proxy data to fill data gaps. Proxy data is data from a similar activity that is used as a stand-in for the given activity. Proxy data can be extrapolated, scaled up, or customized to be more representative of the given activity (e.g., partial data for an activity that is extrapolated or scaled up to represent 100 percent of the activity).

Collecting data, assessing data quality, and improving data quality is an iterative process. Companies should first apply data quality indicators and assess data quality when selecting data sources, then review the quality of data used in the inventory after data has been collected, using the same data quality assessment approach. In the initial years of scope 3 data collection, companies may need to use data of relatively low quality due to limited data availability. Over time, companies should seek to improve the data quality of the inventory by replacing lower quality data with higher quality data as it becomes available. In particular, companies should prioritize data quality improvement for activities that have the following:

- Relatively low data quality
- Relatively high emissions

Companies are required to provide a description of the data quality of reported scope 3 emissions data to ensure transparency and avoid misinterpretation of data.

10. *What resources does the GHG Protocol provide to help with scope 3 data collection and calculation?*

The following resources are available at <https://ghgprotocol.org/standards/scope-3-standard>:

- **Technical Guidance for Calculating Scope 3 Emissions** (for each scope 3 category) <https://ghgprotocol.org/scope-3-technical-calculation-guidance>
- **Supplier engagement guidance** <https://ghgprotocol.org/standards/scope-3-standard>
- **List of life cycle databases:** <https://ghgprotocol.org/life-cycle-databases>
- **Scope 3 evaluator tool (for scope 3 screening assessment):** <https://ghgprotocol.org/scope-3-evaluator>
- **Scope 3 online training (e-learning) course:** <https://ghgprotocol.org/scope3-standard-online-course>

Tracking scope 3 reductions

11. *How can I account for scope 3 emissions and reductions over time?*

Reductions in corporate emissions are calculated by comparing changes in the company's actual emissions inventory over time relative to a base year. The inventory method allows companies to track the aggregate effect of their activities on total corporate GHG emissions over time.

Accounting for actual reductions in indirect emissions (i.e., scope 2 or scope 3 emissions) to the atmosphere is more complex than accounting for actual reductions in direct emissions (i.e., scope 1) to the atmosphere. Changes in a company's scope 2 or scope 3 inventory over time may not always correspond to actual changes in GHG emissions to the atmosphere, since there is not always a direct cause-and-effect relationship between the reporting company's activities and the resulting GHG emissions. For example, a reduction in business travel would reduce a company's scope 3 emissions from business travel (since the reduction is usually quantified based on an average emission factor of fuel use per passenger). However, how a reduction in business travel actually translates into a change in GHG emissions to the atmosphere depends on several factors, including whether another person takes the "empty seat" or whether the unused seat contributes to reduced air traffic over the longer term. Generally, as long as the accounting of scope 3 emissions over time recognizes activities that in aggregate change global emissions, any such concerns should not inhibit companies from reporting and tracking their scope 3 emissions over time.

Companies may use the project accounting method to undertake more detailed assessments of actual reductions from discrete scope 3 GHG mitigation projects, in addition to reporting comprehensive scope 3 GHG emissions using the inventory method. Any project-based reductions must be reported separately from the company's scope 1, scope 2, and scope 3 emissions. For more information on quantifying project-based GHG reductions, refer to the *GHG Protocol for Project Accounting* (available at <https://ghgprotocol.org/standards/project-protocol>).

12. What about accounting for reductions outside of scope 3?

This standard is intended to assist companies in quantifying and reporting scope 3 reductions, where GHG reductions are determined by comparing changes in the company's scope 3 emissions from the fifteen scope 3 categories over time relative to a base year. In some cases, GHG reduction opportunities lie beyond a company's scope 1, scope 2, and scope 3 inventories. For example, some companies may track not only the emissions that arise from the use of their products (category 11), but also the avoided emissions in society that result from the use of their products and solutions compared to alternative products and solutions. Avoided emissions may also arise when accounting for emissions from recycling (category 5 or 13), or from activities in other scope 3 categories.

Accounting for avoided emissions that occur outside of a company's scope 1, scope 2, and scope 3 inventories requires a project accounting methodology. Any estimates of avoided emissions must be reported separately from a company's scope 1, scope 2, and scope 3 emissions, rather than included or deducted from the scope 3 inventory.

Accounting for avoided emissions from the use of sold products

To reduce scope 3 emissions from the use of sold products (category 11), companies may implement various GHG reduction strategies, such as redesigning products to be more efficient in the use-phase or replacing existing product lines with new zero-emitting product lines. These reduction activities can be tracked by comparing a company's scope 3 emissions inventory over time.

A company's products can also have broader impacts on GHG emissions in society when they provide the same or similar function as existing products in the marketplace but with significantly less GHG emissions. For example, a manufacturer of renewable energy technologies may be interested not only in tracking the emissions and reductions that occur during the use of its products, but also in assessing the reduction in society's GHG emissions as a result of using renewable energy technologies compared to generating electricity by combusting fossil fuels.

Examples of such products and solutions may include:

- Wind turbines or solar panels, compared to fossil fuel power plants
- LED bulbs, compared to incandescent bulbs
- Triple-pane windows, compared to double- or single-pane windows
- Insulation in a building, compared to no insulation
- Online meeting software, compared to business travel

Developing new products and solutions that achieve GHG reductions in society compared to other products and solutions is an important component of corporate sustainability strategies and offers significant opportunities for achieving large scale GHG reductions. These reductions are accounted for in scope 3 emissions to the extent that they decrease a company's emissions from the use of sold products over time, for example by redesigning products or replacing existing product lines with new product lines.

Avoided emissions from the use of sold products compared to a baseline are not included in a company's scope 3 emissions. Accounting for such reductions requires a project-based accounting methodology and poses several accounting challenges to ensuring that reduction claims are accurate and credible. Challenges include how to:

- Determine an appropriate baseline scenario (e.g., which technologies to compare)
- Determine the system boundaries (e.g., which emissions to include)
- Determine the time period (e.g., how many years to include)
- Accurately quantify avoided emissions
- Avoid “cherry picking” (e.g., account for both emissions increases and decreases across the company’s entire product portfolio)
- Allocate reductions among multiple entities in a value chain (e.g., avoid double counting of reductions between producers of intermediate goods, producers of final goods, retailers, etc.)

If a company chooses to account for avoided emissions from the use of sold products, avoided emissions are not included in or deducted from the scope 3 inventory, but instead reported separately from scope 1, scope 2, and scope 3 emissions. Companies that report avoided emissions should also report the methodology and data sources used to calculate avoided emissions, the system boundaries, the time period considered, the baseline (and baseline assumptions) used to make the comparison, as well as a statement on completeness (avoiding “cherry picking”) and ownership (avoiding double counting of reductions). For more information on quantifying project-based GHG reductions, refer to the *GHG Protocol for Project Accounting*, available at <https://ghgprotocol.org/standards/project-protocol>. For more information on avoided emissions, see <https://ghgprotocol.org/estimating-and-reporting-avoided-emissions>.

Addressing double counting

13. Is there double counting in the scopes?

Scope 1, scope 2, and scope 3 are mutually exclusive for the reporting company, such that there is no double counting of emissions between the scopes within one company’s inventory. In other words, a company’s scope 3 inventory does not include any emissions already accounted for as scope 1 or scope 2 by the same company. Combined, a company’s scope 1, scope 2, and scope 3 emissions represent the total GHG emissions related to company activities.

The GHG Protocol defines scope 1 and scope 2 to ensure that two or more companies do not account for the same emissions within scope 1 or scope 2. By properly accounting for emissions as scope 1, scope 2, and scope 3, companies avoid double counting within scope 1 and scope 2.

By definition, scope 3 emissions occur from sources owned or controlled by other entities in the value chain (e.g., materials suppliers, third-party logistics providers, waste management suppliers, travel suppliers, lessees and lessors, franchisees, retailers, employees, and customers). Scope 3 emissions for the reporting company are by definition the direct emissions of another entity.

In certain cases, two or more companies may account for the same emission within scope 3. For example, the scope 1 emissions of a power generator are the scope 2 emissions of an electrical appliance user, which are in turn the scope 3 emissions of both the appliance manufacturer and the appliance retailer. Each of these four companies has different and often mutually exclusive opportunities to reduce emissions. The power generator can generate power using lower-carbon sources. The electrical appliance user can use the appliance more efficiently. The appliance manufacturer can increase the efficiency of the appliance it produces, and the product retailer can offer more energy-efficient product choices.

By allowing for GHG accounting of direct and indirect emissions by multiple companies in a value chain, scope 1, scope 2, and scope 3 accounting facilitates the simultaneous action of multiple entities to reduce emissions throughout society.

Because of this type of double counting, scope 3 emissions should not be aggregated across companies to determine total emissions in a given region. Note that while a single emission may be accounted for by more than one company as scope 3, in certain cases the emission is accounted for by each company in a different scope 3 category.

14. *Is there double counting of scope 3 reductions among multiple entities in a value chain?*

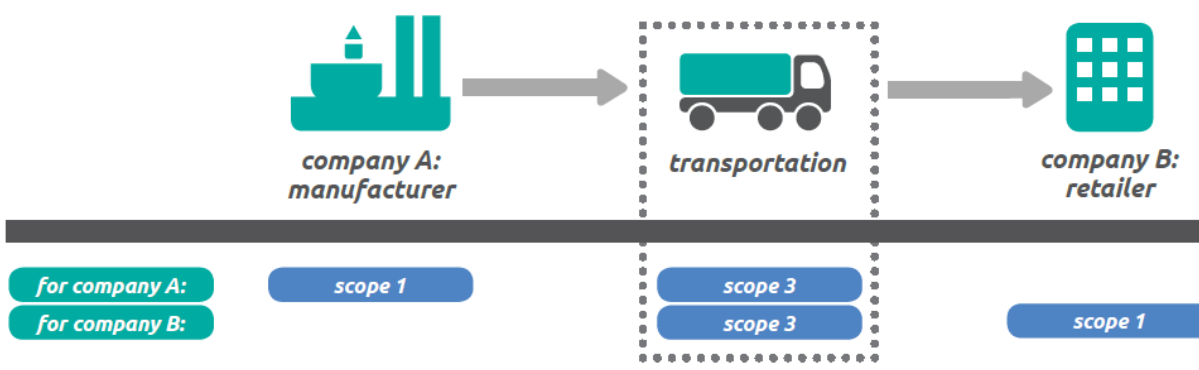
Multiple entities in a value chain influence both emissions and reductions, including raw material suppliers, manufacturers, distributors, retailers, consumers, and others. As a result, changes in emissions are not easily attributable to any single entity.

Double counting within scope 3 occurs when two entities in the same value chain account for the scope 3 emissions from a single emissions source – for example, if a manufacturer and a retailer both account for the scope 3 emissions resulting from the third-party transportation of goods between them (see figure 9.1). This type of double counting is an inherent part of scope 3 accounting. Each entity in the value chain has some degree of influence over emissions and reductions. Scope 3 accounting facilitates the simultaneous action of multiple entities to reduce emissions throughout society.

Companies may find double counting within scope 3 to be acceptable for purposes of reporting scope 3 emissions to stakeholders, driving reductions in value chain emissions, and tracking progress toward a scope 3 reduction target. To ensure transparency and avoid misinterpretation of data, companies should acknowledge any potential double counting of reductions or credits when making claims about scope 3 reductions. For example, a company may claim that it is working jointly with partners to reduce emissions, rather than taking exclusive credit for scope 3 reductions.

Unlike the above cases, double counting is a problem when it comes to offset credits or other market instruments that convey unique claims to GHG reductions or removals. If GHG reductions or removals take on a monetary value or receive credit in a GHG reduction program, it is necessary to avoid double counting of credits from such reductions or removals. To avoid double crediting, companies should for example specify exclusive ownership of reductions through contractual agreements.

Figure [9.1] Type of double counting within scope 3



Plans for further guidance

15. Is the Greenhouse Gas Protocol planning additional guidance on scope 3?

The Greenhouse Gas Protocol is starting a process to determine the need and scope for additional guidance building on the existing set of corporate GHG accounting and reporting standards for scope 1, scope 2, and scope 3 emissions.

Additional guidance will be designed to support and enhance implementation of the GHG Protocol standards. Furthermore, a key focus will be to ensure harmonization and alignment with accounting rules under development through major disclosure initiatives including the [US Securities and Exchange Committee \(SEC\)](#), European Commission (e.g. [EFRAG](#)), and others.

As a first step, researchers at Concordia University in Montréal, Canada will lead studies on current practices in corporate GHG inventory reporting from March to June 2022. [Shannon Lloyd](#), who will lead the study on scope 1 and scope 3, is an assistant professor in the John Molson School of Business at Concordia University, with a focus on corporate environmental practices and their alignment with environmental sustainability. [Anders Bjørn](#), who will lead the study on scope 2, is a postdoctoral fellow at Concordia University studying corporate emission accounting methods and disclosure, with a focus on the link between reported corporate emissions and global emissions.

The research will be followed by a global survey and stakeholder consultations to inform the need and scope of additional guidance. As with all Greenhouse Gas Protocol standards, any additional guidance will be developed through an inclusive, global, multi-stakeholder development process, with participation from business, NGOs, academia, and government worldwide.

For more information, see <https://ghgprotocol.org/blog/ghg-protocol-assess-need-additional-guidance-building-existing-corporate-standards>.