CDP Supply Chain Member Guide for Accounting and Reporting Your Scope 3 Emissions

An overview of approaches CDP Supply Chain members use to integrate data collected from their suppliers into their Scope 3 emissions inventory.

Contents

1. Introduction

In this document, CDP draws on the experience of other CDP Supply Chain members and technical experts to lead you through the principles and processes of using primary data for Scope 3 accounting and reporting. This includes identifying Scope 3 categories of relevance, collecting the data, outlining different methods to calculate your Scope 3 inventory, and finally reporting the data (Figure 1).

Calculating Scope 3 emissions can be challenging. The data that you need to quantify emissions specific to your activities is often held by other organizations. This document aims to help you calculate your Scope 3 emissions using CDP data, providing a step-by-step guide on how to account for and report your Scope 3 emissions, closely aligning itself with the steps outlined in the [GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard](#) (henceforth referred to as the GHG Protocol Scope 3 Standard).

| 1. Setting the boundary & selecting the methodology | 2. Collection of company spend & revenue information | 3. Create Scope 3 inventory | 4. Report emissions and set target |

Figure 1 Process for creating a Scope 3 inventory

2. Identify Scope 3 categories of relevance

Your Scope 3 emissions are your indirect emissions that occur from sources owned or controlled by other organizations in the value chain. These can be either upstream or downstream emissions. When completing your Scope 3 inventory you should follow the principles outlined on page 21 of the GHG Protocol Scope 3 Standard:

- ❯ Companies shall account for all Scope 3 emissions and disclose and justify any exclusions.
- ❯ Companies shall account for emissions from each Scope 3 category according to the minimum boundaries identified in the GHG Protocol Scope 3 Standard.
- ❯ Companies shall account for Scope 3 emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, if they are emitted in the value chain.
- ❯ Biogenic CO_2 emissions that occur in the reporting company's value chain shall not be included in the scopes but shall be included and separately reported in the public report.
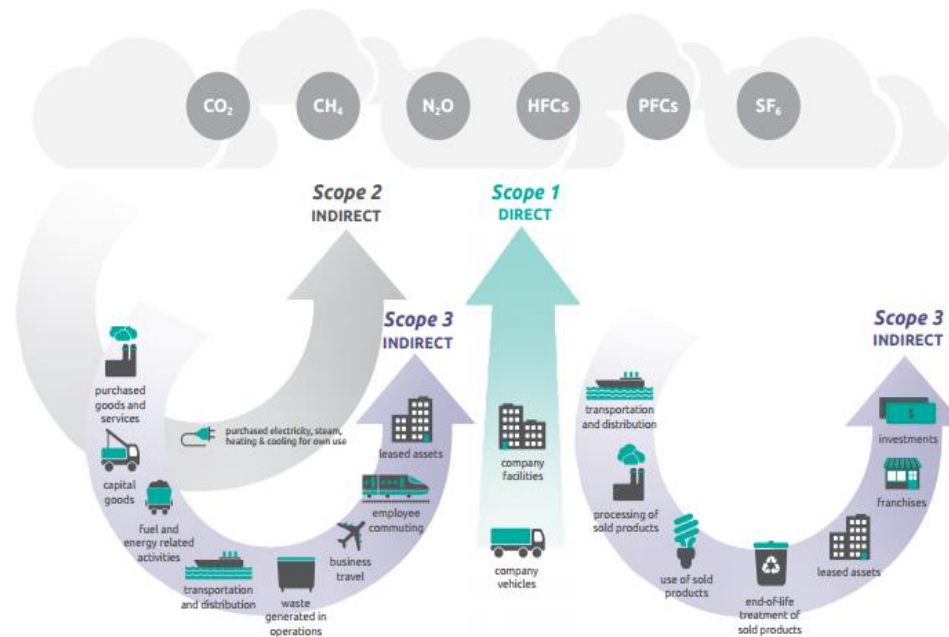

Figure 2: Scope 3 categories
Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard; Fig 5.2 p31

There are 15 categories identified in the GHG Protocol Scope 3 Standard (Table 1). It is recognized that not all categories, for example, franchises will be relevant to all companies. Therefore, companies are asked to follow the criteria in Table 2, extracted from the GHG Protocol Scope 3 Standard, for establishing which Scope 3 categories are relevant to them, justifying any exclusions made.

When using supplier data, two limitations that you will often have to report are:

1. Scaling data up where suppliers fail to report.
2. Your confidence level in suppliers' data gathering and reporting skills.

Table 1: List of Scope 3 categories

*Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard;
Table 5.3 p32*

Upstream or downstream	Scope 3 category
Upstream scope 3 emissions	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	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

Table 2: Determining relevant Scope 3 categories

*Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard;
Table 6.1 p61*

Criteria	Description
Size	They contribute significantly to the company's total anticipated scope 3 emissions (see section 7.1 for guidance on using initial estimation methods)
Influence	There are potential emissions reductions that could be undertaken or influenced by the company (see box 6.2)
Risk	They contribute to the company's risk exposure (e.g., climate change related risks such as financial, regulatory, supply chain, product and customer, litigation, and reputational risks) (see table 2.2)
Stakeholders	They are deemed critical by key stakeholders (e.g., customers, suppliers, investors, or civil society)
Outsourcing	They are outsourced activities previously performed in-house or activities outsourced by the reporting company that are typically performed in-house by other companies in the reporting company's sector
Sector guidance	They have been identified as significant by sector-specific guidance
Other	They meet any additional criteria for determining relevance developed by the company or industry sector

Determining relevance of Scope 3 categories

Evaluating which of the 15 Scope 3 categories are relevant to your organization can be a daunting prospect. Many companies, particularly those with hundreds of suppliers, are often overwhelmed with the amount of data and are unable to even determine a starting point. To assist companies in determining which of the Scope 3 categories are relevant to them, please see CDP's Technical Note: Relevance of Scope 3 Categories by Sector.

3. Using CDP data

Having determined the Scope 3 categories that are relevant to your organization, you will then start collecting your data. It is possible to use environmentally extended input-output data or industry-average figures to fill in data gaps[1] where you know you will be unable to collect primary data, or for certain categories such as "Capital Goods" and "Purchased Goods and Services". This will give you a sense of the scale of emissions from different types of sources and will indicate emission hotspots. However, if you would like figures specific to **your** suppliers and identify emissions reduction initiatives and collaboration opportunities, then you need information from the specific organizations that make up your value chains[2].

Once you have data, you will need to figure out what of that data you will need for each Scope 3 category. The GHG Protocol's Technical Guidance for Calculating Scope 3 Emissions version 1.0 gives examples of how to use data from suppliers to calculate emissions for the different categories. Some Scope 3 categories cover emissions for goods and services from cradle-to-gate[3] (e.g., "Purchased Goods and Services" and "Capital Goods"). These cover all emissions from extraction of raw materials used to make the products, to transportation of those products, to the point of sale by the producer. Other categories, such as "Upstream Transportation and Distribution", have a minimum boundary of the Scopes 1 and 2 emissions of transportation providers. The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure are optional[4].

There are three different ways in which you can use CDP data to calculate your emissions for certain Scope 3 categories (Figure 3), the GHG protocol also has a section on minimum boundaries. These involve a combination of methods, including combinations of primary CDP data with secondary data. Below we outline the three methods: Allocated emissions, financial intensity, and hybrid methodology.

> Typically, members mainly use CDP data for their Purchased Goods and Services emissions. A smaller but growing proportion use it for capital goods as well.

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[1] Known as secondary data.

[2] Value chain partners could be suppliers (tier 1 or further upstream), customers (direct customers or customers further downstream), franchisees or franchisors, investees or investors, lessees, or lessors.

[3] Cradle-to-gate is an assessment of a partial product life cycle from resource extraction (cradle) to the factory gate (i.e., before it is transported to the consumer).

[4] If emissions are reported within "upstream transportation and distribution" or one of the other upstream Scope 3 categories, then they should not also be reported within "purchased goods and services" to avoid double-counting. [also reference GHGP Scope 3 standard table 5.4 – which tells which Scope 3 categories are optional/recommended

Although theoretically possible, for other upstream categories, such as logistics, and business travel, other tools are more established and better suited to the purpose of creating a full inventory.

Method 1: Using emissions allocated to you by your suppliers

Source of data:

Where your suppliers allocate their emissions to your purchases in their Scopes 1, 2, and (for categories requiring full supply chain analysis) Scope 3 in their answers to question SC 1.1 in CDP's supply chain questionnaire.

Calculation:

1. Identify your suppliers that fall within the same Scope 3 category, for example, all your suppliers that fall under: "Purchased Goods and Services".

2. Add together their emissions. If a company supplies you with goods/services that fall into more than one Scope 3 category (e.g., in the case of a diversified company) then you will need to know how to split emissions between the several categories, such as a company that supplies you with "Upstream Transportation and Distribution" and leases premises to you ("Upstream Leased Assets" category).

3. Data checking –
    a. Check for gaps in the allocated data and fill them in with your own allocations. It is also worthwhile sense checking their allocations are not different to manual allocations based on your spend with them.
    b. Cross-check your suppliers' allocated emissions, by using the intensity metrics provided (e.g., mT CO2 per unit of revenue) and your spend to ensure there are no large discrepancies
    c. There is a temporal limitation with this methodology. It's most useful for Purchased Goods and Services, where spend is usually similar year-on-year. For capital goods, however, it may be less helpful unless the project is multi-year with similar emissions year-on-year.

4. The suppliers whose emission figures you have added together will represent a percentage of your suppliers, so you need to scale the emissions up to cover 100% spend.

Figure 3 Screenshots from a CDP Scope 3 Report showing duplicate company examples

Things to watch out for: We listed the companies you requested but many map up to a parent company. These will show as duplicates and should only be used once for this methodology. They are listed multiple times to support analysis of the intensity-based methodology (where buyers know the spend per requested supplier as opposed to the parent entity).

Method 2: Modeling Scope 3 emissions from financial intensity metric (not full supply chain inventory).

This approach does not apply to Purchased Goods and Services or Capital Goods

Source of data

Your suppliers' answers to emissions intensities or gross global emissions numbers in the CDP supply chain questionnaire.

Table 3: Relevant columns and questions for method 2
Source: CDP Scope 3 Report

Column Name	Question Number	Description
Self-reported S1&2 (location-based) intensity mUSD	C6.10	This indicates the self-reported intensity values for S1&2 using location-based S2 figures normalized to USD currency.
Self-reported S1&2 (market-based) intensity mUSD	C6.10	This indicates the self-reported intensity values for S1&2 using market-based S2 figures normalized to USD currency.
Manual S1&2 (location-based) Intensity mUSD	C6.1 + C6.3	This indicates the calculated intensity values for S1&2 calculated by CDP, using location-based S2 figures, based on the emissions accounting data reported by the supplier in C6.1 and C6.3 and normalized to USD currency.
Manual S1&2 (market-based) Intensity mUSD	C6.1 + C6.3	Manually calculated intensity values for S1&2 calculated by CDP, using market-based S2 figures and based on the emissions accounting data reported by the supplier in C6.1 and C6.3.

Calculation

In C6.10, companies provide an emissions figure for Scope 1 and 2 in metric tons of CO_2e per unit revenue. The currency unit is provided in answer to C0.4.

1. Identify which of your Scope 3 categories the supplier falls under. For example, if the company is a logistics provider, it would be "Upstream Transportation and Distribution*"*.

2. Calculate the amount of money that you have spent with each supplier within the Scope 3 category in question. Align the expenditure year with your GHG reporting year. You may want to fill out your spend in column I. Make sure to markup clearly what currency your spend is in and put it into terms of millions so $1,000,000 is $1m.
3. Select the intensities in the currency figure which relate to your spend. CDP provides conversions to millions USD, EUR and GBP.
   a. Alternatively, you can convert your suppliers' currency total revenue into a common currency. For example, if your company uses JPY, and the supplier has reported their emissions intensity in Euros, you will need to convert the currency all into JPY so that the emissions intensity figures are comparable and aligned with your spend data.
4. Multiply the emissions intensity figure for each supplier by the amount that you spent with them.
5. Add this emission figure with similarly calculated figures from other suppliers in the Scope 3 category in question.
6. Calculate the total amount that you spend in relation to the Scope 3 category in question and scale up the figures so that they represent 100% of the spend in this category.

Limitations specific to method 2

If your supplier provides you with goods and services that fall into more than one Scope 3 category, then you would have to know how to break down their Scope 1 and 2 emissions into the Scope 3 categories, which is something that you will not be able to do using this method.

C6.10 covers Scope 1 and 2 emissions. Some categories (e.g., "Upstream transportation and distribution") have a minimum boundary of the Scope 1 and 2 emissions of transportation providers. The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure are optional[5]. Therefore, there is no issue in terms of the alignment of Scopes and the minimum boundary.

Another consideration is whether your suppliers produce products that vary widely in their associated emissions (i.e., from battleships to components). If the answer is "No", then there is a greater likelihood that the figure that you calculate will be representative of emissions associated with your purchases from them. If the answer is "Yes" and you only buy higher or lower emission intensity products, then the figure that you quantify will under or over-estimate your actual emissions. This method will be more robust if the products that the company provides are few and homogeneous (emissions do not vary considerably from product to product), and the sale price is also homogeneous per product or reflects their GHG/energy intensity. This is also relevant to method 1.

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[5] If emissions are reported within "Upstream Transportation and Distribution" or one of the other upstream Scope 3 categories, then they should not also be reported within "Purchased Goods and Services" to avoid double-counting.

Reported Revenue mUSD	Self-reported S1&2 (location-based) intensity mUSD	Self-reported S1&2 (market-based) intensity mUSD	Manual S1&2 (location-based) Intensity mUSD	Manual S1&2 (market-based) Intensity mUSD	Manual S3 (upstream only) intensity mUSD	Sector Average S1&2 (location-based) mUSD	Sector Average S3 (upstream) mUSD
4867.402282		0.994740426	3.261827694	0.994757807	46.90523427	3.934	5.594
22334.85563	2.660260648	2.577234242	2.665545594	2.57723918	1.718789575	6.087	1.954
82351		2.668	4.305548527	2.332006733	50.68297941	8.061	67.85
26969.44378		4.255015747	53.09710961	39.74545844	716.2105884	61.87	386
and Services		4.537550755	5.787918081	4.537397154	70.07024463	7.134	115.2
1.4011608		4.594653304	11.15994912	4.431524318	204.3376895	9.804	16.52
11247.83207		11.21021648	12.54865128	11.99535666	440.480572	25.99	69.93

Figure 4 Relevant columns from CDP Scope 3 Report for method 2.
Source: CDP Scope 3 Report

Method 3: Hybrid methodology - Modeling full value chain data - this applies to Purchased Goods and Services and Capital goods

Source of data

Your suppliers' answers to emissions intensities or gross global emissions numbers in the CDP supply chain questionnaire.

Table 4: Relevant columns and questions for method 3
Source: CDP Scope 3 Report

Column Name	Question Numbers	Description
Self-reported S1&2 (location-based) intensity mUSD	C6.10	This indicates the self-reported intensity values for S1&2 using location-based S2 figures normalized to USD currency.
Self-reported S1&2 (market-based) intensity mUSD	C6.10	This indicates the self-reported intensity values for S1&2 using market-based S2 figures normalized to USD currency.
Manual S1&2 (location-based) Intensity mUSD	C6.1 + C6.3	This indicates the calculated intensity values for S1&2 calculated by CDP, using location-based S2 figures, based on the emissions accounting data reported by the supplier in C6.1 and C6.3 C6.1 & C6.3 as well as their annual revenue figures as reported in SC0.4
Manual S1&2 (market-based) Intensity mUSD	C6.1 + C6.3	This indicates CDP's calculation of the intensity values for S1 & 2 using market-based S2 figures from your suppliers' emissions accounting data in C6.1 & C6.3 as well as their annual revenue figures as reported in SC0.4
Manual S3 (upstream only) intensity mUSD	C6.5	This indicates the manually calculated intensity values for S3, based on the emissions accounting data reported by the supplier in C6.5 and normalized to USD currency. This is for upstream emissions only, which include; business travel, capital goods, employee commuting, fuel-and-energy-related activities, purchased goods and services, upstream lead assets, upstream transportation and distribution, waste generated in operations and others (upstream).

The hybrid method is used for the categories requiring full supply chain emissions (purchased goods and services & capital goods) as it requires a full upstream assessment. This method uses allocated/modeled primary Scope 1 and Scope 2 emission data directly from tier 1 suppliers and supplier reported Scope 3 (and/or) secondary data (such as CDP averages) to calculate upstream emissions wherever supplier-specific data is not available. The Scope 3 and secondary data can be used to calculate emissions from your value chain for tiers 2 and greater.

Detailed explanations can be found in the GHG Protocol Scope 3 calculation guidance. However general principles are listed below.

1. Identify which of your Scope 3 categories the supplier falls under. For example, if the company is a logistics provider, it would be "Upstream Transportation and Distribution*".*
2. Calculate the amount of money that you have spent with each supplier within the Scope 3 category in question. Align the expenditure year with your GHG reporting year. You may want to fill out your spend in column I. Make sure to mark up clearly what currency your spend is in and ensure it's in terms of millions as a metric.
3. Select the intensities in the currency figure which relate to your spend. CDP provides conversions to USD, EUR and GBP.
   a. Alternatively, you can convert your suppliers' currency total revenue into a common currency. For example, if your company uses JPY, and the supplier has reported their emissions intensity in Euros, you will need to convert the currency all into JPY so that the emissions intensity figures are comparable and aligned with your spend data]. 1.
4. Multiply the emissions scope 1 & 2 intensity figure for each supplier by the amount that you spent with them (this is likely to be more of your suppliers).
5. Multiply the emissions scope 3 intensity figure for each supplier by the amount that you spent with them (this is likely to be less of your suppliers).
6. Add this emission figure with similarly calculated figures from other suppliers in the Scope 3 category in question.
7. Calculate the total amount that you spend in relation to the Scope 3 category in question and scale up the figures so that they represent 100% of the spend in this category

Filling in the blanks using secondary data

During that process you might notice absent data from suppliers or data that looks unreliable. These gaps or poor data will need to be replaced with secondary data. Over the past six years we have seen members approach integrating supplier data into their models in largely two ways:

▼ **Integration into a bought Environmentally Extended Input Output (EEIO) methodology**
   This depends on the consultant or software members have been using to date. Some software solutions are sophisticated enough for the primary data numbers to slot in.

- **Creation of their own data model using industry averages**

  Essentially where a supplier did not allocate Scope 3 emissions, a member would look at the average Scope 3 number for that industry group. This would then be made into an intensity against $/£/Other currency. The member would then proportion out their Scope 3 number using spend. This could be CDP data or industry group data.

CDP has provided this data for you in the scope 3 report -

	U	V	W	X	Y	Z	AA	AB
				Intensity data (USD)				
	Reported Revenue mUSD	Self-reported S1&2 (location-based) intensity mUSD	Self-reported S1&2 (market-based) intensity mUSD	Manual S1&2 (location-based) Intensity mUSD	Manual S1&2 Intensity mUSD	Manual S3 intensity mUSD	Sector Average S1&2 (location-based) mUSD	Sector Average S3 (upstream) mUSD
	4867.402282		0.994740426	3.261827694	0.994757807	46.90523427	3.934	5.594
	22334.85563	2.660260648	2.577234242	2.665545594	2.57723918	1.718789575	6.087	1.954
	82351		2.668	4.305548527	2.332006733	50.68297941	8.061	67.85
	26969.44378		4.255015747	53.09710961	39.74545844	716.2105884	61.87	386

Figure 5 Relevant columns from CDP Scope 3 Report for method 3.
Source: CDP Scope 3 Report

CDP Industry name	CDP Activity Group name	CDP Activity name	Variable	Level of aggregation	Median intensity	percentile 25	percentile 75	Cleaned sample size	Coefficient of variation
Apparel	Textiles & fabric goo	Apparel design & ma	S1_S2_LB_imp	Activity	16.01	5.392439025	54.9288329	94	7.569362583
Apparel	Textiles & fabric goo	Apparel design & ma	S3_Up	Activity	166.1	11.20126635	362.0122487	54	3.79793614
Apparel	Textiles & fabric goo	Luggage & bags	S1_S2_LB_imp	Activity	7.134	4.303228695	11.33898503	12	2.224187691
Apparel	Textiles & fabric goo	Luggage & bags	S3_Up	Activity Group	115.2	10.10114897	350.5801639	80	8.882478398
Apparel	Textiles & fabric goo	Textiles	S1_S2_LB_imp	Activity	174.2	8.182162272	515.0406766	61	5.177574905
Apparel	Textiles & fabric goo	Textiles	S3_Up	Activity	106.2	10.88277612	344.130774	22	4.677471466
Biotech, health care	Biotech & pharma	Biotechnology	S1_S2_LB_imp	Activity	29.76	7.965623797	138.3601636	28	3.569213155
Biotech, health care	Biotech & pharma	Biotechnology	S3_Up	Activity	63.94	24.15419489	144.873936	23	1.240880033
Biotech, health care	Biotech & pharma	Pharmaceuticals	S1_S2_LB_imp	Activity	28.78	12.72579248	79.83049053	75	2.687671513
Biotech, health care	Biotech & pharma	Pharmaceuticals	S3_Up	Activity	62.64	11.38548077	139.7455932	49	1.16356124
Biotech, health care	Health care provision	Health care facilities	S1_S2_LB_imp	Activity	36.87	11.11669851	68.68810659	16	3.571551855
Biotech, health care	Health care provision	Health care facilities	S3_Up	Activity	47.27	12.00645015	110.215804	10	2.613840226
Biotech, health care	Medical equipment &	Health care supplies	S1_S2_LB_imp	Activity	25.25	12.5298483	91.47855756	18	1.448905501
Biotech, health care	Medical equipment &	Health care supplies	S3_Up	Activity	36.62	0.709416225	128.8004523	11	1.355380926
Biotech, health care	Medical equipment &	Medical equipment	S1_S2_LB_imp	Activity	11.74	7.931516508	21.48628378	64	1.238968342
Biotech, health care	Medical equipment &	Medical equipment	S3_Up	Activity	81.2	4.318735846	131.7115181	34	1.02309336
Food, beverage & ag	Crop farming	Biofuel supply	S1_S2_LB_imp	Activity Group	75.81	9.128261698	129.5010787	24	1.945709915
Food, beverage & ag	Crop farming	Biofuel supply	S3_Up	Activity Group	194.7	25.05905978	1238.334056	13	1.27559114
Food, beverage & ag	Crop farming	Cocoa bean farming	S1_S2_LB_imp	Activity Group	75.81	9.128261698	129.5010787	24	1.945709915
Food, beverage & ag	Crop farming	Cocoa bean farming	S3_Up	Activity Group	194.7	25.05905978	1238.334056	13	1.27559114
Food, beverage & ag	Crop farming	Cotton farming	S1_S2_LB_imp	Activity Group	75.81	9.128261698	129.5010787	24	1.945709915

S3 Report Data | **Suggested Sectoral Averages** | All Sectoral Averages S1 & S2LB | All Sectoral Avera ... ⊕

It is your choice which of the medians to use in your modelling; the median is a statistical favorite, whilst the 75th Percentile is a member favorite.
This is because as the sample size grows and supplier reporting improves, we see the emissions increasing at the median towards the higher end.
Some sectors do reduce, but the majority increase year-on-year.

4. Checking the data

Scope 3 modelling is notoriously hard. The protocol acknowledges this and even gives suggestions to assess and report quality of data. When using CDP data three areas crop up most commonly: temporal representativeness, completeness, and reliability. There is no 100% right or wrong answer; it is mainly about policy decisions.

Transparency on data limitations for using primary data in your Scope 3 emissions inventory

The GHG Protocol lists specific required and optional information for reporting Scope 3 emissions in Chapter 11[6] , which can be viewed in Table 5. When using primary data for calculations, CDP recommends paying extra attention to data transparency disclosures. As expected, given the breadth of Scope 3 emissions, the sources of primary data and secondary data can vary in quality. The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard recommends that companies should use data quality indicators as a guide to judge data quality. These indicators describe how well the reported data is likely to represent actual emissions.

	Data quality indicator	Description
Table 5: Data quality indicators *Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard; Table 7.6 p76*		
1	Technological representativeness	The degree to which the data set reflects the actual technologies used.
2	Temporal representativeness	The degree to which the data set reflects the actual time (e.g., year) or age of the activity.
3	Geographical representativeness	The degree to which the data set reflects the actual geographic location of the activity (e.g., country/area or site).
4	Completeness	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.
5	Reliability	The degree to which the sources, data collection methods and verification procedures used to obtain the data are dependable.

In terms of applying these considerations to data from CDP's Supply Chain program, it is necessary to consider the following cross-cutting themes:

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[6] GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, page 119

Temporal representativeness

If you use data from your suppliers to quantify your Scope 3 emissions, then some, or all of the emissions are likely to have occurred before your reporting year (depending on the degree of overlap between your reporting year and theirs). For products, goods and services applying your current year's spend to intensities reported last year is considered "very good" as it's within a 3-year time frame.

Score	Representativeness to the activity in terms of:				
	Technology	Time	Geography	Completeness	Reliability
Very good	Data generated using the same technology	Data with less than 3 years of difference	Data from the [...]	Data from all relevant sites over an adequate time period to even out normal fluctuations	Verified[3] data based on measurements[4]
Good	Data generated using a similar but different technology	Data with less than 6 years of difference	Data from a similar area	Data from more than 50 percent of sites for an adequate time period to even out normal fluctuations	Verified data partly based on assumptions or non-verified data based on measurements
Fair	Data generated using a different technology	Data with less than 10 years of difference	Data from a different area	Data from less than 50 percent of sites for an adequate time period to even out normal fluctuations or more than 50 percent of sites but for a shorter time period	Non-verified data partly based on assumptions, or a qualified estimate (e.g. by a sector expert)
Poor	Data where technology is unknown	Data with more than 10 years of difference or the age of the data are unknown	Data from an area that is unknown	Data from less than 50 percent of sites for shorter time period or representativeness is unknown	Non-qualified estimate

Figure 6 List of Scope 3 categories (repeated below)
Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard; Box 7.2.3 p79

However, it is still out by a year. CDP would recommend you note this issue when reporting the data, either in CSR reports or under data quality in the methodology section of the Scope 3 question in the core questionnaire (C10.6) if you consider that the time may mean that you have reported an under- or over-estimate of your emissions in the reporting period. For example, differences could occur because of major in-sourcing/out-sourcing or significant changes in leasing arrangements that shift some emissions between your company's Scopes 1 & 2 and your supplier's Scopes 1 & 2. In these instances,

the "temporal representativeness" of the data has been reduced and you should re-state your reported figures once you start to receive data from your suppliers that reflect these changes.

Technical Guidance for Calculating Scope 3 Emissions version 1.0 recognizes that it is not always possible to avoid time delays in the use of data[7].

Completeness

Where you have data from a subset of your suppliers and you intend to scale up the data to represent an entire Scope 3 category, you need to consider the extent to which those suppliers are representative of the entire set of suppliers in that category. Again, concerns that the data may under or over-estimate emissions from the full set can be noted when reporting the inventory.

Score	Representativeness to the activity in terms of:				
	Technology	Time	Geography	Completeness	Reliability
Very good	Data generated using the same technology	Data with less than 3 years of difference	Data from the same area	Data from all relevant sites over an adequate time period to even out normal fluctuations	Verified[1] data based on measurements[4]
Good	Data generated using a similar but different technology	Data with less than 6 years of difference	Data from a similar area	Data from more than 50 percent of sites for an adequate time period to even out normal fluctuations	Verified data partly based on assumptions or non-verified data based on measurements
Fair	Data generated using a different technology	Data with less than 10 years of difference	Data from a different area	Data from less than 50 percent of sites for an adequate time period to even out normal fluctuations or more than 50 percent of sites but for a shorter time period	Non-verified data partly based on assumptions, or a qualified estimate (e.g. by a sector expert)
Poor	Data where technology is unknown	Data with more than 10 years of difference or the age of the data are unknown	Data from an area that is unknown	Data from less than 50 percent of sites for shorter time period or representativeness is unknown	Non-qualified estimate

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[7] Page 25: "Note that, to the extent possible, the data provided by the supplier should be for the same time interval as the reporting company's Scope 3 inventory and preference should be given to assured data."

Reliability

The nature of primary data collection means that it is sometimes difficult to determine or verify the source and quality of data supplied by value chain partners. The CDP scope 3 report has done some initial thinking for you on which data to use, but these are suggestions for you to start with and amend to reflect your policies.

Column Name	Column Category	Description
Emissions data quality comments	Intensity data (general)	during data cleaning for CDP's Full GHG Emissions Dataset https://www.cdp.net/en/investor/ghg-emissions-
Intensity data quality comments	Intensity data (general)	chosen
Suggested S1&2 (location-based) intensity source	Intensity data (general)	The suggested intensity for S1&S2 (location-based)
Suggested S3 (upstream only) intensity source	Intensity data (general)	The suggested intensity for S3 (upstream)
Difference ratio of self-reported intensity and manual intensity for S1&2 (location-based)	Intensity data (general)	smaller intensity figure, e.g., a difference ratio of 10 indicates that the values differ by a order of magnitude
Difference ratio of self-reported intensity and manual intensity for S1&2 (market-based)	Intensity data (general)	smaller intensity figure, e.g., a difference ratio of 10 indicates that the values differ by a order of magnitude

	AS	AT	AU	AV	AW	AX
	Intensity data (general)					
	Emissions data quality comments	Intensity data quality comments	Suggested S1&2 (location-based) intensity source	Suggested S3 (upstream only) intensity source	Difference ratio of self-reported intensity and manual intensity	Difference ratio of self-reported intensity and manual intensity
		S3 upstream intensit	Manually calculated i	Sector average intensity		1.036811033
		S3 upstream intensit	Self reported intensit	Sector average intens	1.001391351	
		S1_S2_LB intensity:	Sector average intens	Sector average intensity		
	S3_CapGoo: CDP C	S3 upstream intensit	Manually calculated i	Sector average intensity		1.000056873
			Self reported intensit	Manually calculated i	1.0000436	

That being said, it is easier to take action with suppliers on reducing emissions once they have reached a level of proficiency. Their answers to the CDP questionnaire will help to identify their level of confidence, for instance, if they verify emissions or not. Other metrics include the CDP score, or if they report publicly.

Score	Representativeness to the activity in terms of:				
	Technology	Time	Geography	Completeness	Reliability
Very good	Data generated using the same technology	Data with less than 3 years of difference	Data from the same area	Data from all relevant sites over time period normal fluctuations	Verified[3] data based on measurements[4]
Good	Data generated using a similar but different technology	Data with less than 6 years of difference	Data from a similar area	Data from an 50 percent for an adequate period to even out fluctuations	Verified data partly based on assumptions or non-verified data based on measurements
Fair	Data generated using a different technology	Data with less than 10 years of difference	Data from a different area	Data from less than 50 percent of si or an adequate tim riod to even out r al fluctuations ore than 50 percent of es but for a shorter time eriod	Non-verified data partly based on assumptions, or a qualified estimate (e.g. by a sector expert)
Poor	Data where technology is unknown	Data with more than 10 years of difference or the age of the data are unknown	Data from an area that is unknown	Data from less than 50 percent of sites for shorter time period or representativeness unknown	Non-qualified estimate

Quantifying Scope 3 emissions are at the cutting edge of GHG emissions accounting and information on the use of these methods will be revised in light of the experience of their application.

Table [3.1] List of requirements in this standard

Chapter	Requirements
Accounting and Reporting Principles Chapter 4	• GHG accounting and reporting of a scope 3 inventory shall be based on the following principles: relevance, completeness, consistency, transparency, and accuracy.
Setting the Scope 3 Boundary Chapter 6	• Companies shall account for all scope 3 emissions and disclose and justify any exclusions. • Companies shall account for emissions from each scope 3 category according to the minimum boundaries listed in table 5.4. • Companies shall account for scope 3 emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, if they are emitted in the value chain. • Biogenic CO_2 emissions that occur in the value chain shall not be included in the scopes, but shall be included and separately reported in the public report.
Setting a GHG Target and Tracking Emissions over Time Chapter 9	When companies choose to track performance or set a reduction target, companies shall: • Choose a scope 3 base year and specify their reasons for choosing that particular year; • Develop a base year emissions recalculation policy that articulates the basis for any recalculations; and • Recalculate base year emissions when significant changes in the company structure or inventory methodology occur.
Reporting Chapter 11	Companies shall publicly report the following information: • A scope 1 and scope 2 emissions report in conformance with the *GHG Protocol Corporate Standard* • Total scope 3 emissions reported separately by scope 3 category • For each scope 3 category, total GHG emissions reported in metric tons of CO_2 equivalent, excluding biogenic CO_2 emissions and independent of any GHG trades, such as purchases, sales, or transfers of offsets or allowances • A list of scope 3 categories and activities included in the inventory • A list of scope 3 categories or activities excluded from the inventory with justification of their exclusion • Once a base year has been established: the year chosen as the scope 3 base year; the rationale for choosing the base year; the base year emissions recalculation policy; scope 3 emissions by category in the base year, consistent with the base year emissions recalculation policy; and appropriate context for any significant emissions changes that triggered base year emissions recalculations • For each scope 3 category, any biogenic CO_2 emissions reported separately • For each scope 3 category, a description of the types and sources of data, including activity data, emission factors and global warming potential (GWP) values, used to calculate emissions, and a description of the data quality of reported emissions data • For each scope 3 category, a description of the methodologies, allocation methods, and assumptions used to calculate scope 3 emissions • For each scope 3 category, the percentage of emissions calculated using data obtained from suppliers or other value chain partners

Source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Box 1:
Overall list of requirements in the GHG Protocol Scope 3 Standard

The GHG Protocol Scope 3 standard presents accounting and reporting requirements, seen in adjacent, to help companies prepare a GHG inventory that represents a true and fair account of their Scope 3 emissions.

Their standard promotes a standardization of approaches which increases the consistency and transparency of reported Scope 3 inventories.

The table opposite, found on page 21 of the GHG Protocol Scope 3 Standard, provides a list of all the requirements. Each requirement is further explained in the following chapters in the Protocol.

We would recommend you review this to ensure compliance with the GHG Protocol.

Appendix I: Alternative methods using CDP data

Method 4: Full-time employee intensity metric

Source of data

Your suppliers' answers to C6.10

Please note that these intensity metrics are not included in your Scope 3 Report, however the data can be found in the Full Data Extract.

Calculation

In answer to this question, companies give their Scope 1 and 2 emissions in metric tons of CO_2e per full-time employee. This metric could be used in cases where your supplier has a team specifically assigned to provide services to you. In this case, you would multiply the number of people in the team by the intensity metric to gain an estimate of the emissions associated with your contract with this company.

Another scenario in which it could be used is where you know how many hours of work your suppliers' employees have spent working on your contract, for example, if you are charged by staff time. This data could be converted to the equivalent in full-time employees.

C6.10 covers Scope 1 and 2 emissions. It seems likely that this data will be used to calculate emissions in the category "Purchased Goods and Services". This covers cradle-to-gate emissions from the extraction of raw materials used to make the products, to transportation, to the point of sale by the producer. Therefore, emissions for other sources within this category would have to be quantified using secondary data[8].

Limitations specific to the full-time employee intensity metric method

If your supplier provides you with services that fall into more than one Scope 3 category, this would mean that you would have to know how to break down their Scope 1 and 2 emissions into the Scope 3 categories, something that you will not be able to do using this method.

Another consideration is whether your supplier provides services that vary widely in the associated emissions, i.e., from international jet-setting consultants to accountants working for local businesses. This method will be more robust if the services the company provides are few and homogeneous in terms of emissions.

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[8] Page 30, GHG Protocol Technical Guidance for Calculating Scope 3 Emissions has a similar approach.

Method 5: Company-specific intensity metric

Source of data
Your suppliers' answers to C6.10.

Calculation
In answer to this question, companies provide an intensity metric of their choice. The metric will be expressed in terms of emissions in metric tons of CO_2e per "α" with the "α" decided by the supplier. This can be useful data if the metric relates to goods or services that you buy from the company.

1. Identify which of your Scope 3 categories the supplier falls into. For example, if the company is a logistics provider, it would be "Upstream Transportation and Distribution*"*.
2. Multiply the intensity metric by the number of units purchased.

Then follow the stages in the first method (located on page 8): *"Using Emissions Allocated to You by Your Suppliers"*.

CC12.4 covers Scope 1 and 2 emissions. You need to decide to which Scope 3 category the intensity metric is relevant. Some categories, such as "Upstream Transportation and Distribution", have a minimum boundary of the Scope 1 and 2 emissions of transportation providers. The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure are optional[9]. There is no issue, therefore, in terms of the alignment of Scopes and the minimum boundary.

Other Scope 3 categories cover emissions for goods and services from cradle-to-gate e.g., "Purchased Goods and Services" and "Capital Goods". These cover all emissions from extraction of raw materials used to make the products to transportation to the point of sale by the producer. Therefore, emissions further up the value chain would have to be quantified using secondary data[10].

If emissions are reported within *"Upstream transportation and distribution"* or one of the other upstream Scope 3 categories, then they should not also be reported within *"Purchased goods and services"* to avoid double-counting.

Example calculation

Table I An example of how a customer can use alternative intensity metrics in their Scope 3 calculations

Supplier	Business	Intensity metric in metric tons CO2e per unit (unit given below)	Number of units purchased	Emissions associated with products in metric tons CO_2e	Relevant Scope 3 category
Supplier 1	Real estate company	0.004 / sq. meter	25,000 sq. meters	100	Upstream leased assets
Supplier 2	Marine transportation	12.37 / ton-mile	750,000 ton-miles	9,277,500	Upstream transportation and distribution
Supplier 3	Packaged food & meals	0.001 / liter beverage	40,000 liters	40	Purchased goods and services