

# Scope 3 Technical Working Group Meeting

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**Group A  
Meeting 4  
Inventory quality reporting options**

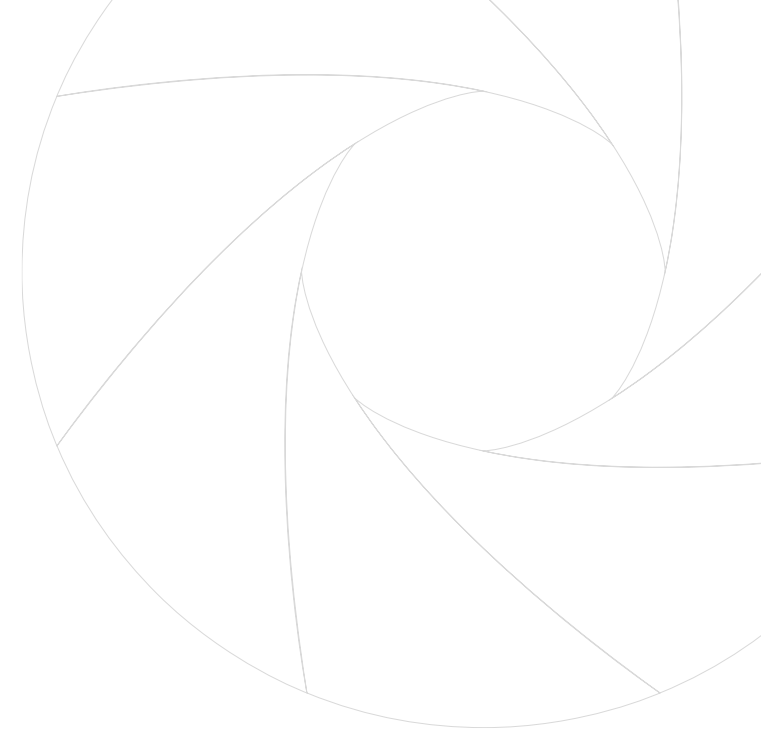
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January 9<sup>th</sup>, 2025

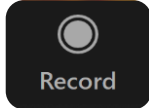
# Agenda

- Attendance and housekeeping (5 min)
- Recap of previous discussions (5 min)
- Goals and approach for the meeting (10 min)
- Introducing the proposals (10 min)
- Breakouts (70 min)
- Presenting the outcomes (10 min)
- Polling and discussion of the next steps (10 min)

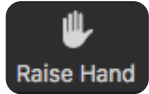
# Housekeeping



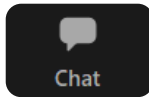
## Welcome and Meeting information



This meeting is recorded.



Please mute yourself by default and unmute when speaking  
Please use the Raise Hand function to speak during the call.



You can also use the chat function in the main control.



Recording, slides, and meeting minutes will be shared after the call.

## Housekeeping

- TWG members should **not disclose any confidential information** of their employers, related to products, contracts, strategy, financials, compliance, etc.
- In TWG meetings, **Chatham House Rule** applies:
  - “When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.”
- **Compliance and integrity** are key to maintaining the credibility of the GHG Protocol
  - Specifically, all participants need to follow the **conflict-of-interest policy**
  - **Anti-trust rules** have to be followed; please avoid any discussion of competitively sensitive topics\*

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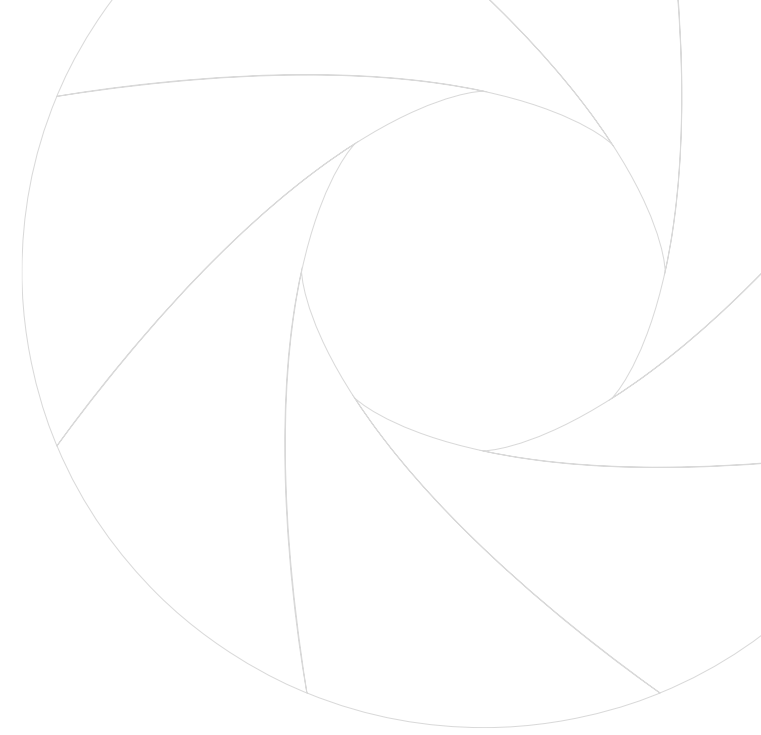
\* Such as pricing, discounts, resale, price maintenance or costs; bid strategies including bid rigging; group boycotts; allocation of customers or markets; output decisions; and future capacity additions or reductions

## Decision-Making Criteria

- Evaluating options: Describe pros and cons of each option relative to each criterion. Qualitatively assess the degree to which an option is aligned with each criterion through a green (most aligned), yellow (mixed alignment), orange (least aligned) ranking system. Some criteria may be not applicable for a given topic; if so, mark N/A.
- Comparing options: The aim is to advance approaches that ideally meet all decision criteria (i.e. maximize pros and minimize cons against all criteria). If options present tradeoffs between criteria, the hierarchy should be generally followed, such that, for example, scientific integrity is not compromised at the expense of other criteria, while aiming to find solutions that meet all criteria.

<i>Illustrative example</i>	<b>Option A: Name</b>	<b>Option B: Name</b>	<b>Option C: Name</b>
<b>1A. Scientific integrity</b>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>
<b>1B. GHG accounting and reporting principles</b>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>
<b>2A. Support decision making that drives ambitious global climate action</b>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>
<b>2B. Support programs based on GHG Protocol and uses of GHG data</b>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>
<b>3. Feasibility to implement</b>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>	<ul style="list-style-type: none"> <li>• Pros</li> <li>• Cons</li> </ul>

# Recap of the previous discussions



## Group A: Inventory quality – scope of work

1. Identifying what scope 3 inventories are used for
  - Clarifying the relationship between data quality and various inventory objectives
2. Define how to more effectively present / communicate the inventory's quality
  - Consider additional requirements to enhance the usability and transparency of scope 3 inventories
3. Address how to define the inventory quality based on the input data
  - Consider developing more prescriptive allocation rules
  - Consider developing a hierarchy of data and/or calculation methods
  - Consider additional guidance on the transfer of data across the value chain and integrating of product level data into scope 3 calculations
4. Consider whether and how to restrict inventory quality
  - Consider constrains or minimum requirements to inventory quality
  - Consider requirement to improve inventory data quality improvements over time
  - Consider requirement to perform hotspot analysis



## Main outcomes of the meetings #2 and #3

1. Regarding the revision of inventory quality reporting requirements, the TWG prefers **Option 3: Disaggregated reporting of scope 3 emissions based on quality**
  - In that option, an inventory would be itemized (disaggregated) by tier based on data quality
2. The group did not reach consensus on a principle for the differentiation of the tiers
3. The TWG has a shared vision for the preferred qualities of a solution:
  - Minimize/remove subjective choices from the preparer
  - Allow for easy interpretation of the inventory by users
  - Be easy to implement by preparers
4. The Secretariate called for proposals from the TWG members

## Feedback from the meeting #3

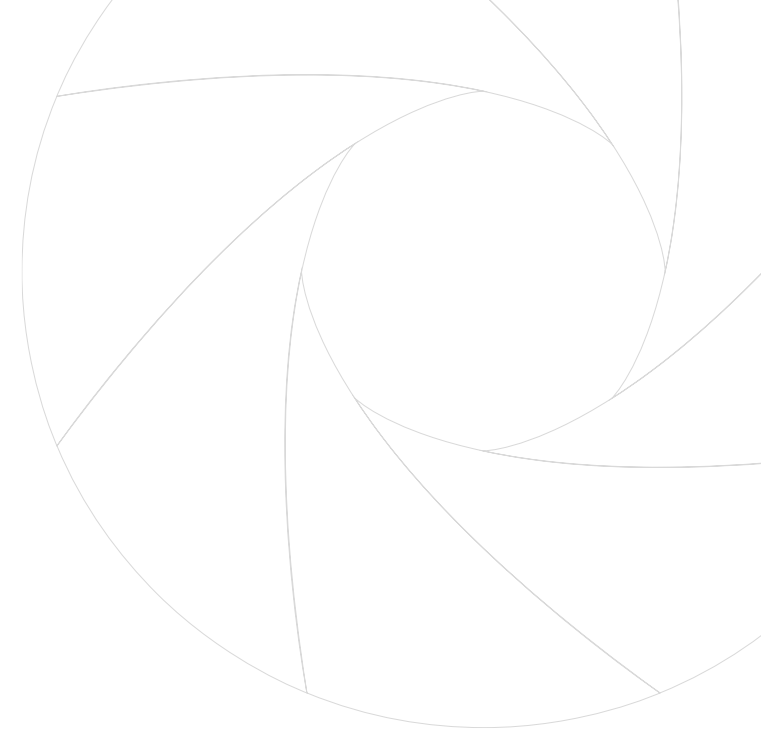
### Received feedback

- Confusion in polling: unclear the questions, options, and the purpose of polling. Potentially, wrong timing for polling
- Suggested more reliance on the existing body of literature and more strict approach to definitions
- Suggested to explore complementarity of options and the distinction between recommended and mandatory approaches
- Stated that rationale behind data quality reporting should be addressed
- Request for additional communication channels

### Secretariat's response

- Acknowledge poor preparation of the polling in the Dec 5 meeting due to changes in options consideration
- Welcome submission of the literature beyond the considered in the Discussion Paper, through RFI
- Proposals submitted to be considered
- As of the Discussion Paper and Meeting#1: Increasing usability, interpretability, and actionability of data by the users (internal and external)
- Secretariat cannot create additional channels, however does not limit TWG members ability to do so. Please note, the Secretariat cannot moderate or monitor and register discussions on those channels.

# Goals and approach for this meeting



## Goal for the discussion

*The goal of the discussion is to formulate the principal rules for disaggregation of emissions by tiers – that satisfies the group’s vision and the decision-making criteria.*

### Objectives:

- Review the options
- Learn and understand other points of view
- Build on each others' strengths
- The goal is not to pit proposals against each other, but to co-create the best possible system

# Approach

## Round 1. Proposals review in breakouts

- The group reviews the proposals one-by-one
- Identifying pros and cons using the decision-making criteria

## Round 2: Full group discussion

- Share findings from the breakout proposals review with the full group
- Perform indicative polling (in favor / oppose / abstain)

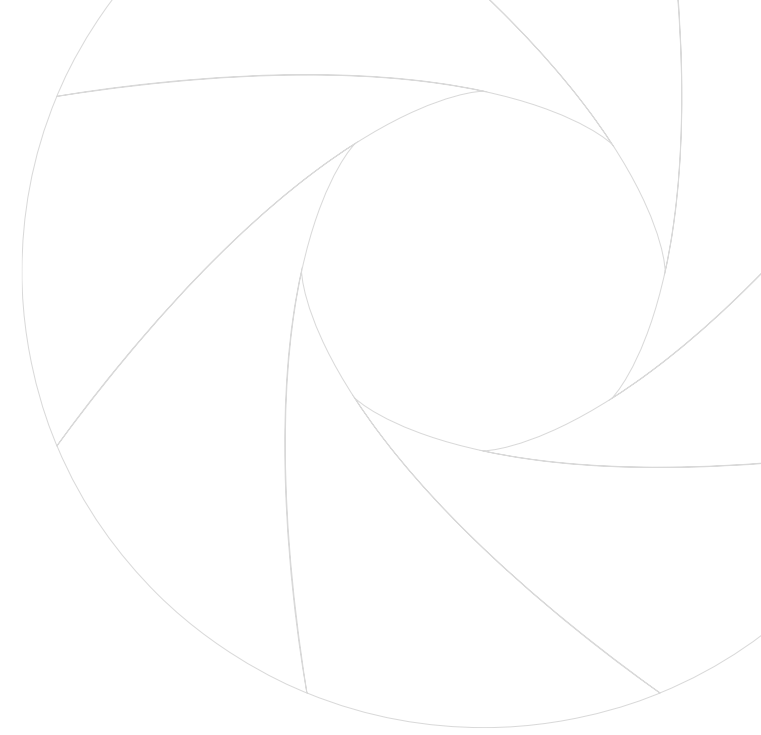
## Round 3. Co-create (next meeting)

- Refine the solutions selected in this meeting, and elements highlighted as potential for integration.
- How can we maximize pros and minimize cons?
- Develop an optimal final proposal based on the decision-making criteria

## Rules of co-creation

- Always **be respectful**
- Take space, make space
- There are **no bad ideas or questions**
- **Be pragmatic** – balance perfect with actionable
- **Be open** to differing points of view and **curious** about all sides of a discussion
- **Keep integrity** at the heart of decision-making and consider real world impacts
- **Keep focus** on the long-term goal of developing an effective standard

# Introducing the proposals



## Proposals Received

Received total 8 proposals, putting forth the following differentiating principles:

1. Quantification & DQR
2. Data type
3. Data source, calculation method, and verification
4. Quantitative uncertainty
5. Calculation method
6. Data quality (pedigree matrix)
7. 2D matrix of data source and calculation method



## Configurations of Option 3: Disaggregated reporting based on quality

The following Tiers differentiation principles were considered in the materials & the poll, and then were brought in the proposals (as a single or in a combination)

Principle	Tiers	Pros	Cons
Quantification method	Measured, Calculated, Estimated	Easy to interpret; proxy to accuracy	Fuzzy to define what is calculated vs estimated, and how it is reflective of accuracy (subjective)
Calculation method	Specific, Average, Spend-based	Easy to interpret; familiar to users; proxy to accuracy	Specificity does not always reflect quality and accuracy
Tiers of accuracy	Tier 1, 2, 3	Proxy to accuracy	Not easy to interpret; Learning curve for practitioners
Data quality rating	Very good, Good, Fair, Poor	Familiar to (some) users, proxy to accuracy	Subjective, not easy to interpret, large efforts to implement
Data source	Primary, Secondary	Easy to interpret, used by preparers	Does not always reflect quality and accuracy
Uncertainty level	e.g. 0-5%, 5-15%, 15-30%	Reflective of accuracy, easy to interpret	High effort to implement
Verification level	Verified, Not verified	Higher confidence in avoiding errors	Not reflective of accuracy

## Terminology

Terms “primary” and “secondary” data seem to have diverse definition in various sources.

### ***Scope 3 Standard, p. 140:***

**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

Table [7.4] provides examples of primary and secondary data.

Supplier-specific data is said to be an example of primary data (Table 7.5)

### ***ISO 14064-1: 2018, 3.2.2. and ISO 14083***

**Primary data:** quantified value of a process or an activity obtained from a direct measurement or a calculation based on direct measurements.

**Secondary data:** data obtained from sources other than primary data

**Site-specific data:** primary data obtained within the organizational boundary

***IN THE DISCUSSION TODAY WE WILL TRY TO SPEAK THE SAME LANGUAGE. FOR ENSURANCE, PLEASE DO SPECIFY THE DEFINITIONS OF DATA TYPES YOU ASSUME IN YOUR STATEMENTS, AND IF POSSIBLE, PROVIDE EXAMPLES.***

## Proposal 1: Tiers based on quantification and DQR

Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b> High quality data	<p><b>DIRECT MEASUREMENT</b> - GHG emissions that are measured using direct monitoring (e.g. through meters or physical sensors), mass balance or stoichiometry.</p> <p><b>CALCULATION</b> - GHG emissions that are calculated using both:</p> <ul style="list-style-type: none"> <li>i) very good quality activity data (all activity data are complete, specific and reliable, and are obtained from measurements and meter readings; no assumptions or estimates are made), <b>and</b></li> <li>ii) very good quality emission factors (all emission factors are the most representative in terms of technology, time, geography, and most complete, and most reliable i.e. taken from widely used databases).</li> </ul>
<b>Tier 2</b> Other data and estimations	<p><b>CALCULATION</b> - GHG emissions calculated using good/fair/poor quality activity data or emission factors.</p> <p><b>SPEND BASED METHODS</b> - All GHG emissions calculated using spend-based methodology</p>

## Proposal 2: Tiers based on data type

	Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Primary data	Primary data as aligned with the ISO definitions
<b>Tier 2</b>	Secondary data: Modelled data Secondary data: Default values	

***ISO 14064-1: 2018, 3.2.2.*** and ***ISO 14083***

**Primary data:** quantified value of a process or an activity obtained from a direct measurement or a calculation based on direct measurements.

## Proposal 3: Tiers based on data source, calculation method, and verification

Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Value chain partner data with certification Allocated data came from value chain partner based on a certified document such as an ISO-conformant LCA, verified EPD, or a third-party verification statement
<b>Tier 2</b>	Value chain-specific data or Industry-specific average data or extrapolation of verified data or value chain partner data without certification Data came from value chain partners based other sources like CDP supply chain that has been allocated to the reporting organization, but hasn't been third party verified in any way OR; The data came from an industry-specific average data source like a life cycle inventory database or publication OR; An extrapolation of an ISO-conformant LCA to a related system that's similar to the actual OR; Data provided by a value chain partner from a high-level LCA or other assessment without external verification reporting organization's goods, services or systems OR; A calculation based on mid-tier proxy, such as distance traveled (for logistics and business travel)
<b>Tier 3</b>	Spend-based data or calculation based on high level estimates Data from spend-based calculations (e.g., EEIO) OR; High level estimate based on average data (e.g., heuristic such as 3 tCO <sub>2</sub> e / employee * year for commuting)

## Proposal 4: Tiers based on quantitative uncertainty

Tier name / label		Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Low parametric uncertainty	$\leq \pm XX\%$ standard error (or it could be in confidence interval or geometric standard deviation)
<b>Tier 2</b>	Medium parametric uncertainty	$> \pm XX\% \ \& \ \leq \pm YY\%$ standard error (or CI or GSD)
<b>Tier 3</b>	High parametric uncertainty	$> \pm YY\% \ \& \ \leq \pm ZZ\%$ standard error (or CI or GSD)

## Proposal 5 & 6: Tiers based on calculation methods (specific to each category)

This proposal relies on the calculation methods itemized for each category in the GHG Protocol *Technical Guidance* (Appendix D, p. 162-182). Within a category, each method would be classified into a tier (leading, respectively, to diverse names). For example:

Category 1:

	Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Supplier specific	Received from suppliers and specific to purchased product
<b>Tier 2</b>	Hybrid method	Leveraging suppliers' data but not specific to purchased product
<b>Tier 3</b>	Industry average	Using physical activity data and datasets providing EFs based on physical characteristics
<b>Tier 4</b>	Spend-based	EEIO method

Category 5\*:

	Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Supplier specific	Allocated scope 1 and 2 received from the waste treatment company
<b>Tier 2</b>	Waste-type-specific	Calculated based on generated waste type and specified waste treatments
<b>Tier 3</b>	Average data	Average waste treatment emissions for total generated waste

Category 4 (transportation)\*

	Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Fuel-based	Quantities of consumed fuel and fuel-specific factors
<b>Tier 2</b>	Distance-based method	Quantifying transportation services (e.g. tkm) and using transport-specific factors
<b>Tier 3</b>	Spend-based method	EEIO method

## Proposal 7: Tiers based on data quality (pedigree matrix)

	Tier name / label	Technical specification (what differentiate data of this tier from others?)
<b>Tier 1(+)</b>	Good (“Very” could be added, if needed for different application or business goals)	<p>High degree of representativeness (geography, time period/validity, technology), completeness (of data sources/sampling), and reliability (giving weight both to verified/verifiable measured data, accuracy, and methodological consistency and transparency of calculated primary/secondary data). Criteria for this rating TBD.</p> <p>This level should be required for external purposes (at least based on some materiality criteria, and perhaps after an initial ‘grace’ period) and as such mandated by GHG programs building on the GHG Scope 3 standard.</p>
<b>Tier 2</b>	Fair	Moderate degree of representativeness, completeness, and reliability. Mainly intended as the acceptable level for non-material aspects or during initial/transition period. Also suitable for internal purposes to monitor and manage emissions.
<b>Tier 3</b>	Poor	Low degree of representativeness, completeness, and reliability. Only to be considered as a proxy (gap-filler) during initial exploration, materiality, screening, and hot-spot analysis.

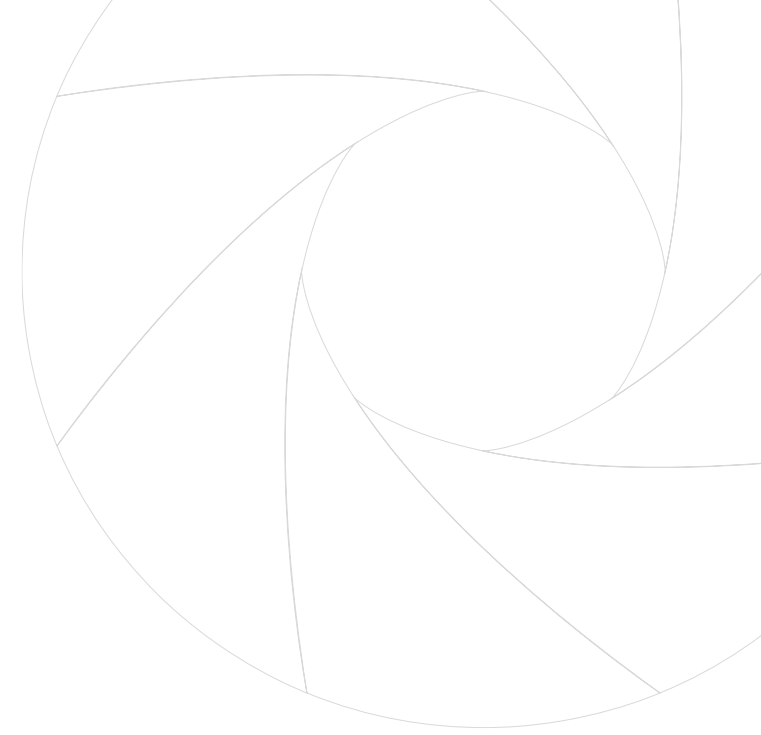


## Proposal 8: 2D tiers based on data source and calculation methods

Tier name / label		Technical specification (what differentiate data of this tier from others?)
<b>Tier 1</b>	Supplier provided EF (Emissions calculated using EF company has received directly from a supplier)	1A. Total emissions in category from suppliers using supplier-specific calculation methods or emissions factors Uncertainty level: _____ 1B. Total emissions in category from suppliers using average data methods Uncertainty level: _____ 1C. Total emissions in category from suppliers using spend-based calculation methods Uncertainty level: _____
<b>Tier 2</b>	Regional or domestic database sourced EF (Emissions calculated using EF company has taken from a regional/ domestic database that matches the geography where its primary business operates)	2A. Total emissions in category calculated using average data methods Uncertainty level: _____ 2B. Total emissions in category calculated using spend-based methods Uncertainty level: _____
<b>Tier 3</b>	Global or non-geography specific EF (Emissions calculated using EF company has taken from a global database or from a database distinct from the geography of its business activities)	3A. Total emissions in category calculated using average data methods Uncertainty level: _____ 3B. Total emissions in category calculated using spend based-methods Uncertainty level: _____

The proposal includes additional metrics for reporting (percentage reported per tier and per tier 1a), as well as next steps

# Breakouts discussion



## Operations

- The group should:
  - Choose a spokesperson that will present outcomes of the discussion to the larger group
  - Whether you agree with the proposal or not, try objectively identify pros and cons
  - Make sure everyone's voice is heard
  - Keep to the timeline
- A Secretariat member will:
  - Kick off and moderate the discussion
  - Safeguard the rules

## Basis for discussion

The focus of the discussion is to indicate strengths and weaknesses of the options. This work is not intended to choose a final version, but to choose an option that will become the starting point for our further work.

### Decision-making criteria

#### Scientific integrity

How does it support or challenge the GHG accounting and reporting principles

#### Support decision making that drives ambitious global action

Support programs based on GHG Protocol and uses of data

#### Feasibility to implement

### Other aspects to consider\*:

- Can the solution can be applied to all Scope 3 categories?
- Can the solution can be applied to Scope 1 and 2 accounting and reporting? (tbd)
- Does preparer make subjective choices when defining which tier the data would go to?
- Is the solution is scalable across organizations of different size, resources, and geographies?
- Does the solution allow for data roll-up along the value chain?

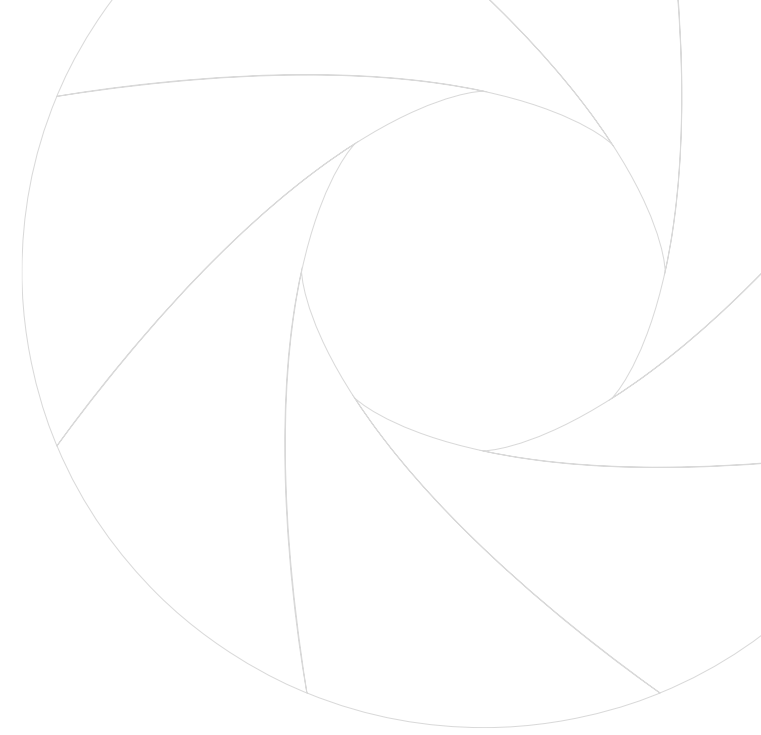
# Whiteboard

Decision-making criteria	Prompt	Pros	Cons
Scientific integrity	Is there evidence for this approach? Does it align with climate science?		
GHG accounting and reporting principles. How does it support or challenge	Accuracy		
	Completeness		
	Consistency		
	Relevance		
Support decision making that drives ambitious global action	Transparency		
	Does it inform, foster, and support decarbonization action? How can it potentially impede taking action?		
Support programs based on GHG Protocol and uses of data	Is it (inter)operable with other frameworks and standards? Does it conflict with any?		
	How does it support users of the data? What can be confusing for the user?		
Feasibility to implement	Is it accessible, adoptable, and equitable? Who may be disadvantaged if this approach is implemented?		

## Interim Poll

Which of the proposals do you support?

# Outcomes of the breakouts



## Discussion

The spokesperson of each breakout to present the outcomes of the discussion:

- a) Which options received little or no support
- b) Which option that received the most support:
  - What are the crucial benefits of it
  - What are the main drawbacks or challenges left to resolve



## Indicative polling

### Question 1:

Which of the discussed options should be taken forward?  
(choose one or more)

### Question 2:

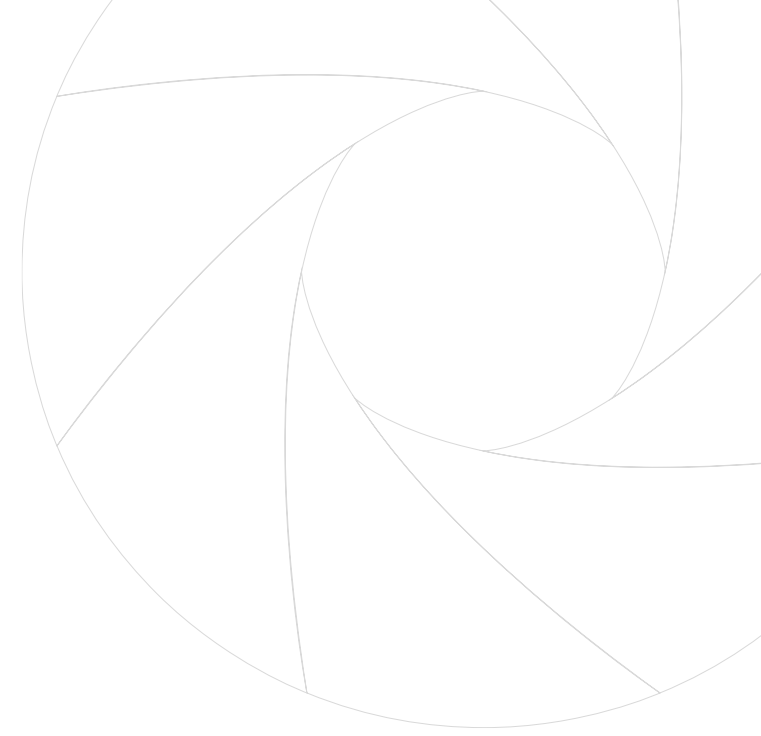
Which of the discussed options you would oppose the implementation of?  
(choose all applicable)

## Discussion (time permitting)

The option(s) that most members support will be as a core of the solution for further refinement and drafting into a final proposal. Building on the considerations and decisions made today:

1. Which drawbacks do you find the most important to alleviate, and how?
2. Which benefits of other options do you found most compelling, and how could we integrate them synergistically (i.e., to increase or maximize the pros)

**Next steps**



## Next steps

The option(s) that most members support will be as a core of the solution for further refinement and drafting into a final proposal for TWG review and feedback.

Building on the considerations and decisions made today, preparation of the final proposal includes:

1. How to alleviate the drawbacks? (minimize cons)
2. How to synergistically integrate additional key benefit points? (maximize pros)
3. Which details of the configuration we still need to refine?

## Next steps (continued)

- GHG Protocol Secretariat:
  - Distribute the recording and feedback form (by Jan 10)
  - Distribute the poll if needed (by Jan 16)
  - Prepare and distribute minutes of the meeting (by Jan 16)
- TWG members:
  - Provide feedback (by Jan 21)
  - Vote in the poll, if distributed (by Jan 23)

**Next meeting on January 30<sup>th</sup> 6AM PT/ 9AM ET / 3PM CET / 22PM CHN / 1AM AET**

- GHG Protocol Secretariat:
  - Distribute material (by Jan 23)

**Thank you!**

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# **Back-up: current requirements and guidance**



# Calculation methods (1)

The *Scope 3 Standard* specifies two quantification methods:

- Direct measurement
- Calculation

Table [7.1] Quantification methods

Quantification method	Description	Relevant data types
Direct measurement	Quantification of GHG emissions using direct monitoring, mass balance or stoichiometry  <b>GHG = Emissions Data x GWP</b>	Direct emissions data
Calculation	Quantification of GHG emissions by multiplying activity data by an emission factor  <b>GHG = Activity Data x Emission Factor x GWP</b>	Activity data  Emission factors

Table [7.2] Examples of activity data and emission factors

Examples of activity data	Examples of emission factors
<ul style="list-style-type: none"> <li>• Liters of fuel consumed</li> <li>• Kilowatt-hours of electricity consumed</li> <li>• Kilograms of material consumed</li> <li>• Kilometers of distance traveled</li> <li>• Hours of time operated</li> <li>• Square meters of area occupied</li> <li>• Kilograms of waste generated</li> <li>• Kilograms of product sold</li> <li>• Quantity of money spent</li> </ul>	<ul style="list-style-type: none"> <li>• kg CO<sub>2</sub> emitted per liter of fuel consumed</li> <li>• kg CO<sub>2</sub> emitted per kWh of electricity consumed</li> <li>• kg PFC emitted per kg of material consumed</li> <li>• t CO<sub>2</sub> emitted per kilometer traveled</li> <li>• kg SF<sub>6</sub> emitted per hour of time operated</li> <li>• g N<sub>2</sub>O emitted per square meter of area</li> <li>• g CH<sub>4</sub> emitted per kg of waste generated</li> <li>• kg HFC emitted per kg of product sold</li> <li>• kg CO<sub>2</sub> emitted per unit of currency spent</li> </ul>



## Calculation methods (2)

Multiple calculation methods and formulas are itemized in the *Technical Guidance for Calculating Scope 3 Emissions*, for each scope 3 category, ranked in order of specificity. It includes guidance for emission factor selection. Appendix D (p. 162-182) of the *Technical Guidance* aggregates the formulae possible/listed for use by category.

Category	Calculation methods				
	Method 1	Method 2	Method 3	Method 4	Method 5
Category 1	Supplier-specific	Hybrid	Average-data	Spend-based	
Category 2	Supplier-specific	Hybrid <sup>1</sup>	Average-data	Spend-based	
Category 3	Supplier-specific	Average-data			
Category 4	Fuel-based	Site-specific	Distance-based	Average-data	Spend-based
Category 5	Supplier-specific	Waste-type-specific	Average-data		
Category 6	Fuel-based	Distance-based	Spend-based		
Category 7	Fuel-based	Distance-based	Average-data		
Category 8	Asset-specific	Lessor-specific	Average-data		
Category 9	Fuel-based	Site-specific	Distance-based	Average-data	Spend-based
Category 10	Site-specific	Average-data			
Category 11	Fuel-/electricity-based	Fuels/Feed-stocks	Contained/forming	Average-data	
Category 12	Waste-type-specific				
Category 13	Asset-specific	Lessee-specific	Average-data		
Category 14	Franchise-specific	Average-data			
Category 15	Investment-specific	Project-specific	Average-data		

The *Technical Guidance* provides decision trees to select calculation methods. Calculation methods are prioritized based on the specificity of data inputs. The suggested trees application are subject to adequate quality of the data.

# Data quality indicators

When choosing data sources, companies should seek the highest quality (most representative) data available and reasonably obtainable. Data quality is defined by:

- Technology representativeness
- Time representativeness
- Geography representativeness
- Completeness
- Reliability

Examples of data quality indicators are provided in the guidance in box 7.2 of the Standard (on the right).

Box 1.1. of the *Technical guidance* highlights that data specificity does not necessarily leads to accuracy.

Score	Representativeness to the activity in terms of:				
	Technology	Time	Geography	Completeness	Reliability
<b>Very good</b>	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 <sup>3</sup> data based on measurements <sup>4</sup>
<b>Good</b>	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
<b>Fair</b>	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)
<b>Poor</b>	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

Adapted from B.P. Weidema and M.S. Wesnaes, "Data quality management for life cycle inventories – an example of using data quality indicators," *Journal of Cleaner Production* 4 no. 3-4 (1996): 167-174.

# Reporting requirements

## 1. Required information

- a. A list of scope 3 categories and activities included in the inventory
- b. A list of scope 3 categories or activities excluded from the inventory with justification(s) for their exclusion
- c. For each scope 3 category, a description of the types and sources of data, including activity data, emission factors and GWP values, used to calculate emissions, and a description of the data quality of reported emissions data
- d. For each scope 3 category, a description of the methodologies, allocation methods, and assumptions used to calculate scope 3 emissions
- e. For each scope 3 category, the percentage of emissions calculated using data obtained from suppliers or other value chain partners

## 2. Optional information

- a. Relevant disaggregation of the emissions data
- b. Emissions from scope 3 activities not included in the list of scope 3 categories, reported separately
- c. Qualitative information about emission sources not quantified
- d. Quantitative assessments of data quality
- e. Information on inventory uncertainty (e.g., information on the causes and magnitude of uncertainties in emission estimates) and an outline of policies in place to improve inventory quality

## Configurations of Option 3: Disaggregated reporting based on quality

The following Tiers differentiation principles were considered in the materials & the poll

Principle	Tiers	Pros	Cons
Quantification method	Measured, Calculated, Estimated	Easy to interpret; proxy to accuracy	Fuzzy to define what is calculated vs estimated, and how it is reflective of accuracy (subjective)
Calculation method	Specific, Average, Spend-based	Easy to interpret; familiar to users; proxy to accuracy	Specificity does not always reflect quality and accuracy
Calculation method	Tbd	Potentially easy to interpret; potentially proxy to accuracy	Needs thorough reconsideration and development; potentially not familiar to users
Tiers of accuracy	Tier 1, 2, 3	Proxy to accuracy	Not easy to interpret; Learning curve for practitioners
Data quality rating	Very good, Good, Fair, Poor	Familiar to (some) users, proxy to accuracy	Subjective, not easy to interpret, large efforts to implement
Data source	Primary, Secondary	Easy to interpret, used by preparers	Does not always reflect quality and accuracy
Uncertainty level	e.g. 0-5%, 5-15%, 15-30%	Reflective of accuracy, easy to interpret	High effort to implement
Combustion measure	Derived from quantification of direct emissions by emitter, Other	Proxy to accuracy	Might be confusing
Direct emissions measure	derived from quantification of direct emissions by emitter, and Other	Proxy to accuracy	Quantification of direct emissions may be conducted on lower quality level
Scope 1 and 2 measure	derived from quantification of scope 1 and 2 by emitter, and Other	Proxy to accuracy	Quantification of direct emissions may be conducted on lower quality level; confusion in LB/MB scope 2
Verification level	Verified, Not verified	Higher confidence in avoiding errors	Not reflective of accuracy