

Scope 3 Technical Working Group Meeting

Group A
Meeting 2
Inventory quality reporting options







Agenda

- Attendance and housekeeping (5 min)
- Follow-up from the previous meeting (15 min)
- Introduction and current requirements (10 min)
- Options description (20 min)
- Break (5 min)
- Presenting preliminary evaluations (10 min)
- Discussion of the options (50 min)
- Next steps (5 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, <u>Chatham House Rule</u> 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*

Follow-up from meeting#1





Summary of meeting #1*

- Inventories of different quality may have their place in practice
- Consideration of inventory quality is context-dependent
- Scope 3 inventory preparers may pursue several objectives, which may change over time
- Consideration of objectives of scope 3 inventory in the frame of business goals may be misleading and may need reconsideration; business objectives (goals) list in general may need a revision.
- Generally, there is an agreement that there is a connection between objective(s) of scope 3 inventory and quality required to fulfil the objective
- Relaying this relationship in the standard should not prevent organizations from climate action
- A potential communication of the relationship can connect the inventory quality with application possibilities
- It is generally agreed that organizations should strive for the highest quality data
- There are limitations to the availability of data and feasibility of achieving high quality, especially when beginning scope 3 accounting
- Therefore, an additional dimension to consideration may be introduced, dynamics of development. GHG Protocol may have a role in guiding companies along a data improvement path.
- Objectives of inventory defined internally may be different from the eventual external use of the disclosed data. In that view, the standard may focus of requirements for external use and transparency in reporting.
- Objectives related to meeting disclosure requirements and certification may require a high(er) quality inventory in order to support credibility and accountability



Feedback received through the meeting feedback form

- Inventory quality requirements should balance satisfying the accounting principles application with feasibility
- Solutions considered in revision should define unambiguous requirements for disclosure that can increase credibility of results
- Data sources and solutions are continuously developing and evolving, considerations of data requirements should foster innovation and healthy competition between data and solution providers for general improvement of results
- Data availability challenge turns from lack of data to lack of willingness to share the data; considerations should foster the exchange
- In consideration of internal and external oriented objectives of scope 3 inventory, the Scope 3 Standard should keep in mind the use of disclosed data in financial markets, and how this data is used in the said market

Introduction





Managing data quality

Data quality and calculation methods was one of the most commonly cited issues in the stakeholder feedback. The emphasis is largely on two main points: improving the quality of the data and the inventory with prescriptiveness on one side maintaining calculation flexibility and accessibility on the other.

	Prescriptiveness	Flexibility
Accounting/ quantification	Establish new requirements on what data/methods are allowed vs not allowed for scope 3 inventories	Maintain flexibility on what inventory quality/data/methods can be used, with guidance on recommended approaches
Reporting	Reporting requirements to ensure transparency (status quo), with additional options to improve transparency of data quality (options 1, 2, 3 below)	N/A

Starting from the perspective of reporting, the main question is how to improve the presentation of inventory quality and whether the inventory quality meets the objective(s). The three main options initially under consideration are:

Option 1: Improved implementation of current reporting requirements		Option 3: Disaggregated reporting based on quality
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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 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

Current requirements





Accounting and reporting principles

- GHG accounting and reporting of a scope 3 inventory **shall** be based on the following principles: relevance, completeness, consistency, transparency, and accuracy (*Scope 3 Standard*, p. 23)
- As part of guidance for applying the Relevance principle (Scope 3 Standard, p. 24):
 - Companies should... use the principle of relevance as a guide when selecting data sources
 - Companies should collect data of sufficient quality to ensure that the inventory is relevant (i.e., that it appropriately reflects the GHG emissions of the company and serves the decision-making needs of users). Selection of data sources depends on a company's individual business goals. More information on relevance and data collection is provided in chapter 7.



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 GHG = Emissions Data x GWP	Direct emissions data
Calculation	Quantification of GHG emissions by multiplying activity data by an emission factor GHG = Activity Data x Emission Factor x GWP	Activity data Emission factors

Table [7.2] Examples of activity data and emission factors

Examples of activity data

- Liters of fuel consumed
- Kilowatt-hours of electricity consumed
- Kilograms of material consumed
- Kilometers of distance traveled
- Hours of time operated
- Square meters of area occupied
- Kilograms of waste generated
- Kilograms of product sold
- Quantity of money spent

Examples of emission factors

- kg CO₂ emitted per liter of fuel consumed
- kg CO, emitted per kWh of electricity consumed
- kg PFC emitted per kg of material consumed
- t CO₂ emitted per kilometer traveled
- kg SF₆ emitted per hour of time operated
- g N₂O emitted per square meter of area
- g CH, emitted per kg of waste generated
- kg HFC emitted per kg of product sold
- kg CO, emitted per unit of currency spent



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.

		Calculation methods							
Category	Method 1	Method 2	Method 3	Method 4	Method 5				
Category 1	Supplier-specific	Hybrid	Average-data	Spend-based					
Category 2	Supplier-specific	Hybrid ¹	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 <u>Technical Guidance</u> 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

- Section 7.1 of the *Scope 3 Standard* (p. 65-67) provides guidance for prioritizing data collection efforts. It states that "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." (p. 65).
- "In general, companies should collect high quality, primary data for high priority activities (see section 7.1). 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." (*Scope 3 Standard*, p. 74)
- "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."



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.

	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 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

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

Option 1: Improved implementation of the current requirements



Option description

In this option, to enhance the disclosure of inventory data quality, the reporting requirements (listed previously) can be edited.

Some ways to do this include:

- 1. Visual: Introducing a clearer presentation of requirements as well as clearer presentation of inventories (line items or sub-fields)
- 2. Clarifications: provide a more detailed explanation, range of and/or options for potential answers, and/or examples of information required for reporting
- 3. Options: provide multiple choice questions where applicable



Example text for requirements

Required information.

Companies shall publicly report the following information:

- 1. A list of scope 3 categories and activities included in the inventory
- 2. A list of scope 3 categories or activities excluded from the inventory with justification of their exclusion
- 3. For each scope 3 category, a description of the types and sources of data used to calculate emissions, including:
 - 1. Activity data
 - 2. Emission factors
 - 3. GWP values
- 4. For each scope 3 category, data quality of reported emissions data
- 5. For each scope 3 category, a description of:
 - 1. Quantification methods used to calculate scope 3 emissions
 - 2. Allocation methods used to calculate scope 3 emissions
 - 3. Assumptions used to calculate scope 3 emissions
- 6. For each scope 3 category, the percentage of emissions calculated using data obtained from suppliers or other value chain partners Alternative to consider: For each scope 3 category, the percentage of emissions calculated using supplier-specific data (or value-chain-partner-specific data) of sufficient quality. (Supplier-specific data is deemed to be of sufficient quality if it assessed to be of higher quality than average data).



Example template

Category 1. Purchased goods and services

	Activity 1	Activity 2	Activity 3
Activity description			
Activity data			
Data type			
Data source			
Emission factor			
Data type			
Data source			
GWP applied			
Data quality			
Technological representativeness			
Geographical representativeness			
Temporal representativeness			
Completeness			
Reliability			
Calculation method(s)			
Allocation method(s)			
Assumptions used			
Percentage of emissions calculated			
with supplier specific data			
(Optional) uncertainty level			

Category	Activities excluded (text)	Justification for exclusion (text)*	Estimated emissions of the activity (t CO ₂ e)
Category 1. Purchased			
goods and services			
Category 2. Capital goods			
Category 3. Fuel- and			
energy-related activities			
(not included in scope 1 or			
scope 2)			
Category 4. Upstream			
transportation and			
distribution			

Note: a wide range of activities included in a category may limit the feasibility of this variation of a template, and potentially the option.



Implications of the option for further considerations

Prescriptive accounting options

- Impose limitations on certain data types and source
- Impose limitations on certain calculation methods (spend-based method, average-data method)
- Requirement to increase or decrease the share of the inventory calculated on certain types of data or methods.

Data transfer

Supplier specific data requests and data transfers would need to include a data quality assessment(s).

Option 2: Data quality scoring





Option description

- In this option, inventory preparers would be required to perform a quality assessment of the input data/inventory datapoints and report the quality of the inventory
- This option involves introducing mandatory quantitative data quality assessment to the input data and/or the resulting inventory.



Scoring method options

Development of the scoring method would require a development of relevant matrices and data quality hierarchy. The process should consider the following options:

- 1. Options for the level of assessment:
 - Assessment of the quality of activity data and emission factors OR
 - Assessment of the quality of the resulting inventoried datapoint (emissions)
- 2. Options for assessment differentiation based on specificity:
 - A single assessment matrix for all data
 - Different matrices for primary and secondary data
- 3. Options for data quality dimensions:
 - Reaffirming the existing five (5) dimensions* OR
 - Adding one or more of the dimensions
- 4. Options for a scoring scale:
 - 1 to 3 (PACT),
 - 1 to 4 (similar to the example in the Box 7.2 of the Scope 3 Standard)
 - 1 to 5 (LCA-like)
- 5. Options for inventory quality calculation method:
 - 1. Simple average
 - 2. Weighted average



Example

Data	Technolog Y	Time	Geograp hy	Completen ess	Reliabil ity	Total
Activity data	1	1	2	2	2	1.6
Emission factor	2	3	1	3	3	2.4

a. Datapoint DQR (average)	1.5	2	1.5	2.5	2.5	2
b. Datapoint DQR (max of the two)	2	3	2	3	3	2.6

Data for Category 1	Emissions	Technolog y	Time	Geograp hy	Completen ess	Reliabili ty	Total
Procurement item 1	20t CO₂e	2	3	2	3	3	2.6
Procurement item 2	80t CO₂e	1	1	2	1	2	1.4

a. Inventory quality (average)	50%/50%	1.5	2	2	2	2.5	2
b. Inventory quality (weighted average)	20%/80%	1.2	1.4	2	1.4	2.2	1.6

Category 1. Purchased goods and services

Parameter	Activity 1	Activity 2	Activity 3
Activity description			
Activity data			
Data type			
Data source			
Emission factor			
Data type			
Data source			
GWP applied			
Calculation method(s)			
Allocation method(s)			
Assumptions used			
Calculation method(s)			
Percentage of emissions calculated with			
supplier specific data			
(Optional) uncertainty level			
Inventory quality score			
Technological representativeness			
Geographical representativeness			
Temporal representativeness			
Completeness			
Reliability			
DQR average			

Total category DQR: DQR (Technology, Time, Geography, Completeness, Reliability)

Total scope 3 DQR: DQR (Technology, Time, Geography, Completeness, Reliability)



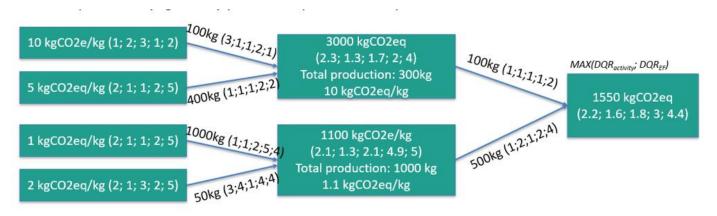
Implications of the option for further considerations

Prescriptive accounting options

- Impose minimum input data quality requirements
- Impose minimum inventory quality score
- Requirement to increase the inventory score over time

Data transfer

Supplier specific data request and consequent transfer would need to include data quality scores.



Option 3: Disaggregated reporting based on quality



Option description

- In this option, inventory preparers will be required to disaggregate reported of scope 3 emissions based on the different quality of inventory data.
- Inventory preparers would assess the data based on the disaggregation base and assign the resulting inventoried data to one or another tier of reporting.
- Inventory data of the same tier in the same category/activity can be aggregated (summed up), but different tiers of inventory data are reported separately.



Disaggregation based options

Development of the disaggregation method would require a development of the base and respective data quality hierarchy (assignment). The process should consider the following options:

- 1. Disaggregation based on the quantification method: "Measured", "Calculated", "Estimated"
- 2. Disaggregation based on data quality assessment: "Very good", "Good", "Fair", "Poor"
- 3. Disaggregation based on tiers of accuracy: Tier 1 most basic estimation, Tier 2 intermediate, Tier 3 most accurate
- 4. Disaggregation based on the uncertainty level: e.g. "0-5%", "5-15%", ">15%"
- 5. Disaggregation based on data type and source
 - "Primary data", "Secondary data"
 - "Spend data", "Average activity data" vs "Supplier specific data"
- 6. Disaggregation based on scoping of the data:
 - "derived from quantification of combustion emissions by the emitter", "other emissions"
 - "derived from quantification of direct emissions by the emitter", "other emissions"
 - "derived from quantification of scope 1 and 2 emissions by the emitter", "other emissions"



Example structure of disaggregated reporting

Category	Year 1	Year 2	Year 3
Category 1. Purchased goods and services	1000	1200	1100
Tier 1	200	200	100
Tier 2	700	500	400
Tier 3	100	500	600
Category 2. Capital goods	500	600	600
Tier 1	0	0	0
Tier 2	200	0	0
Tier 3	300	600	600
TOTAL	<i>15500</i>	<i>15000</i>	18000
Tier 1	2500	1000	500
Tier 2	11500	12500	12000
Tier 3	1500	1500	5500

Tier designation here is a placeholder to demonstrate disaggregation.

Note: a naming convention for the tiers optimally should be explanatory for the readers/ users of information



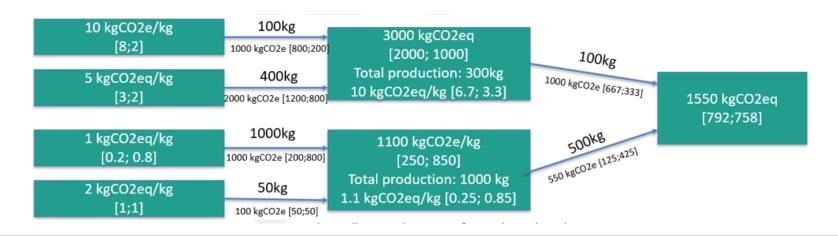
Implications

Prescriptive accounting options

- Impose a minimum or maximum share of the inventory that shall be accounted on a certain tier
- Requirement to increase or decrease the share of inventory reported on a certain tier over time

Data transfer

Supplier specific data request and consequent transfer needs to be relayed in the respective updated format, with the disaggregation of the data by quality



Break: 5 min



Preliminary options evaluation





Meeting the objectives of reporting (preliminary assessment)

Objective	Option A: Improved implementation of current	Option B: Data quality scoring	Option C: Disaggregated reporting based on quality
	GHG Protocol requirements	3	. ,
Provide information on whether the	Low to medium: Qualitatively,	Medium: Quantitative, subjective	Medium to high: quantitative
inventory quality is fit for the	possibly not enough		
intended use			
Provide information on the	Low: Qualitatively and indirect,	Medium: Quantitative, subjective	Medium to high: quantitative
certainty of the reported emissions	as an interpretation of the		
(indication of emissions size)	provided information		
Provide information on reliability of	Low to medium: Qualitatively,	Medium to high	Medium to high: quantitative
the inventory / category point as a	possibly not enough		
basis for planning actions			
Provide information on	Low: Qualitatively and indirect,	Medium to high, assuming	Medium to high: quantitative,
reliability/certainty of achieved	as an interpretation of the	consistency in scoring	may be confusing with moving
emission reductions / increases	provided information, needs a		from one category to another
	more rigorous tracking through		
	the years of reporting		
Evaluating the organization's	Medium: Qualitative	High: Quantitative	High: Quantitative
stewardship and transparency			
efforts			

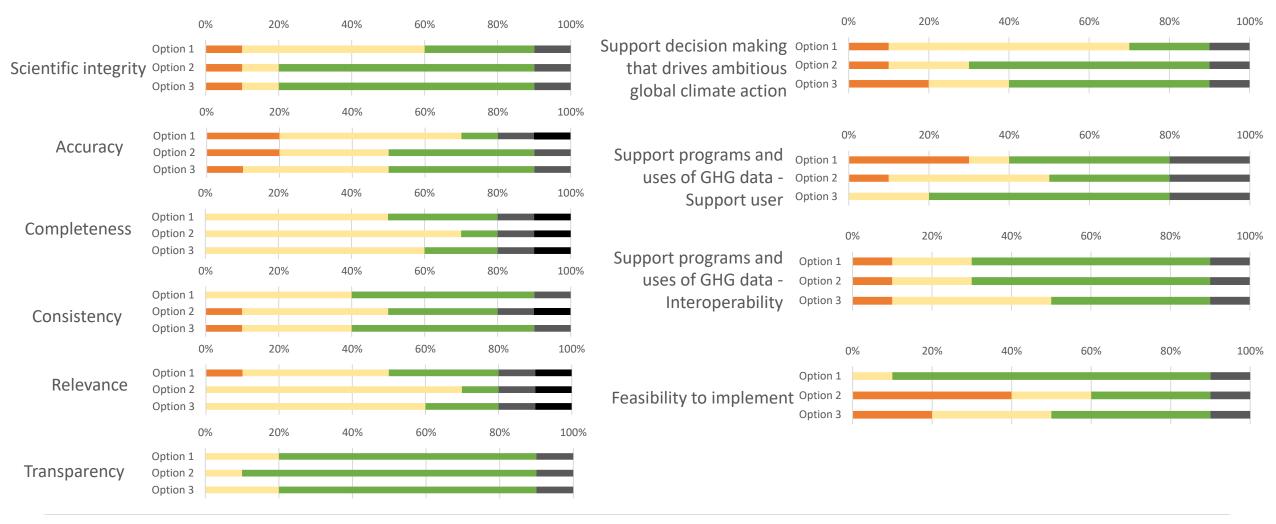


Decision-making criteria (preliminary assessment)

Criteria	Option A: Improved implementation of current GHG Protocol requirements	Option B: Data quality scoring	Option C: Disaggregated reporting based on quality
Scientific integrity	Largely NA Enhancing transparency in preparation for inventory calculation and in calculation and reporting (pre- and per- activity: script, visual control)	Largely NA Evidence from LCA on data scoring Intrinsic limitations to score assigning	Largely NA Some evidence from pro-forma financial reporting
GHG accounting and reporting principles	Expected to enhance transparency Indirect influence on other principles	Expected to enhance transparency Indirect influence on other principles	Expected to enhance transparency Indirect influence on other principles
Support decision making that drives ambitious global climate action	Low to medium (open for interpretation)	Medium (subjective pre-interpretation)	Medium to high (specific input)
Support programs based on GHG Protocol and uses of data	Pro: High interoperability (fits all) Con: Low to medium support to user (generic input for own interpretation)	Pro: Medium to high interoperability (doesn't fit those with different scoring) Con: Low to medium support to user (Subjective interpretation done by others)	Pro: Medium to high support to users (specific input for own interpretation) Con: Low interoperability (not incorporated in current frameworks) but could be incorporated
Feasibility to implement	Easy and accessible	High difficulty and low accessibility	Generally accessible, may pose difficulties in data aggregation and transfer in introduction stage



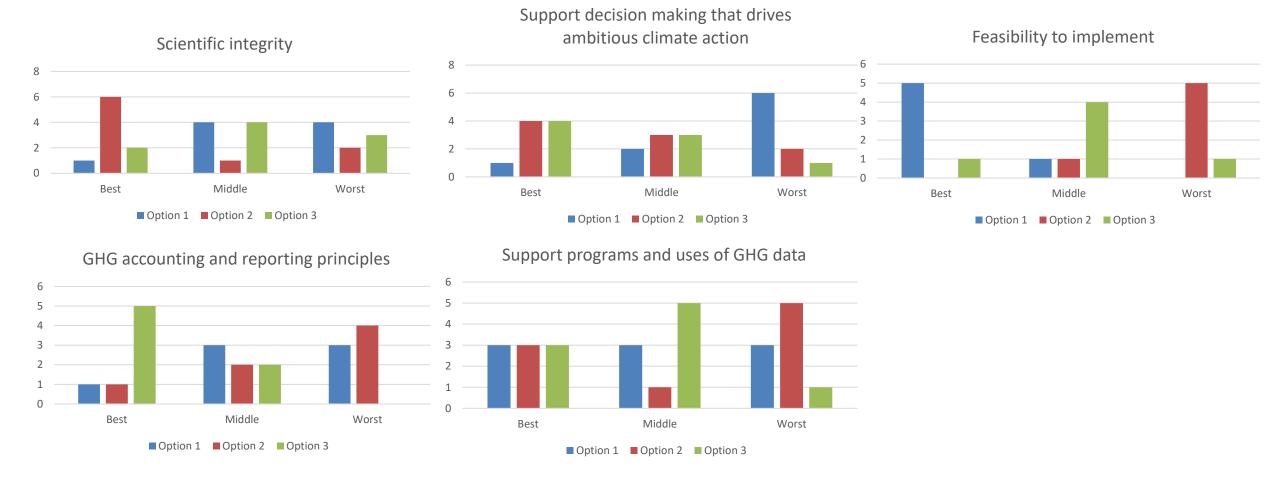
Outcomes of the poll*: Decision-making criteria



^{*}Based on 10 responses. The poll was conducted prior to the meeting to inform the discussion, the results are not intended for use in decision making, and opinions expressed through the polling are not binding and may change



Outcomes of the poll: Ranking



^{*}Based on 10 responses. The poll was conducted prior to the meeting to inform the discussion, the results are not intended for use in decision making, and opinions expressed through the polling are not binding and may change

Options discussion





Discussion points

- 1. Do you see any other (significantly different) options to advance inventory quality reporting?
- 2. Do you see additional arguments (pros and cons) for each of the options, not listed in the assessment?
- 3. Do you agree with (some of) the assessment of alignment of options with the decision-making criteria?
- 4. Which of the options shall we take forward for further development?

Next Steps





Next steps

- GHG Protocol Secretariat:
 - Distribute the recording (by Nov 15)
 - Distribute the feedback form (by Nov 15)
 - Distribute the ranking form (by Nov 15)
 - Prepare and distribute minutes of the meeting (by Nov 21)
- TWG members:
 - Provide feedback (by Nov 24)
 - Provide the contribution on ranking of the options (by Nov 24)

Next meeting on December 5th, 2PM PT/ 5PM ET / 11PM CET / 6AM CST / 9AM AET

- GHG Protocol Secretariat:
 - Distribute the asynchronous contribution form #3 (on request)
- TWG members:
 - Provide asynchronous contribution #3 (by Dec 5)



Thank you!

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