Greenhouse Gas Protocol

Survey on Need and Scope for Updates or Additional Guidance

Market-based Accounting Approaches Survey Memo

This is an initial exploratory survey to gather inputs and perspectives from stakeholders related to market-based accounting approaches. It is an opportunity to collect feedback and understand user needs as an initial step. Whether the GHG Protocol and/or other partners or initiatives develop new guidance on this topic will depend on survey findings as well as further consultations to determine the need, and if so, which initiative(s) or accounting framework(s) are best suited to meet any needs identified through the survey.

Please refer to the survey process memo for information about the purpose, process, and timeline for the survey, available here.

Refer to the survey on the *Scope 2 Guidance* if you would like to provide input on updates or changes to the scope 2 location-based or market-based methods.

In addition to providing survey responses, stakeholders may submit a proposal(s) for updates or additional guidance to GHG Protocol standards or guidance by following the instructions in the proposal template available here.

Below is the list of questions that are included in the online survey form, as well as any background information.

1 Background information

Current Greenhouse Gas Protocol approach for scope 1 and scope 3

The GHG Protocol *Corporate Standard* and *Scope 3 Standard* are based on inventory accounting methods using a physical or average-based accounting approach for scope 1 and scope 3 emissions. Market-based accounting approaches are not included for scope 1 or scope 3 accounting.

Greenhouse gas inventory accounting is intended to attribute emissions to entities based on their ownership or control of emissions sources as well as emissions that occur in their value chain. GHG inventory accounting and reporting includes disaggregated reporting of information about a company's emissions as part of a GHG inventory report, following the principles of accuracy, completeness, consistency, relevance, and transparency.

Scope 1 emissions are direct emissions released from sources owned or controlled by the reporting company. Scope 3 are indirect emissions that occur in the reporting company's value chain (other than indirect emissions from purchased energy which are accounted for in scope 2).

Scope 3 emissions are calculated using allocation metrics tied to physical consumption of products. Allocation is necessary when a single system produces multiple outputs and emissions are only quantified for the entire system as a whole. For each individual system, a single, consistent allocation factor should be used to allocate emissions. The sum of the allocated emissions for each output of a system should equal 100 percent of emissions from the system. Companies should select the allocation approach that 1) best reflects the causal relationship between the production of outputs and resulting emissions, 2) results in the most accurate and credible emissions estimates, 3) best supports effective decision-making and GHG reduction activities, and 4) adheres to GHG accounting principles. For more information, refer to chapters 7 and 8 of the *Scope 3 Standard*.

Where companies purchase products from a common pool (e.g. unsegregated supply of an agricultural commodity, common-carrier gas pipeline, fuel distribution system, etc.), companies account for an allocated share of emissions from the common pool based on their share of purchased products. A common pool represents a mix of GHG emitting activities tied to the company's physical consumption (e.g. a mix of farms with different characteristics that produce the common supply that the company consumes, or a mix of gas derived from fossil, waste and other resources).

Companies may also report the following information in a GHG inventory report, separately from emissions reported in the scopes:
- purchases of credits, certificates, or other instruments, and/or
- the GHG impact of company actions or financing, such as avoided emissions, using project or intervention accounting methods (where impacts on emissions are quantified relative to a counterfactual baseline scenario).

Scope 2 Guidance

The *Scope 2 Guidance* introduced an approach for accounting for indirect scope 2 emissions from purchased electricity, steam, heating, or cooling using two methods:

- The location-based method, which reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data).

- The market-based method, which reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims.

Companies with any operations in electricity markets providing product or supplier-specific data in the form of contractual instruments are required to report scope 2 emissions according to both the location-based method and the market-based method (i.e., "dual reporting"). The *Scope 2 Guidance* defines additional requirements for market-based accounting of purchased electricity such as meeting several quality criteria for contractual instruments and the use of residual emission factors.

New market-based accounting proposals

Additional market-based accounting approaches have been proposed for a variety of other commodities, sectors, and end-uses since the introduction of the *Scope 2 Guidance*. Market-based accounting approaches have recently been proposed for many different sectors, including natural gas/biomethane, aviation fuels (SAF), agricultural commodities, freight transport, maritime shipping, oil, steel, aluminum, and others. Market-based proposals have typically arisen in cases where companies purchase products or commodities from common pools or distribution systems, and direct contracting with suppliers or traceability to individual points of origin are not feasible.

Some proposals would seek to expand the type of market-based accounting introduced in the *Scope 2 Guidance* to account for scope 1 and/or scope 3 emissions. Other types of market-based approaches have also been proposed, such as supply shed interventions, project-based insetting, baseline-and-credit approaches, etc. At the same time, there has been mixed feedback on the use of the market-based method in scope 2, including some criticisms about its efficacy and appropriateness.

Types of market instruments

Examples of market-based instruments that have been proposed include (draft list; may not be exhaustive):

- **Project-based crediting:** Credits are quantified mitigation outcomes of projects or broader interventions which are credited for GHG claims to be transferred between entities. Credits are quantified using project-based accounting methods in which emission reductions or removals resulting from projects or interventions are quantified relative to counterfactual baseline scenarios. Credits can be differentiated in relation to the company's value chain:
    - **<u>Offset credits</u>**: generated from projects that reduce emissions or increase removals outside the reporting company's value chain
    - **<u>Inset credits</u>**: generated from projects that reduce emissions or increase removals within the reporting company's value chain (using the same quantification methods as offset credits)
- **Supply shed/value chain interventions:** Projects/interventions that reduce emissions or increase removals inside the reporting company's supply shed or sourcing area and are accounted for using scope 3 inventory methods (e.g., using emission factors derived from primary data specific to individual suppliers that implement interventions)
- **Certification/chain-of-custody models**
    - **<u>Mass-balance certification</u>**: Purchases of certificates in which materials or products with a set of specified characteristics are mixed with materials or products without that set of characteristics

- **<u>Book-and-claim certificates</u>**: Purchases of certificates in which environmental attributes are separated from the products the company physically consumes

Note: Separate instruments/systems have been developed for compliance/regulatory markets vs voluntary markets.

The GHG Protocol is undertaking a process to determine the need and scope for additional guidance building on the existing set of corporate GHG accounting and reporting standards for scope 1, scope 2, and scope 3 emissions. As part of this process, the GHG Protocol plans to holistically examine the appropriateness of market-based accounting methods across sectors, end-uses, and scopes. This process would seek to explore whether market-based accounting is appropriate for scope 1, scope 2, and/or scope 3 and/or project accounting. It would also explore whether the accounting approach for scope 2 (e.g., dual reporting using location-based and market-based methods, market instrument quality criteria, etc.) would need to be applied, amended, or expanded if it were applied outside of scope 2.

Comparison of inventory accounting methods and project or intervention accounting methods

Inventory accounting methods track GHG emissions and removals within a defined inventory boundary over time relative to a historical base year. Emissions and removals reported in scope 1, scope 2, and scope 3 use an inventory approach to account for emissions and removals occurring in the company's operations or value chain. The GHG Protocol *Corporate Standard* and the *Scope 3 Standard* use inventory accounting methods to compile a company's annual GHG inventory.

Project or intervention accounting methods are used to quantify the impacts on GHG emissions of specific projects, actions, or interventions. Intervention accounting methods estimate the systemwide GHG impact of actions relative to a counterfactual baseline scenario or performance benchmarks that represent the conditions most likely to occur in the absence of the activity. Credited GHG reductions and removals are quantified using project or intervention accounting methods.

GHG Protocol provides standards and guidance for project or intervention accounting, including the *GHG Protocol for Project Accounting* and the GHG Protocol *Policy and Action Standard*. GHG Protocol also provides sector-specific project-level guidance: *Guidelines for Quantifying GHG Reductions from Grid-Connected Electricity Projects* and *The Land Use, Land-Use Change, and Forestry (LULUCF) Guidance for GHG Project Accounting*.

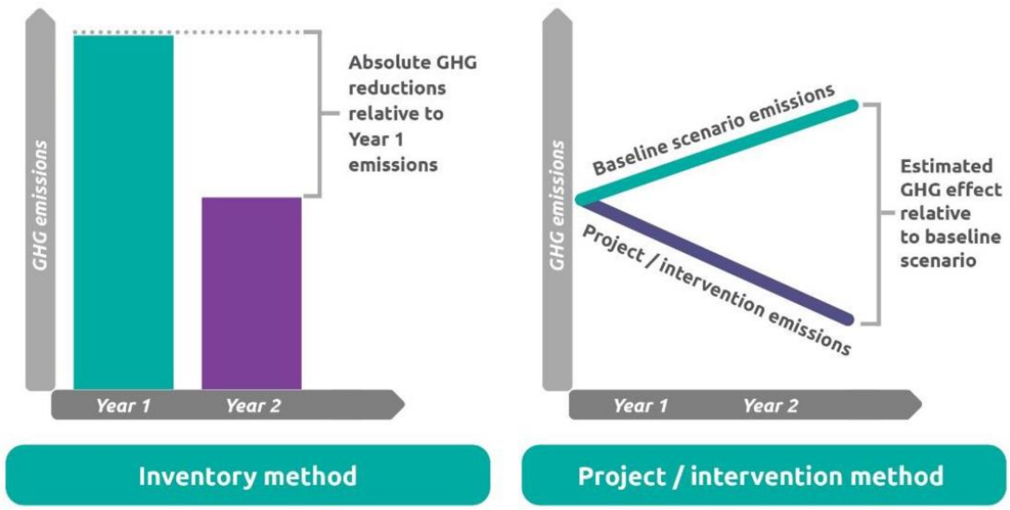
In life cycle assessment, inventory methods correspond to attributional methods and project/intervention methods correspond to consequential methods.

Inventory accounting methods meet a variety of objectives, including accounting for total emissions and removals annually within a defined GHG inventory boundary, setting and tracking progress toward targets, and identifying 'hot spots' to focus mitigation efforts. Inventory accounting methods do not capture all climate impacts from company activities since impacts can occur outside of the inventory boundary. They also do not quantify total changes in emissions caused by company actions since they do not quantify impacts relative to a baseline scenario.

Intervention methods can be used to capture system-wide changes caused by a company's actions since they are not limited to a defined GHG inventory boundary. Intervention accounting methods define an assessment boundary by identifying which sources and sinks are expected to be affected by an action, either positively or negatively, both inside and outside of the company's GHG inventory boundary.

See figure 11.3 for a comparison of inventory and intervention accounting.

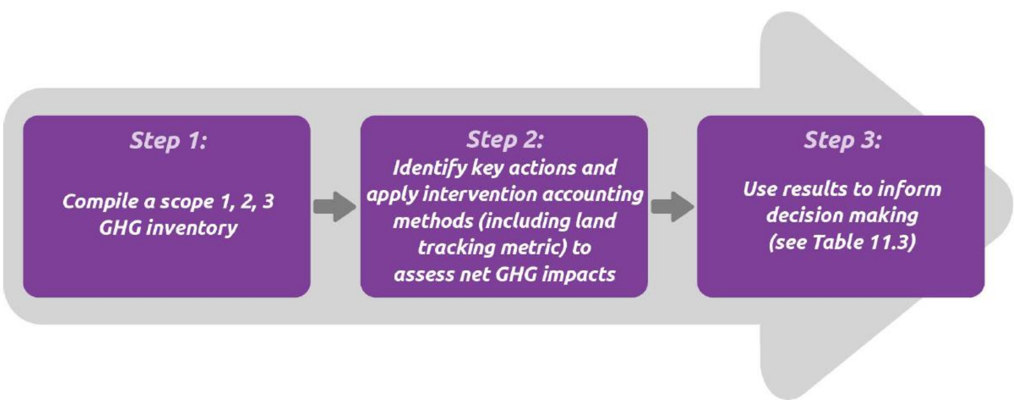
Figure 11.3 Comparison of inventory and project or intervention accounting methods



Source: GHG Protocol, Land Sector and Removals Guidance, Chapter 11, Draft for Pilot Testing and Review, September 2022

Both inventory and intervention methods are useful and should be used in combination to inform decision-making (see figure 11.4).

Figure 11.4 Using intervention accounting methods to complement inventory accounting and inform decision making



Source: GHG Protocol, Land Sector and Removals Guidance, Chapter 11, Draft for Pilot Testing and Review, September 2022

Inventory accounting vs. target accounting

In addition to GHG inventory accounting and accounting for the impacts of specific actions, a third type of accounting is target accounting.

Target accounting involves determining whether a company has met its GHG reduction target, which involves programmatic target setting questions such as setting the level of ambition of the target for companies and sectors, setting the target boundary (what emissions sources, scopes, scope 3 categories, sectors, business units, etc. are included in the company's target), eligibility rules for what types of instruments are allowed or not allowed to be used to meet a target, among others.

A GHG inventory report includes all relevant GHG accounting and reporting metrics, separately reported. Which metrics are eligible or appropriate or required to be used in GHG targets is a target setting question.

Historically the Greenhouse Gas Protocol provides standards on GHG accounting and reporting (inventory accounting), while providing guidance on target setting and target accounting. Other initiatives that build on GHG Protocol standards such as the Science Based Targets initiative provide target setting rules for companies and sectors.

2 Feedback form questions

Data and privacy acknowledgement

1. In order to proceed to the survey, please click yes below to acknowledge that you have reviewed the information in the Process Memo and Market-based Accounting Survey Memo and that you consent to the data disclosure agreements outlined in the Process Memo.
    - Yes
    - No

Respondent information

2. Name

3. Organization

4. Country

5. Email address

6. Would you like to receive email updates from GHG Protocol?
    - Yes
    - No

7. Does your company/organization have a greenhouse gas inventory?
    - Yes
    - No
    - Other (please specify)

8. Are you involved in developing your company/organization's greenhouse gas inventory?
    - Yes
    - No
    - Not applicable
    - Other (please specify)

9. What is your organization type?
    - Academia/research
    - Company
    - Consultant supporting organizations with GHG inventories/strategies
    - GHG reporting program or initiative
    - Government institution
    - International agency
    - Industry group
    - Non-profit organization/NGO/civil society
    - Provider of data or product related to GHG inventories
    - Other (please specify)

10. What is your company's sector? [Dropdown menu/multiple choice of options]
    - Agriculture
    - Apparel
    - Biotech, health care and pharmaceutical
    - Chemicals
    - Construction
    - Consumer goods

- Education
- Energy
- Finance
- Food and beverage
- Forest products
- Forestry
- Fossil fuels
- Hospitality
- Information and communication technology
- Infrastructure
- Insurance
- Manufacturing
- Materials
- Mining
- Power generation
- Professional, scientific, and technical services
- Real estate
- Retail
- Services
- Transportation
- Utilities (water, gas, electricity)
- Waste management
- Other (please specify)

Purpose

Background: The current GHG inventory accounting approach for scope 1 and scope 3 is an attributional accounting approach that uses a physical/average/location-based method to calculate scope 1 and scope 3 emissions, with separate reporting of project-based impacts (i.e., using project/intervention/consequential accounting methods relative to counterfactual baseline scenarios) and separate reporting of purchased credits, certificates, or other market instruments in a disaggregated GHG inventory report. (See background memo for further details.)

11. Is the current GHG inventory accounting approach for scope 1 and scope 3 effective in producing an accurate, complete, consistent, relevant, and transparent account of a company's GHG emissions and removals associated with its operations and value chain?
    - Yes
    - No
    - Not sure

12. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

13. Do you think there is a need for market-based accounting approaches related to scope 1 GHG reporting?
    - Yes
    - No
    - Not sure

14. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

15. If yes, what would be the purpose or objective(s) for incorporating market-based accounting approaches in scope 1 GHG emission reporting? You may enter brief comments here or submit a more detailed proposal using the proposal template.

16. Do you think there is a need for market-based accounting approaches related to scope 3 GHG reporting?
    - Yes
    - No
    - Not sure

17. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

18. If yes, what would be the purpose or objective(s) for incorporating market-based accounting approaches in scope 3 GHG emission reporting? You may enter brief comments here or submit a more detailed proposal using the proposal template.

Accounting approach

19. Do you think that market-based accounting approaches ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere?
    - Yes
    - No
    - Not sure

20. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

21. If yes, how do they ensure consistency between company and global emission reductions? You may enter brief comments here or submit a more detailed proposal using the proposal template.

22. Could current or new market-based approaches be designed to ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere?
    - Yes
    - No
    - Not sure

23. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

24. If so, how? For which types of market instruments and approaches? You may enter brief comments here or submit a more detailed proposal using the proposal template.

25. If market-based accounting approaches are used, what accounting methodology should be used to account for them (e.g. inventory method, project/intervention method, combination of the two methods, or other method)? Why? (See background memo for a comparison of inventory vs project/intervention accounting methods.)

26. If market-based accounting approaches are quantified using project/intervention methods relative to counterfactual baseline scenarios, can they be integrated into GHG inventory methods to calculate scope 1 and scope 3 emissions?
    - Yes
    - No
    - Not sure

27. Please explain your selection. You may enter brief comments here or submit a more detailed proposal using the proposal template.

28. If yes, how these method/s can be integrated into the <u>accounting</u> of a GHG inventory while meeting the GHG Protocol decision hierarchy including key GHG Protocol accounting & reporting principles (See the

proposal template annex for background on decision hierarchy)? Please briefly explain your selection or use the proposal template for a more detailed reply.

29. If yes, how these method/s can be integrated into the reporting of a GHG inventory while meeting the GHG Protocol decision hierarchy including key accounting and reporting principles. For example, to meet the transparency principle, should the market-based accounting inventory results be separately reported from scope 1 and scope 3 emissions? (See the proposal template annex for background on decision hierarchy)?

30. If market-based accounting approaches are quantified using inventory methods, would your company be able to demonstrate or quantify impact (i.e. reductions in emissions to the atmosphere) associated with market instruments? If so, how?

Role in corporate GHG reporting

31. Please select which of the following option(s) best represents how you think purchases of offset credits (see background memo on types of market instruments) should be accounted for within corporate GHG inventory reporting. Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
    c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
    d. Used to calculate scope 1 emissions
    e. Used to calculate scope 3 emissions
    f. Not sure/No opinion
    g. Other (please specify)

32. Please explain your selection for purchases of offset credits.

33. Please select which of the following option(s) best represents how you think purchases of inset credits (see background memo on types of market instruments) should be accounted for within corporate GHG inventory reporting. Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
    c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
    d. Used to calculate scope 1 emissions
    e. Used to calculate scope 3 emissions
    f. Not sure/No opinion
    g. Other (please specify)

34. Please explain your selection for purchases of inset credits.

35. Please select which of the following option(s) best represents how you think supply shed/value chain interventions (see background memo on types of market instruments) should be accounted for within corporate GHG inventory reporting. Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions

(similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
   c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
   d. Used to calculate scope 1 emissions
   e. Used to calculate scope 3 emissions
   f. Not sure/No opinion
   g. Other (please specify)

36. Please explain your selection for supply shed/value chain interventions.

37. Please select which of the following option(s) best represents how you think mass-balance certification approaches (see background memo on types of market instruments) should be accounted for within corporate GHG inventory reporting. Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
    c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
    d. Used to calculate scope 1 emissions
    e. Used to calculate scope 3 emissions
    f. Not sure/No opinion
    g. Other (please specify)

38. Please explain your selection for use of mass-balance certification.

39. Please select which of the following option(s) best represents how you think book-and-claim certification (see background memo on types of market instruments) should be accounted for within corporate GHG inventory reporting. Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
    c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
    d. Used to calculate scope 1 emissions
    e. Used to calculate scope 3 emissions
    f. Not sure/No opinion
    g. Other (please specify)

40. Please explain your selection for use of book-and-claim certification.

41. Do you think there are other market-based accounting approaches that can be reported as part of corporate GHG inventory reporting? If so, what role, and why? Please select all that apply:
    a. No role in corporate GHG reporting
    b. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, to provide transparency and context on actions the company is taking to reduce emissions (similar to reporting avoided emissions or impacts of specific actions separately from scope 1, scope 2, and scope 3 emissions)
    c. Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
    d. Used to calculate scope 1 emissions
    e. Used to calculate scope 3 emissions

f. Not sure/No opinion
g. Other (please specify)

42. Please specify what other market-based accounting approaches.

43. Please explain your selection for other market-based accounting approaches.

44. Does the approach vary by type of market instrument (see background memo on types of market instruments)? Why or why not? How are the various instruments and approaches the same or different?

45. Would market-based accounting approaches be appropriate for some sectors but not others? (Example sectors include electricity, natural gas/biomethane, aviation fuels (SAF), oil, agricultural commodities, transport/shipping, hydrogen, steel, aluminum, and others.) What are the differences between sectors or conditions that would make it appropriate or not appropriate? Please briefly explain your selection or use the proposal template for a more detailed reply.

Role of GHG Protocol accounting and reporting standards vs. GHG target setting or reduction programs

Background: Implementation of a market-based accounting system related to scope 1 and/or scope 3 would require programmatic decisions and programmatic oversight/enforcement on issues such as (but not limited to):

- contractual arrangements that generate and transfer ownership of rights and obligations related to emissions and emission reductions between parties,
- policy decisions on the eligibility or lack thereof of different types of instruments to meet a company's targets,
- setting the level of ambition of targets for different companies and sectors,
- defining a set of quality criteria (e.g., additionality, permanence, avoiding leakage, unique issuance and claims, independent verification, program governance, etc., and/or other quality criteria) that cannot be enforced by a voluntary standard alone
- avoidance of double counting (including through registries for issuance, tracking, and retirement to ensure unique claims; development and use of residual emission factors by all actors in the system; avoidance of double counting between location-based and market-based accounting system

46. The GHG Protocol sets standards but does not administer any program (e.g. disclosure or target-setting). Given several programmatic considerations such as those listed above, would market-based approaches be more effectively implemented by GHG target setting or reduction programs or regulatory bodies, rather than by the GHG Protocol, in order to provide additional rules and decisions as well as ensure their administration, verification, and enforcement?
    - Yes
    - No
    - Not sure

47. Please briefly explain your selection for who should provide rules and decisions on the accounting and reporting specifications, administration, verification and enforcement of market-based approaches.

Other

48. Do you have any other feedback?