

GHG Protocol Scope 2 Update

Technical Working Group Discussion Topic Overview

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Contents

1. Purpose and organization of this paper	2
2. Changes to the required reporting methods	4
Overview	4
Analysis of options according to decision-making criteria	5
Observations	13
Questions for Technical Working Group discussion	13
3. Technical improvements: introduction	14
4. Technical improvements: Location-based method	15
Background	15
Location-based method technical improvements under consideration	15
Questions for Technical Working Group discussion	15
5. Technical improvements: Market-based method	15
Background	15
Market-Based Technical Improvements Under Consideration	15
Questions for Technical Working Group Discussion	15
Appendix A - Detailed Decision-Making Criteria analysis for Required Reporting Options	16
Appendix B – Detailed Decision-Making Criteria analysis for Location-based method technical improvements	36
Appendix C – Detailed Decision-Making Criteria analysis for Market-based method technical improvements	36

1. Purpose and organization of this paper

This discussion paper expands from the Statement of Work provided in the [Scope 2 Standard Development Plan](#). Importantly, it provides only a *starting point* intended to help facilitate Technical Working Group (TWG) discussions on Phase 1 updates to the scope 2 accounting and reporting standards. All outputs of this revision process including any changes to scope 2 requirements will be developed in full consultation with the TWG and approval by the Independent Standards Board (ISB), following GHG Protocol process as described in the [Standard Development & Revision Procedure](#) (SDRP).

As outlined below each section of this paper seeks to highlight core issues identified by stakeholders, any proposed solutions, and provide preliminary questions for scope 2 TWG discussion based on feedback and evidence received through over 400 survey submissions, 70 proposal submissions, and conversations held with over 1,000 stakeholders. Comprehensive feedback previously provided by stakeholders is summarized in the [Detailed Summary of Responses from Scope 2 Guidance Stakeholder Survey](#), documented in the publicly available [stakeholder proposals](#), and further summarized in the [Scope 2 Proposal Summary](#). For a complete list of Phase 1 and 2 topics, including the timeline for addressing topics, are described in the [Scope 2 Standard Development Plan](#). Additional discussion paper(s) will be published for Phase 2 topics as needed.

For each section, the Secretariat has used the GHG Protocol [Decision-Making Criteria and Hierarchy](#) to develop a preliminary straw proposal illustrating a comparative analysis of stakeholder proposals. The content within each analysis is based on stakeholder feedback and relevant research provided as described above. Please see the full GHG Protocol Decision-Making Criteria and Hierarchy for further a complete overview and additional information on the Decision-Making Criteria.

Informed by this public feedback, Phase 1 of the scope 2 standard revisions process will focus on two topic areas which are deemed necessary to address prior to evaluating subsequent Phase 2 topics identified by stakeholders. These priority topics are:

- A. Evaluation of the scope 2 reporting methods**
i.e., which methods generally are required or recommended to report and how to report them
- B. Analysis of potential improvements to the location- and market-based methods**
i.e., improvements and clarifications to methodologies, data usage, quality criteria, etc.

To provide a structured evaluation these topics, this discussion paper is organized as follows:

- **Section 2** - A comparative analysis of the existing scope 2 dual reporting requirement relative to proposed changes to what methods are required or recommended by the scope 2 accounting and reporting standard.
 - a. This section only compares options for changing which methods are required or recommended across the location-based & market-based inventory methods, and additional project-based methods.
 - b. Comparisons of the existing scope 2 methodologies relative to proposed updates to each method are evaluated in subsequent sections.

- **Section 3** - Introduction to technical improvements (*to be provided*)
- **Section 4** - Comparisons of the existing scope 2 location-based method to proposed options to update this methodology (*to be provided*)
- **Section 5** - Comparisons of the existing scope 2 market-based method to proposed options to update this methodology (*to be provided*)

A series of questions are presented following each of these comparisons *as a starting point* for discussion in Technical Working Groups. Note that this analysis identifies there may at times be insufficient information to comprehensively assess all proposals. Further discussion and development with TWG members of each Decision-Making Criteria evaluation is planned as part of the Phase 1 revision process. Please see the presentation “*Scope 2 TWG - Meeting #1 Presentation Slide Deck - 16 October 2024 FINAL*” for details on timeline and workplan in addition to the [Scope 2 Standard Development Plan](#).

Generally, this paper follows the proposed sequence of discussion topics that will be conducted through the TWG consultation process. TWG members are encouraged to review this material in advance, be prepared to improve whether and how this information is relevant and appropriately characterized under the Decision-Making Criteria for the proposals in each section, identify what information is missing, share perspectives to help answer questions for discussion, and contribute to the development of revised scope 2 standards and guidance for the Independent Standards Board’s consideration and subsequent public consultation as detailed in the [SDRP](#).

2. Changes to the required reporting methods

This section presents a comparative analysis of proposed changes to which scope 2 accounting and reporting methods are *required or recommended*.

The GHG Protocol Decision-Making Criteria are used to evaluate the existing scope 2 requirements – i.e., dual reporting of both the location-based and market-based methods and optional, separate reporting of emissions impacts of individual projects – relative to proposed changes for what methods are required or recommended in an updated GHG Protocol scope 2 accounting and reporting standard. For additional context on the options evaluated as changes to the required reporting methods, please see the [Scope 2 Proposal Summary](#).

Comparisons of specific changes to the location- and market-based methods are evaluated in subsequent sections 4 and 5 (*to be provided*).

Overview

Currently, the GHG Protocol Scope 2 Guidance provides details on accounting and reporting information using three different methods. Two are required, the location-based and market-based methods, and the third is an optional disclosure of avoided emissions information calculated using project accounting methods.

Extensive stakeholder feedback has identified a range of proposals to maintain or improve the details of each of these three methods, as well as suggest which methods are required to report. Further, a preliminary review of the evidence presented through the public consultation process has indicated the likely need for improvements to be made to existing accounting methods to improve their scientific integrity and alignment with GHG Protocol Decision-Making Criteria. These improvements will be discussed in detail in the Technical Improvements section of this document.

To support facilitation of Scope 2 Technical Working Group discussion, this paper first presents an overarching analysis of changes to which methods organizations “shall”, “should”, “may” or “should not” include in an emission report (Section 2) using the GHG Protocol Decision-Making Criteria. Following this evaluation, subsequent sections (3-5) provide a comparative analysis of the proposed technical changes to each of these methods using the GHG Protocol Decision-Making Criteria.

Extensive public consultation, including over 400 survey responses, 80 detailed proposals, and engagement with over a thousand stakeholders revealed interest in several possible combinations of required scope 2 reporting methods. While more combinations of reporting methods, and additional iterations of shall/should/may language, are possible, the following four combinations of reporting methods represent the feedback from stakeholders.

Details can be found in in sections B and E of the [Detailed Summary of Responses from Scope 2 Guidance Stakeholder Survey](#) and the [Scope 2 Proposal Summary](#).

Broadly, the proposals highlighted four possible combinations of reporting structures (i.e. options):

- A. **Maintain dual reporting requirement, with potential updates; Optional project accounting:**
 - o Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in sections 4-5
 - o Organizations may report emission impacts from projects and interventions, separately from the inventory.

- B. **Report only the market-based method, with potential updates; Optional project accounting:**
 - o Organizations shall report the market-based inventory method, potentially incorporating updates as described in section 5; organizations should not report the location-based method
 - o Organizations may report emission impacts from projects and interventions, separately from the inventory.

- C. **Report only the location-based method, with potential updates; Recommend or require project accounting:**
 - o Organizations shall report the location-based inventory method, potentially incorporating updates as described in section 4; organizations should not report the market-based method
 - o Organizations [shall or should] (to be discussed with the TWG) report emission impacts from projects and interventions, separately from the inventory.

- D. **Maintain dual reporting requirement, with potential updates; Recommend or require project accounting:**
 - o Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in sections 4-5
 - o Organizations [shall or should] (to be discussed with the TWG) report emission impacts from projects and interventions, separately from the inventory.

Analysis of options according to decision-making criteria

The GHG Protocol Secretariat evaluated these four generalized options proposed by stakeholders using the Decision-Making Criteria and Hierarchy, as outlined below in Table 1. To enable a comprehensive evaluation of all required and recommended reporting options, this evaluation considers the GHG Protocol accounting and reporting principles, as appropriate, from both the Corporate Standard and Project Accounting Protocol. *This evaluation is preliminary.* Further revision and refinement of this initial analysis will be one of the first topics addressed by the Scope 2 Technical Working Group using the GHG Protocol Decision-Making Criteria.

Table 1: Preliminary evaluation of options for changes to the required accounting and reporting methods

		Option A: Maintain dual reporting requirement w/ potential updates; Optional project accounting	Option B: Report only market-based w/ potential updates; Optional project accounting	Option C: Report only location-based w/ potential updates; Recommend or require project accounting	Option D: Maintain dual reporting requirement w/ potential updates; Recommended or require project accounting
Scientific integrity		NA	NA	NA	NA
GHG accounting and reporting principles <i>Corporate Standard & Project Accounting Protocol</i>	Relevance	Mixed / Yes	Mixed / No	Mixed / No	Yes
	Completeness	Mixed / Yes	Mixed / Yes	Yes	Yes
	Consistency	Mixed	Mixed	Mixed / Yes	Yes
	Transparency	Mixed / Yes	Mixed / Yes	Yes	Yes
	Accuracy	NA	NA	NA	NA
	Comparability	Mixed / Yes	Mixed	Mixed	Mixed / Yes
Supports decision making that drives ambitious global climate action		Mixed / Yes	Mixed	Mixed	Yes
Supports programs based on GHG Protocol and uses of GHG data		Mixed / Yes	No	No	Yes
Feasibility to implement		Yes	Yes	Mixed / Yes	Mixed / Yes

The following analysis compares each of the four options for changes to the required accounting and reporting methods against the GHG Protocol decision-making criteria. Due to the nature of this aggregation of stakeholder proposals, specifically only evaluating which accounting methods should be required, not how each method should be implemented, it is not possible to evaluate each criterion fully. Additionally, there is significant overlap in the analysis below as each option consists of one or several accounting methods, and some combinations of methods are similar.

This evaluation of suggested “required accounting and reporting methods” is inclusive of the GHG Protocol accounting and reporting principles, as appropriate, from both the Corporate Standard and Project Protocol.

A. Maintain dual reporting requirement, with potential updates; Optional project accounting:

Details of the proposed approach:

- Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in the Technical Improvements sections.
- Organizations may report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separately from the inventory.

For a detailed assessment of this approach using the full decision-making criteria, see Appendix A.

Scientific integrity

The concept of scientific integrity can be more specifically applied to proposed technical improvements in subsequent sections of this document. A growing body of research has identified potential challenges with both the existing location- and market-based methods while also providing potential options to increase the scientific integrity of each method. Preliminary analysis suggests that improvements to the location- and market-based methods may be required to ensure the scientific integrity of each method. The level of scientific integrity each method can achieve will depend on the specifics of how they are implemented. See the Technical Improvements section for more details on these improvements.

GHG accounting and reporting principles

A majority of the GHG Protocol accounting and reporting principles are met or partially met through the application of required dual reporting and optional project-based reporting. In particular, the principles of relevance, completeness, and transparency are well supported through this approach. The additional principle of comparability is also supported by this approach. The principle of accuracy cannot be fully assessed without knowing the technical details of each reporting method, however the requirement to report two accounting methods may increase the likelihood that inventories calculated with this approach communicate GHG data that better aligns with the principle of accuracy. The principle of consistency is similarly dependent on the extent to which the details of the accounting methods facilitate a consistent application of accounting approaches, and both the location- and market-based methods have the potential to deliver consistent inventories given the availability of data and reporting tools. However, the principle of consistency may be challenged by the requirement to report market-based emissions year over year given that implementation of the quality criteria can significantly vary region-to-region. The continued optional treatment of project-based assessments, without clear guidance and standardization, may lead to project-level data that is inconsistent over time.

Support decision making that drives ambitious global climate action

Dual reporting of location- and market-based emissions, with optional disclosure of project-based emissions, can incentivize a range of mitigation actions necessary to address climate goals. These mitigation actions may include facility siting decisions, energy efficiency measures, time of use decisions (potentially more so with certain technical improvements), policy advocacy, and energy supply decisions. The impact and alignment of the actions incentivized by these reporting methods with global climate science will depend on the specific details of how the location-, market-, or project-based methods are implemented. However, this option of dual reporting combined with optional project-based reporting may expand the range of potential actions, offering more opportunities for impactful and science-aligned initiatives compared to options that restrict reporting methods to one or two categories.

Support programs based on GHG Protocol and uses of GHG data

The required dual reporting of location- and market-based emissions provides users of GHG data with a range of information to assess a company's overall climate risks, energy use, and emissions mitigation actions. This data is currently relevant for existing mandatory reporting frameworks including IFRS Climate-Related Disclosures (IFRS S2), European Sustainability Reporting Standards: Climate Change (ESRS E1), ISO 14064-1:2018, The Enhancement and Standardization of Climate-Related Disclosures for Investors Rule (U.S. SEC Rule), and California Climate Corporate Data Accountability Act (CA SB 253), as well as voluntary programs including SBTi, RE100, GRI, and CDP, among others. While the optional reporting of project-based emissions assessments can provide a means to share additional relevant information for stakeholders, its status as an optional method without robust guidance may disincentivize reporting of emissions using this method. Further, the required or regular usage of project-based emissions assessments into mandatory and voluntary disclosure frameworks may be hindered by the perception that most organizations do not evaluate emissions using this method regularly or through a consistent, credible methodology. Keeping project-based emissions assessments as an optional category would therefore hinder adoption by other programs.

Feasibility to implement

There is a strong track record of implementation of the existing dual reporting framework globally and across a wide range of organizations, however, technical improvements to these methods may support or hinder feasibility globally. Further, some regions of the world lack high quality data (for both location- and market-based reporting) and/or the ability to make, track, and support supply choices (for the market-based method). While the project-based method generally has a track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility and use as part of organizations' overall emission reporting, decision-making, and target-setting efforts appears to be limited. As an optional method it can be used by organizations as needed and would not impact the overall feasibility of this approach.

B. Report only the market-based method, with potential updates; Optional project accounting:

Details of the proposed approach:

- Organizations shall report the market-based inventory method potentially incorporating updates as described in the Technical Improvements section; organizations should not report the location-based method.
- Organizations may report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

For a detailed assessment of this approach using the full decision-making criteria, see Appendix A.

Scientific integrity

See discussion of the concept of scientific integrity in Option A.

GHG accounting and reporting principles

The accounting and reporting principles of relevance and completeness are only partially met by this approach, with both suffering from the elimination of the location-based method as a required

reporting category. The additional principle of comparability is also partially met by this approach, as the elimination of the location-based method removes some useful data to be used in comparisons between companies. Emissions data may be less relevant to both internal and external users of data from this approach without the location-based method, as it omits some key information, such as an organization's overall exposure to electricity consumption, provided by the location-based method. Inventories are also less comparable using only a market-based method, since the availability of clean energy supply options, market boundaries, EAC tracking systems, etc. can vary significantly by location. While a market-based method can be viewed as a means to completely allocate electricity related emissions within a specified boundary, in reality the significant variability in application of the quality criteria may mean that system-wide emissions are not accurately reported in the aggregate. The principle of consistency is mostly met by the proposed approach, assuming a consistent application of quality criteria over time, however in practice the variability in application of this method may impact its ability to produce consistent inventories over time. The market-based method may meet the principle of transparency in theory but may be less easily auditable than the location-based method. For this reason, an approach that eliminates the location-based method may be less transparent than one that retains it, and its communication of an emissions inventory may be less easily understood by the public.

Support decision making that drives ambitious global climate action

In principle, the market-based method can provide reporting organizations with a means to account for and report progress toward climate actions and goals related to their procurement and usage of electricity through incentivizing specific supply choices and potentially managing consumption of electricity based on the availability of clean energy generated on the grid. However, details of the market-based method, including aspects of the quality criteria (vintage, market boundaries, granularity of data, etc.), are important in assessing whether these actions contribute meaningfully toward a net-zero electricity grid. Further, by relying solely on reporting of market-based emissions, this approach may disincentivize some decarbonization actions compared with other approaches that additionally require reporting of location-based method and recommend or require project-based assessments.

Support programs based on GHG Protocol and uses of GHG data

The market-based method can generate useful GHG data as evidenced by its use in many voluntary (e.g., SBTi, RE100, GRI, CDP) and mandatory (e.g., IFRS S2, ESRS E1, ISO 14064-1:2018, U.S. SEC Rule, and CA SB 253) reporting frameworks. However, the lack of location-based method data creates a significant gap in climate risk information used in many mandatory disclosure frameworks, including IFRS S2 and ISO 14064-1 which require location-based emissions disclosures. Relying exclusively on the market-based method, and on inventory accounting generally, may omit relevant information quantified and separately reported using a standardized approach to project-based accounting and reporting.

Feasibility to implement

While many companies in many regions of the world currently report market-based emissions, in some cases the lack of sufficient information to meet the quality criteria (supply-specific emissions rates, EAC tracking systems, residual mix data) or lack of electricity supply choices in certain regions results in companies reporting market-based emissions totals that include some portion of regional grid-average emission factors. Although grid-average emission factors are included in the market-based emission factor hierarchy, further discussion is necessary to assess whether their use for market-based calculations truly aligns with the spirit of the feasibility criteria.

C. Report only the location-based method, with potential updates; Recommend or require project accounting:

Details of the proposed approach:

- Organizations shall report the location-based inventory method potentially incorporating updates as described in Technical Improvements section; organizations should not report the market-based method.
- Organizations [shall or should] (to be discussed with TWG) report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

For a detailed assessment of this approach using the full decision-making criteria, see Appendix A.

Scientific integrity

See discussion of the concept of scientific integrity in Option A.

GHG accounting and reporting principles

The GHG accounting and reporting principles of consistency and transparency are met or mostly met by this approach. The principle of relevance is partially met by this approach, as the elimination of the market-based method removes relevant information related to an organization's energy supply and renewable energy procurement actions and decisions from the GHG inventory. The principle of completeness is met by this approach, as the location-based method is a complete allocation of electricity related emissions within a defined boundary. It is worth noting that the completeness principle as defined in the Project Accounting Protocol refers to a complete assessment of inputs for a particular project, and therefore the principle of completeness is assumed to have been met by this approach. The additional principle of comparability is partially met through this approach; however, the elimination of the market-based method provides fewer options for comparability between organizations.

Support decision making that drives ambitious global climate action

The required use of the location-based method would incentivize organizations to lower their emissions by reducing their overall electricity purchases and consumption, investing in onsite clean energy projects, and improving energy efficiency. It may also be used to inform facility siting decisions, though research has pointed to potentially significant inaccuracies in using annual average emission factors to make decisions relating to adding or removing load from a grid and related energy usage considerations (see further discussion in the technical improvements to the location-based method). The location-based method does not incentivize nor provide a means to account and report on clean energy procurement actions other than onsite clean energy projects. Without the reporting of market-based emissions, decarbonization decisions related to an organization's electricity procurement choices are absent from this inventory accounting approach. Regarding the project-based method, this could provide a means to further incentivize decarbonization actions that have a net positive emissions impact, reported separately from an organization's emissions inventory. These actions could include contracting with carbon free generation, load shifting, energy storage applications, and electric vehicle infrastructure among others. However, as the exclusive means to evaluate this information it is notable that it can both be highly complex and no target-setting or mandatory disclosure programs currently recognize project accounting metrics. Incentives to take decarbonization action that rely on reporting of emissions impacts separately from the inventory may not be as strong as those that can directly reduce the emissions inventory.

Support programs based on GHG Protocol and uses of GHG data

The location-based method provides users of GHG data with relevant climate risk information, and has been incorporated in mandatory (IFRS S2, ESRS E1, ISO 14064-1:2018, U.S. SEC Rule, and CA SB 253) and voluntary (CDP, GRI) programs globally. However, several mandatory reporting frameworks have also adopted the market-based method, and corporates participating in voluntary programs like SBTi and RE100 rely largely on the market-based method to signal achievement of goals and targets. While the reporting of project-based emissions assessments can provide additional relevant information for stakeholders, whether this method remains an optional category or is elevated to required or recommended has implications for its use by external programs. Elevating the project-based method to required or recommended could support its adoption by these programs, pending the feasibility of implementation for organizations.

Feasibility to implement

There is a strong track record of implementation of the location-based method globally, and across a wide range of organizations, however, technical improvements to this method may support or hinder feasibility globally. Some regions of the world lack high quality data for location-based calculations, though in general location-based data is readily available. While the project-based method has a long track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility and significant reliance on the method as part of organizations' overall emission reporting, decision-making, and target-setting efforts is unknown. As such, the decision of whether to maintain it as an optional method or elevate it to a required or recommended reporting method has significant implications for the feasibility of this approach. This added emphasis on the project-based method may lead to a development and refinement period during the initial implementation as organizations build reporting capacity, ultimately increasing long-term feasibility as tools and resources are developed to support implementation. Further discussion and evaluation of this dynamic are needed.

D. Maintain dual reporting requirement, with potential updates; Recommend or require project accounting:

Details of the proposed approach:

- Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in the Technical Improvements sections.
- Organizations [shall or should] (to be discussed with the TWG) report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

For a detailed assessment of this approach using the full decision-making criteria, see Appendix A.

Scientific integrity

See discussion of the concept of scientific integrity in Option A.

GHG accounting and reporting principles

All five accounting and reporting principles are met or partially met through this approach. While details of each reporting method are necessary to determine full alignment with some principles (accuracy, transparency, consistency), in general required dual reporting and required or recommended project-based reporting provides the most comprehensive quantification of emissions data to meet these principles.

Support decision making that drives ambitious global climate action

Similar to option A, required dual reporting of location- and market-based emissions, but with required or recommended disclosure of project-based emissions, can incentivize a broad range of mitigation actions necessary to address climate goals. These mitigation actions may include facility siting decisions, energy efficiency measures, time of use decisions (potentially more so with certain technical improvements), policy advocacy, energy supply decisions, and a myriad of possible interventions that reduce system-wide emissions as measured by the project-based method. The impact and alignment of the actions incentivized by these reporting methods with global climate science will depend on the specific details of their implementation. However, the presence of dual reporting and required or recommended project-based reporting broadens the range of potential actions, offering opportunities for more impactful and science-aligned initiatives compared to approaches that limit reporting to one or two categories. The elevation of the project-based method to a required or recommended reporting category could support the broader reporting ecosystem surrounding this method, and better incentivize these actions compared with approaches that maintain it as an optional reporting category.

Support programs based on GHG Protocol and uses of GHG data

Similar to option A, required dual reporting of location- and market-based emissions provides users of GHG data with a range of information, and is currently used by mandatory (IFRS S2, ESRS E1, ISO 14064-1:2018, U.S. SEC Rule, and CA SB 253) and voluntary (SBTi, CPD, RE100, GRI, etc.) disclosure programs alike. Project-based method reporting would add to this suite of relevant data, and by elevating it to a required or recommended reporting category with a more rigorous and standardized methodology this approach would likely increase the availability of this data compared with other approaches that exclude it or maintain it as only an optional reporting category with little guidance. However, it is important to note that few existing external reporting frameworks currently require or make use of emissions impacts quantified using a project-based method.

Feasibility

The feasibility of this approach shares many of the same themes already discussed in option 1, with an important difference being the elevation of the project-based method to a required or recommended reporting category instead of optional. While the project-based method has a long track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility as part of organizations' overall emission reporting, decision-making, and target-setting efforts is unknown. As such, the decision of whether to elevate it to a *required* or *recommended* reporting method has significant implications for the feasibility of this approach. This added emphasis on the project-based method may lead to a development and refinement period during the initial implementation as organizations build reporting capacity, ultimately increasing long-term feasibility as tools and resources are developed to support implementation. Further discussion and evaluation of this dynamic are needed.

Observations

- Several aspects of the decision-making criteria, such as scientific integrity, the principle of accuracy, and supporting decision making that drives ambitious global climate action, are not possible to assess for reporting *categories* alone. See the options discussed in the Technical Improvements section for a discussion of the implications of changes to the reporting categories.
- A reporting option that integrates both inventory and project accounting assessments may have the potential to more credibly and comprehensively align with all of the decision-making criteria and hierarchy compared to relying on a subset of methods. The level of scientific integrity and accuracy that each method can achieve depends on its specific implementation, with certain options possibly demonstrating higher integrity from the outset. This suggests that the proposed combination of reporting options could offer a more robust and accurate outcome compared to other approaches. Further exploration of these considerations is provided in the Technical Improvements section.
- Approaches (option A, option D) with multiple required and recommended reporting categories will provide the most relevant information for users of GHG data and will be the most interoperable with existing voluntary and mandatory reporting and disclosure programs. Limiting reporting categories runs the risk of creating gaps in the broader reporting ecosystem.
- Approaches (option A, option D) with multiple required and recommended reporting categories will likely incentivize a larger portfolio of decarbonization actions. While the details of these reporting categories (to be discussed in the Technical Improvements section) will be important in assessing whether the actions they incentivize are impactful, the number and type of incentivized actions is relevant to consider.

Questions for Technical Working Group discussion

- Are there evaluations of the Decision-Making Criteria for any of the four options that require further discussion and potential revision?
- Options A and D incentivize the largest suite of potential decarbonization actions by corporates. Is this increased number of actions inherently positive, or is it necessary to evaluate the specific actions and their decarbonization impact(s) before reaching a conclusion on these criteria?
- What is the current rate of corporations using project accounting methods compared to inventory accounting methods, and how would making the project-based method optional, recommended, or required affect the number of companies reporting consequential emissions impacts and the inclusion of such reporting in target-setting programs or mandatory disclosure initiatives?
- Evaluating the project-based method against the decision-making criteria relies in part on assumptions about the broader reporting landscape, and the potential that programs external to GHG Protocol adopt consequential impact assessments at some level. What conclusions can we make about the effectiveness of the project-based method without understanding future adoption by these external groups?

3. Technical improvements: introduction

To be provided

DRAFT

4. Technical improvements: Location-based method

Background

To be provided

Location-based method technical improvements under consideration

To be provided

Questions for Technical Working Group discussion

To be provided

5. Technical improvements: Market-based method

Background

To be provided

Market-Based Technical Improvements Under Consideration

To be provided

Questions for Technical Working Group Discussion

To be provided

Appendix A - Detailed Decision-Making Criteria analysis for Required Reporting Options

A. Maintain dual reporting requirement, with potential updates; Optional project accounting:

- Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in the Technical Improvements sections.
- Organizations may report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

Option A: Maintain dual reporting requirement, with potential updates; Optional project accounting		
Decision-making criteria		Evaluation
<p><u>Scientific integrity</u> Approaches should ensure scientific integrity and validity, adhere to the best applicable science and evidence (including academic literature, modeling, or other research), and align with the latest climate science.</p>		<p>N/A</p> <p>The concept of scientific integrity can be more specifically applied to the Technical Improvements section of this document. A growing body of research has identified potential issues with both the existing location- and market-based methods while also providing potential options to increase scientific integrity across each method. Preliminary analysis suggests that improvements to the location- and market-based methods may be required to ensure the scientific integrity of each method. The level of scientific integrity each method can achieve will depend on the specifics of how they are implemented. See the Technical Improvements section for more details on these improvements.</p>
<p><u>GHG accounting and reporting principles</u></p> <p>Approaches should meet the GHG Protocol accounting and reporting principles of accuracy, completeness, consistency, relevance, and transparency.</p> <p>Additional principles should be considered where relevant: conservativeness (for GHG reductions and removals), permanence (for removals), and comparability (TBD, subject to TWG and ISB discussions). Options may present tradeoffs among principles which should be evaluated. Refer to Annex 1 for further details.</p>	<p><u>1. Relevance</u></p> <p>Corporate Standard: Ensure the GHG inventory appropriately reflects the GHG emissions (and removals, if applicable) of the company and serves the decision-making needs of users – both internal and external to the company.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that are appropriate for the intended use of reported information.</p>	<p>Mixed / Yes</p> <p>Requiring dual reporting of both the location-based and market-based methods in a Scope 2 inventory, while making project-based assessments optional, presents a moderate alignment with the GHG Protocol Corporate Standard and GHG Protocol for Project Accounting principles of Relevance.</p> <p>The dual reporting requirement supports development of a GHG inventory that reflects a comprehensive view of the organization’s emissions, enabling an opportunity to reflect both an allocation of regional average emissions based on electricity use (location-based) and a more specific allocation of energy usage and procurement decisions (market-based). This combination can provide a reflection of the organization’s GHG emissions and useful information for internal and external decision-making, enabling the organization’s GHG inventory to serve as a relevant tool for understanding and managing emissions.</p> <p>However, the optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the relevance of the information provided. While these assessments could offer valuable insights into an organization's specific initiatives, their optional status and lack of standardization might lead to inconsistencies and omissions in the reported data. This could reduce the overall effectiveness of how organizations use project accounting evaluations to assess actions or investments to evaluate their emission abatement or increase potential. Even as an optional methodology, a clear separation of any project accounting assessments from the broader inventory remains necessary to allow stakeholders to assess the information.</p> <p>In summary, while dual reporting can strengthen the relevance of the GHG inventory by offering a broader view of emissions, the optional and less standardized nature of project-based assessments could detract from the overall relevance by potentially omitting critical information needed for comprehensive decision-making by users.</p>

<p>GHG accounting and reporting principles (cont.)</p>	<p>2. Completeness</p> <p>Corporate Standard: Account for and report on all GHG emissions (and removals, if applicable) from sources, sinks, and activities within the inventory boundary. Disclose and justify any specific exclusions.</p> <p>Project Accounting Standard: Consider all relevant information that may affect the accounting and quantification of GHG reductions and complete all requirements.</p>	<p>Mixed / Yes</p> <p>The location-based and market-based methods require accounting for and allocation of all relevant emission sources within the chosen inventory boundary and thus aligns with the Corporate Standard Principle of completeness.</p> <p>This reporting option would account for all GHG activities (e.g., purchased and consumed energy) within the inventory boundary. However, the approach may face challenges accounting for all GHG emission activities within the inventory boundary if inconsistencies arise in the application of the market-based method—due to its complexity—or the location-based method—due to variations in activity or grid data, potentially leading to incomplete reporting of the organization’s inventory of emissions. See technical improvements for specific parameters within the location-based and market-based methods.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the completeness of the information provided. While these assessments could offer valuable insights into an organization’s specific initiatives, their optional status and lack of standardization might lead to inconsistencies and gaps in the reported data. This could reduce the overall effectiveness of GHG emission reporting in fully reflecting the organization’s emissions and supporting informed decision-making.</p>
	<p>3. Consistency</p> <p>Corporate Standard: Use consistent methodologies to allow for meaningful performance tracking of GHG emissions (and removals, if applicable) over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that allow meaningful and valid comparisons.</p>	<p>Mixed</p> <p>Requiring dual reporting of both the location-based and market-based methods in a Scope 2 inventory, while making project-based assessments optional, presents a mixed alignment with the GHG Protocol Corporate Standard and GHG Protocol for Project Accounting Principles of Consistency.</p> <p>For dual reporting to maintain consistency, the market-based method must apply energy procurement choices uniformly across reporting periods, while the location-based method requires the consistent use of grid average emission factors based on regional data.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability to provide meaningful and valid comparisons over time. A lack of standardization might lead to inconsistencies and gaps in the reported data.</p>
	<p>4. Transparency</p> <p>Corporate Standard: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and</p>	<p>Mixed / Yes</p> <p>Requiring dual reporting of both the location-based and market-based methods in a Scope 2 inventory, while making project-based assessments optional, presents a moderate alignment with the GHG Protocol Corporate Standard and GHG Protocol for Project Accounting principles of Transparency.</p> <p>The degree to which a reporting method or combination of methods meets the transparency principle is largely a factor of the technical specifics of that reporting method(s) and is difficult to assess in the abstract. Given that both reporting methods included in this approach</p>

<p><u>GHG accounting and reporting principles (cont.)</u></p>	<p>calculation methodologies and data sources used.</p> <p>Project Accounting Standard: Provide clear and sufficient information for reviewers to assess the credibility and reliability of GHG reduction claims.</p>	<p>have the capacity to provide transparent and auditable GHG information, it can be concluded that this criterion has been met by the approach.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability of reporting organizations to provide auditable and detailed disclosures of the data, methods, criteria, and assumptions used in quantifying GHG reductions from specific initiatives. A lack of standardization might lead to inconsistencies and gaps in the reported data.</p>
	<p><u>5. Accuracy</u></p> <p>Corporate Standard: Ensure that the quantification of GHG emissions (and removals, if applicable) is systematically neither over nor under actual emissions (and removals, if applicable), and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.</p> <p>Project Accounting Standard: Reduce uncertainties as much as is practical.</p>	<p>N/A</p> <p>The accuracy each method can achieve will depend on the specifics of how they are implemented, with some technical improvements initially demonstrating stronger alignment with the accuracy principle than others. Further evaluation of research associated with each dual reporting method is necessary to ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions and that uncertainties are reduced as far as practicable. See the technical improvements section for discussion on both the existing inventory methods' accuracy and details on any improvements that may impact their accuracy.</p> <p>Including both the location-based and market-based methods, along with recommending project-based assessments may increase the likelihood that inventories calculated with this approach communicate GHG data that better aligns with the principle of accuracy.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability to provide accurate disclosures of the data, methods, criteria, and assumptions used in quantifying GHG reductions from specific initiatives. Furthermore, a clear separation of any project impacts from the broader inventory remains necessary to enable users to make decisions with reasonable confidence as to the integrity of the reported inventory or project-assessment information.</p>
	<p><u>6. Comparability (subject to discussion on TWG)</u></p> <p>Apply common methodologies, data sources, assumptions, and reporting formats such that the reported GHG inventories from multiple companies can be compared.</p>	<p>Mixed / Yes</p> <p>Requiring dual reporting can support comparability by providing a comprehensive view of an organization's emissions through two distinct methods of allocating the grid's emissions: the location-based method, which offers a broad estimate of an organization's emissions as an allocation of regional emissions, and the market-based method, which allocates emissions based on the organization's specific energy usage and procurement decisions. This dual approach helps address relevant issues by providing both a general perspective on grid emissions and a detailed view of how the organization's energy choices affect its allocated emissions, supporting a transparent assessment of the reported information.</p> <p>However, comparability depends on the consistent application of key implementation details, such as standardized activity data, emission factor sources, market boundaries, data quality, and vintage criteria. Inconsistent use of these factors could undermine the ability to accurately compare emissions across reporting organizations and may lead to potential misinterpretations of environmental performance.</p> <p>While this option requires dual reporting of Scope 2 market- and location-based methods, it leaves project accounting assessments optional and without necessarily providing clear guidance or standardization. This may limit the ability to provide comparable disclosures of the project-assessment data, methods, criteria, and assumptions used in quantifying GHG reductions from specific initiatives across reporting organizations.</p>

<p><u>Support decision making that drives ambitious global climate action</u></p> <ul style="list-style-type: none"> Approaches should advance the public interest by informing and supporting decision making that drives ambitious actions by private and public sector actors to reduce GHG emissions and increase removals in line with global climate goals. GHG Protocol accounting frameworks should accurately and completely measure emissions such that the resulting GHG data informs effective individual and systemwide GHG mitigation action in line with global climate goals. Accounting approaches should not support or incentivize actions that are contrary to global climate goals. Approaches should provide the necessary information to support sector-specific decarbonization in line with climate goals. 	<p>Mixed / Yes</p> <p>Requiring dual reporting of Scope 2 emissions has the potential to offer a more comprehensive and informative framework for supporting global climate action and goals compared to requiring only one method. By including both the location-based and market-based methods, this approach can broaden the range of information that organizations may consider in alignment with a transition to a net-zero emission electricity grid. The location-based method can motivate efforts to reduce overall electricity consumption and improve energy efficiency, while the market-based method has the potential to support the procurement and use of clean energy resources, siting decisions, load management, and other mitigation actions contributing to grid decarbonization. The specific actions incentivized by the location and market-based methods will still depend on how each method is implemented, with some options potentially more strongly supporting the transition to a net-zero electricity grid, as further explored in the technical improvements section.</p> <p>In contrast with other options that require only one reporting method, this approach may reduce the risk of systematically under- or overcounting emissions in the inventory by providing two perspectives on emissions. The inclusion of both methods helps ensure no single reporting method plays an outsized role in informing and supporting ambitious actions to reduce GHG emissions in line with global climate goals.</p> <p>The absence of clear guidance and standardization on data, methods, criteria, and assumptions for project-accounting assessments limits the potential of this option to fully inform climate actions and goals. This gap impacts the overall emissions report by limiting the range of actions an organization might evaluate in the context of global climate action.</p>	
<p><u>Support programs based on GHG Protocol and uses of GHG data</u></p> <ul style="list-style-type: none"> Approaches should promote interoperability with key mandatory and voluntary climate disclosure and target setting programs that are based on GHG Protocol standards, where appropriate, while ensuring policy neutrality. Refer to Annex 2 for further details. Approaches should support appropriate uses of the resulting GHG data and associated information by various audiences, including GHG programs, reporting companies, stakeholders, and other users of the resulting GHG information. 	<p>Mixed / Yes</p> <p>This option has the potential to support uses of GHG data and programs based on the GHG Protocol by generating emissions data that is both comprehensive and versatile. By offering multiple perspectives on an organization’s inventory emissions, this approach can provide useful data for general users of GHG inventory reports and reduce the risk of overreliance on a single method.</p> <p>Additionally, it can generate emissions data that is currently relevant for existing mandatory reporting frameworks including IFRS Climate-Related Disclosures (IFRS S2), European Sustainability Reporting Standards: Climate Change (ESRS E1), ISO 14064-1:2018, The Enhancement and Standardization of Climate-Related Disclosures for Investors Rule (U.S. SEC Rule), and California Climate Corporate Data Accountability Act (CA SB 253), as well as voluntary programs including SBTi, RE100, GRI, and CDP, among others.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability of this approach to support uses of GHG data. As this methodology is currently under-utilized or not required by many programs, the absence of clear guidance and standardization, may continue to limit its usage.</p>	

<p><u>Feasibility to implement</u></p> <ul style="list-style-type: none">• Approaches which meet the above criteria should be feasible to implement, meaning that they are accessible, adoptable, and equitable.• GHG Protocol accounting approaches should support broad adoption of GHG Protocol standards, including in voluntary and regulatory settings, and consider different users (level of capacity, resources, geography, regulatory environments, etc.).• For aspects of accounting approaches that meet the above criteria but are difficult to implement, the GHG Protocol should aim to improve feasibility, for example, by providing guidance and tools to support implementation.	<p>Yes</p> <p>There is a strong track record of implementation of the existing dual reporting framework globally and across a wide range of organizations, particularly in regions where both the location-based and market-based methods are well understood and supported by existing tools and resources. However, technical improvements to these methods may support or hinder feasibility globally. Further, some regions of the world lack high quality data (for both location- and market-based reporting) and/or the ability to make, track, and support supply choices (for the market-based method). While implementation challenges may vary globally, particularly in regions with less access to high-quality data, the widespread availability of guidance and resources from the GHG Protocol could support broader adoption.</p> <p>While the project-based method generally has a track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility and use as part of organizations' overall emission reporting, decision-making, and target-setting efforts appears to be limited. A continuation of the optional status for project-based assessments would be feasible as it requires little to no change from the status quo.</p>
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B. Report only the market-based method, with potential updates; Optional project accounting

- Organizations shall report the market-based inventory method potentially incorporating updates as described in the Technical Improvements section; organizations should not report the location-based method.
- Organizations may report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

Option B: Report only the market-based method, with potential updates; Optional project accounting	
Decision-making criteria	Evaluation
<p><u>Scientific integrity</u></p> <p>Approaches should ensure scientific integrity and validity, adhere to the best applicable science and evidence (including academic literature, modeling, or other research) and align with the latest climate science.</p>	<p>N/A</p> <p>The concept of scientific integrity can be more specifically applied to the Technical Improvements section of this document. A growing body of research has identified potential issues with both the existing location- and market-based methods while also providing potential options to increase scientific integrity across each method. Preliminary analysis suggests that improvements to the location- and market-based methods may be required to ensure the scientific integrity of each method. The level of scientific integrity each method can achieve will depend on the specifics of how they are implemented, with some options initially demonstrating higher integrity than others. See the Technical Improvements section for more details on these improvements.</p>
<p><u>GHG accounting and reporting principles</u></p> <p>Approaches should meet the GHG Protocol accounting and reporting principles of accuracy, completeness, consistency, relevance, and transparency.</p> <p>Additional principles should be considered where relevant: conservativeness (for GHG reductions and removals), permanence (for removals), and comparability (TBD, subject to TWG and ISB discussions). Options may present tradeoffs among principles which should be evaluated. Refer to Annex 1 for further details.</p>	<p><u>1. Relevance</u></p> <p>Corporate Standard: Ensure the GHG inventory appropriately reflects the GHG emissions (and removals, if applicable) of the company and serves the decision-making needs of users – both internal and external to the company.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that are appropriate for the intended use of reported information.</p> <p>Mixed / No</p> <p>Requiring only the Scope 2 market-based method, while eliminating the location-based method and not providing clear guidance and standardization for project-accounting may limit the ability of this option to align with the GHG Protocol Principle of Relevance.</p> <p>The market-based method can reflect GHG emissions allocated to the organization and provide relevant decision-making information based on energy procurement and consumption decisions, such as procurement and supply choices, managing the timing of their consumption of electricity based on when clean energy is generated on the grid, reducing overall energy consumption, and siting facilities and operations in grids with more clean energy available for procurement.</p> <p>However, by excluding the location-based method, this approach could restrict the comprehensiveness of the GHG inventory, as it no longer also offers a general view of emissions based on the average carbon intensity of the regional grid. This might reduce the ability of the inventory to provide all GHG emission information relevant for the organization, particularly in regions where market-based procurement options are limited.</p> <p>Moreover, without including or clearly defining a project-accounting assessments methodology, this option may further limit the reporting of specific impacts from energy choices and initiatives, making it more challenging for internal and external users to assess the full scope of the organization’s emissions and the effectiveness of its sustainability strategies.</p>

<p><u>GHG accounting and reporting principles (cont.)</u></p>	<p><u>2. Completeness</u></p> <p>Corporate Standard: Account for and report on all GHG emissions (and removals, if applicable) from sources, sinks, and activities within the inventory boundary. Disclose and justify any specific exclusions.</p> <p>Project Accounting Standard: Consider all relevant information that may affect the accounting and quantification of GHG reductions and complete all requirements.</p>	<p>Mixed / Yes</p> <p>The market-based method requires accounting for and allocation of all relevant emission sources within the chosen inventory boundary and thus aligns with the Corporate Standard Principle of completeness.</p> <p>This reporting option would account for all GHG activities (e.g., purchase energy) within the inventory boundary. However, the approach may face challenges accounting for all GHG emission activities within the inventory boundary if inconsistencies arise in the application of the market-based method due to its complexity, potentially leading to incomplete reporting of the organization’s inventory of emissions. See technical improvements for specific parameters within the location-based and market-based methods.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the completeness of the information provided. While these assessments could offer valuable insights into an organization’s specific initiatives, their optional status and lack of standardization might lead to inconsistencies and gaps in the reported data. This could reduce the overall effectiveness of GHG emission reporting in fully reflecting the organization’s emissions and supporting informed decision-making.</p>
	<p><u>3. Consistency</u></p> <p>Corporate Standard: Use consistent methodologies to allow for meaningful performance tracking of GHG emissions (and removals, if applicable) over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that allow meaningful and valid comparisons.</p>	<p>Mixed</p> <p>Requiring only the market-based method can provide a reporting methodology that produces GHG inventory information consistently over time. For this method to maintain consistent GHG emissions data over time the reporting organization must apply energy procurement choices such as market boundaries, EAC vintage, and other metrics uniformly across reporting periods. In practice, this can be more difficult for the market-based method than for the location-based method due to its complexity, data availability, and other factors.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability to provide consistency over time. A lack of standardization might lead to inconsistencies and gaps in the reported data.</p>
	<p><u>4. Transparency</u></p> <p>Corporate Standard: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.</p>	<p>Mixed / Yes</p> <p>Requiring only the market-based method has the potential to align with the GHG Protocol Principle of Transparency if the reporting organization provides comprehensive data and emission factors during an audit.</p> <p>The degree to which a reporting method or combination of methods meets the transparency principle is largely a factor of the technical specifics of that reporting method(s) and is difficult to assess in the abstract. Since the market-based method has the capacity to provide transparent and auditable GHG information, it can be concluded that this criterion has been met by the approach.</p> <p>However, it is worth noting that in practice the assumptions and market instruments involved in market-based emissions calculations may not be clearly understood by all users. This lack of clarity can hinder a clear understanding of the issues in the context of the reporting company, making it difficult for users to meaningfully assess performance. Additionally, verification and audit challenges may arise due to</p>

<p>GHG accounting and reporting principles (cont.)</p>	<p>Project Accounting Standard: Provide clear and sufficient information for reviewers to assess the credibility and reliability of GHG reduction claims.</p>	<p>changes in market conditions and assumptions over time, complicating the establishment of a clear audit trail. The use of supplier-specific emission factors that are not publicly disclosed can further obscure the transparency of the inventory, increasing uncertainty and making it harder for third parties to replicate the results, thereby reducing the transparency of the report.</p> <p>The optional nature of project-based assessments, particularly without clear guidance and standardization, may limit the ability to provide transparency to assess the credibility and reliability of GHG reduction claims over time. A lack of standardization might lead to inconsistencies and gaps in the reported data.</p>
	<p>5. Accuracy</p> <p>Corporate Standard: Ensure that the quantification of GHG emissions (and removals, if applicable) is systematically neither over nor under actual emissions (and removals, if applicable), and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.</p> <p>Project Accounting Standard: Reduce uncertainties as much as is practical.</p>	<p>N/A</p> <p>The accuracy each method can achieve will depend on the specifics of how they are implemented, with some technical improvements initially demonstrating stronger alignment with the accuracy principle than others. Further evaluation of research associated with each dual reporting method is necessary to ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions and that uncertainties are reduced as far as practicable. See the technical improvements section for discussion on both the existing method's accuracy and details on any improvements that may impact its accuracy.</p> <p>Only including the market-based method without the location-based method or optional/recommended project-based assessments diminishes the likelihood that users receive a more accurate representation of the reporting organization's GHG emissions, increasing the risk that a single method could systematically misrepresent emissions impacts.</p>
	<p>6. Comparability (subject to discussion on TWG)</p> <p>Apply common methodologies, data sources, assumptions, and reporting formats such that the reported GHG inventories from multiple companies can be compared.</p>	<p>Mixed</p> <p>Only requiring the market-based method may limit comparability as users have fewer options to assess and compare company inventories, potentially leading to inconsistent or misleading evaluations.</p> <p>In theory, market-based to market-based comparisons across companies are possible, but variations in data choices, such as market geographic and temporal boundaries and residual mix calculations, can impact the results. Additionally, data limitations or regulatory policies in some regions may restrict a reporting organization's ability to use the market-based method everywhere, further complicating comparisons. Without consistent use of market boundaries and vintage quality criteria, reports might not clearly convey how a company's emissions relate to the energy grid's emissions where it operates, making it difficult for users to accurately assess environmental performance and potentially leading to misleading comparisons between companies.</p> <p>The absence of the location-based method may impair the ability to evaluate a company's emissions in relation to the specific energy grid emissions of the regions where it operates, hindering accurate and consistent comparisons across organizations.</p> <p>Furthermore, the absence of standardized guidance for project-based assessments reduces the opportunity to compare similar projects across organizations, further limiting the ability to evaluate and compare the specific impacts of emissions reduction initiatives.</p>

<p><u>Support decision making that drives ambitious global climate action</u></p> <ul style="list-style-type: none"> Approaches should advance the public interest by informing and supporting decision making that drives ambitious actions by private and public sector actors to reduce GHG emissions and increase removals in line with global climate goals. GHG Protocol accounting frameworks should accurately and completely measure emissions such that the resulting GHG data informs effective individual and systemwide GHG mitigation action in line with global climate goals. Accounting approaches should not support or incentivize actions that are contrary to global climate goals. Approaches should provide the necessary information to support sector-specific decarbonization in line with climate goals. 	<p>Mixed</p> <p>In principle, the market-based method can provide reporting organizations with a means to inform, account for, and report progress towards ambitious climate action and goals related to their procurement and usage of electricity. This is achieved through incentivizing specific energy procurement and supply choices, managing the timing of their consumption of electricity based on when clean energy is generated on the grid, reducing overall energy consumption, and siting facilities and operations in grids with more clean energy available for procurement. Eliminating the location-based method as a required reporting method may omit information such as insights to an organization’s overall exposure to electricity consumption or remove incentives for some actions, such as policy advocacy around grid decarbonization.</p> <p>As discussed in the GHG Protocol Principles criteria, the alignment with accuracy and completeness among other Principles for each of the proposed market-based method will depend on the specifics of how they are implemented, with some implementation options initially demonstrating stronger alignment than others. Further evaluation of the scientific integrity and alignment with accounting Principles for each market-based method proposal is necessary to ensure that GHG emissions are systematically neither over nor under allocated and that uncertainties are reduced as far as practicable. See the technical improvements section for evaluation of the existing market-based method and additional proposals.</p> <p>Relying exclusively on inventory accounting may omit relevant information necessary to fully support grid-related decarbonization actions and climate goals. Using information quantified and separately reported using the GHG Protocol Project Accounting Standard can provide a means to further support and inform effective mitigation actions when used in conjunction with inventory reporting.</p>
<p><u>Support programs based on GHG Protocol and uses of GHG data</u></p> <ul style="list-style-type: none"> Approaches should promote interoperability with key mandatory and voluntary climate disclosure and target setting programs that are based on GHG Protocol standards, where appropriate, while ensuring policy neutrality. Refer to Annex 2 for further details. Approaches should support appropriate uses of the resulting GHG data and associated information by various audiences, including GHG programs, reporting companies, stakeholders, and other users of the resulting GHG information. 	<p>No</p> <p>This approach has the potential to only partially support the use of GHG data and programs based on the GHG Protocol. Exclusion of the location-based method would be inconsistent with numerous existing mandatory (IFRS S2, ESRS E1, ISO 14064-1:2018, proposed U.S. SEC Rule, and CA SB 253.) and voluntary climate disclosure and target-setting programs, such as the SBTi, RE100, GRI, CDP. In only providing a single perspective on an organization’s emissions, this approach lacks useful data for general users of GHG reports and increases the risk of overreliance on a single method that might misrepresent impacts.</p> <p>The lack of clear guidance and standardization for project-based assessments may further limit the ability to support uses of GHG data and programs based on GHG Protocol. As this methodology is currently under-utilized or not required by many programs, the absence of clear guidance and standardization may continue to limit its usage.</p>

<p><u>Feasibility to implement</u></p> <ul style="list-style-type: none">• Approaches which meet the above criteria should be feasible to implement, meaning that they are accessible, adoptable, and equitable.• GHG Protocol accounting approaches should support broad adoption of GHG Protocol standards, including in voluntary and regulatory settings, and consider different users (level of capacity, resources, geography, regulatory environments, etc.).• For aspects of accounting approaches that meet the above criteria but are difficult to implement, the GHG Protocol should aim to improve feasibility, for example, by providing guidance and tools to support implementation.	<p>Yes</p> <p>The market-based method is a current scope 2 accounting and reporting methodology that is widely used globally in regions where markets provide “differentiated energy products” such as the availability of contractual instruments including direct contracts, certificates, or supplier-specific information. However, aggregate reporting data from CDP indicates that many organizations still only report location-based emissions, despite often operating in regions where dual reporting would be required. In some cases, the lack of sufficient information to meet the quality criteria (supply-specific emissions rates, EAC tracking systems, residual mix data) or lack of electricity supply choices in certain regions results in companies reporting market-based emissions totals that include some portion of regional grid-average emission factors. Although grid-average emission factors are included in the market-based emission factor hierarchy, further discussion is necessary to assess whether their use for market-based calculations truly aligns with the spirit of the feasibility criteria.</p> <p>While implementation challenges may vary globally, particularly in regions with less access to high-quality data, the widespread availability of guidance and resources from the GHG Protocol is a means to further support broader adoption.</p> <p>Under existing GHG Protocol Standards, any project-based assessments are optional. Continued status as an optional methodology is presumably a similarly feasible option.</p>
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C. Report only the location-based method, with potential updates; Recommend or require project accounting

- Organizations shall report the location-based inventory method potentially incorporating updates as described in Technical Improvements section; organizations should not report the market-based method.
- Organizations [shall or should] (to be discussed with TWG) report emission impacts from projects and interventions (i.e., the project-based method, or project-based assessments), separate from the inventory.

Option C: Report only the location-based method, with potential updates; Recommend or require project accounting		Decision-making criteria	Evaluation
		<p>Scientific integrity</p> <p>Approaches should ensure scientific integrity and validity, adhere to the best applicable science and evidence (including academic literature, modeling, or other research) and align with the latest climate science.</p>	<p>N/A</p> <p>The concept of scientific integrity can be more specifically applied to the Technical Improvements section of this document. A growing body of research has identified potential issues with the existing location-based method while also providing potential options to increase scientific integrity of the method. Preliminary analysis suggests that improvements to the location-based methods may be required to ensure the scientific integrity of each method. The level of scientific integrity achievable will depend on the specifics of how the method is implemented, with some options initially demonstrating higher integrity than others. See the Technical Improvements section for more details on these improvements.</p>
<p>GHG accounting and reporting principles</p> <p>Approaches should meet the GHG Protocol accounting and reporting principles of accuracy, completeness, consistency, relevance, and transparency.</p> <p>Additional principles should be considered where relevant: conservativeness (for GHG reductions and removals), permanence (for removals), and comparability (TBD, subject to TWG and ISB discussions). Options may present tradeoffs among principles which should be evaluated. Refer to Annex 1 for further details.</p>	<p>1. Relevance</p> <p>Corporate Standard: Ensure the GHG inventory appropriately reflects the GHG emissions (and removals, if applicable) of the company and serves the decision-making needs of users – both internal and external to the company.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that are appropriate for the intended use of reported information.</p>	<p>Mixed / No</p> <p>Requiring only the location-based method in a scope 2 inventory along with recommended or required separate project-based assessments and eliminating the market-based methods may limit the ability of this option to align with the GHG Protocol Principle of Relevance.</p> <p>The location-based method is one of two existing ways to allocate grid emissions to energy purchased and used by the reporting organization. It provides a simplified estimation of the reporting organization’s indirect emissions by allocating a pro rata share of total system emissions according to electricity consumed within a defined geographic area and time period using a grid average emission factor and the organization’s total energy usage.</p> <p>Exclusive use of the location-based method may have limitations in its relevance to users as a means to serve their decision-making needs. By its mathematical design, the allocation of emissions using a grid average emission rate is not able to reflect any direct or precise causal responsibility between an organization’s energy usage or actions and the emissions assigned to the reporting organization. The grid average may provide an estimate of an organization’s emissions as an allocation of regional emissions but is potentially unable to capture the specific emissions changes that occur when new electricity demand or reductions occur, from shifts in when usage occurs, or new technologies are introduced. This means any of the method’s stated purposes or use cases should acknowledge it may not necessarily represent accurate or relevant emission information directly related to an organization’s purchase and consumption of electricity.</p> <p>Recommending or requiring a robust and standardized usage of GHG Protocol’s project-accounting assessments can provide an option for organizations to selectively assess actions or investments to evaluate their emission abatement or increase potential. This can be relevant in evaluating what actions could result in the greatest emissions impact per investment. Externally, project-based emissions assessments can be used to communicate the impacts of specific actions undertaken by a reporting organization to reduce or avoid emissions separately from the overall GHG emissions allocated to the reporting organization. Project accounting assessments must be reported separately from the inventory report’s emissions estimates of the reporting organization’s energy usage. As project-accounting assessments are currently not included in most target-setting or mandatory disclosure programs it is unclear how currently relevant this information is for the decision-making needs of users—both internal and external to the reporting organization. Elevating the project-based method to required or recommended could support its further adoption by these programs.</p>	

<p>GHG accounting and reporting principles (cont.)</p>	<p><u>2. Completeness</u></p> <p>Corporate Standard: Account for and report on all GHG emissions (and removals, if applicable) from sources, sinks, and activities within the inventory boundary. Disclose and justify any specific exclusions.</p> <p>Project Accounting Standard: Consider all relevant information that may affect the accounting and quantification of GHG reductions and complete all requirements.</p>	<p>Yes</p> <p>The location-based method requires accounting for and allocation of all relevant emission sources within the chosen inventory boundary and thus aligns with the Corporate Standard Principle of completeness.</p> <p>This approach helps to account for all GHG activities (e.g., purchase energy) within the inventory boundary. However, the approach may face challenges accounting for all GHG emission activities within the inventory boundary if inconsistencies arise in the application of the location-based method due to variations in activity or grid data, potentially leading to incomplete reporting of the organization’s inventory of emissions. See technical improvements for specific parameters within the location-based and methods.</p> <p>By elevating the project-based method to a recommended or required reporting category, this approach may support project-based assessments to incorporate all relevant information that affects a project’s potential GHG reductions at a system level, separate from the overall GHG emissions of the reporting organization. While this can be done completely for specific projects, it may provide an incomplete representation of all actions, investments, etc. associated with the reporting organization.</p>
	<p><u>3. Consistency</u></p> <p>Corporate Standard: Use consistent methodologies to allow for meaningful performance tracking of GHG emissions (and removals, if applicable) over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that allow meaningful and valid comparisons.</p>	<p>Mixed / Yes</p> <p>The location-based method can provide a consistent approach to estimating over time the pro rata shares of total system emissions based on electricity purchased and consumed within a defined geographic area and time period using a grid average emission factor, though current methodologies may benefit from updates to ensure more consistent market boundaries, emission factor vintage, and other parameters.</p> <p>Project-accounting can provide consistent assessments so long as it utilizes standardized data, methods, criteria, and assumptions to ensure consistent and comparable reporting of emissions reductions outside the inventory, reflecting the broader impact of specific initiatives.</p>
	<p><u>4. Transparency</u></p> <p>Corporate Standard: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.</p>	<p>Yes</p> <p>The location-based method can provide a transparent and auditable means to estimating over time the pro rata shares of total system emissions based on electricity purchased and consumed within a defined geographic area and time period using a grid average emission factor, though current methodologies may benefit from updates to ensure more consistent market boundaries, emission factor vintage, and other parameters.</p> <p>The degree to which a reporting method or combination of methods meets the transparency principle largely depends on the technical specifics of the reporting method(s) and is difficult to assess in the abstract. Given that the location-based method has the capacity to provide transparent and auditable GHG information, this option appears to be in alignment with this GHG Protocol Principle and criterion. Furthermore, the simplicity of location-based emissions calculations and the public availability of emission factors, compared to other accounting methods, enhance the transparency and auditability of this approach.</p>

	<p>Project Accounting Standard: Provide clear and sufficient information for reviewers to assess the credibility and reliability of GHG reduction claims.</p>	<p>By elevating the project-based method to a recommended or required reporting category, this approach may result in GHG data that in aggregate better meets the transparency principle as the application of the project-based method may be better understood and applied by GHG reporters.</p>
	<p>5. Accuracy</p> <p>Corporate Standard: Ensure that the quantification of GHG emissions (and removals, if applicable) is systematically neither over nor under actual emissions (and removals, if applicable), and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.</p> <p>Project Accounting Standard: Reduce uncertainties as much as is practical.</p>	<p>N/A</p> <p>The accuracy each method can achieve will depend on the specifics of how they are implemented, with some technical improvements initially demonstrating stronger alignment with the accuracy principle than others. Further evaluation of research associated with the location-based method is necessary to ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions and that uncertainties are reduced as far as practicable. See the technical improvements section for discussion on both the existing method’s accuracy and details on any improvements that may impact its accuracy.</p> <p>Only including the location-based method without the market-based method may impact the accuracy of the inventory and users’ ability to make decisions with reasonable confidence and may increase the risk that a single method could systematically misrepresent emissions impacts.</p> <p>Recommended or required project-based assessments may be able to achieve sufficient accuracy to enable users to make decisions with reasonable confidence as to the integrity of the reported information. To ensure such quantifications do not systematically misrepresent emissions impacts, further consideration may be necessary to ensure reporting organization do not exclusively focus on GHG emission abatement projects, while omitting accounting for and reporting on projects or actions that increase emissions.</p>
	<p>6. Comparability (subject to discussion on TWG)</p> <p>Apply common methodologies, data sources, assumptions, and reporting formats such that the reported GHG inventories from multiple companies can be compared.</p>	<p>Mixed</p> <p>Only requiring the location-based method may limit comparability as users have fewer options to assess and compare company inventories, potentially leading to inconsistent or misleading evaluations.</p> <p>Generally, location-based to location-based comparisons across companies are possible, however variations in data choices, such as grid emission factors, geographic and temporal boundaries can impact the results. Furthermore, by its mathematical design the location-based method serves a potentially narrow purpose and should not be used to compare emissions changes between organizations that occur when new electricity demand or reductions occur, from shifts in when usage occurs, or new technologies are introduced.</p> <p>With standardized guidance for project-based assessments there could be opportunity to compare similar projects across organizations, however this may enable evaluation of specific projects without necessarily allowing for comparability across reporting organizations. Additionally, if project-based assessments are recommended (and not required) some organizations may opt to comprehensively use project assessments, others may conduct more limited assessments and others might forgo any evaluations entirely, further hindering any such comparisons.</p>

<p><u>Support decision making that drives ambitious global climate action</u></p> <ul style="list-style-type: none"> Approaches should advance the public interest by informing and supporting decision making that drives ambitious actions by private and public sector actors to reduce GHG emissions and increase removals in line with global climate goals. GHG Protocol accounting frameworks should accurately and completely measure emissions such that the resulting GHG data informs effective individual and systemwide GHG mitigation action in line with global climate goals. Accounting approaches should not support or incentivize actions that are contrary to global climate goals. Approaches should provide the necessary information to support sector-specific decarbonization in line with climate goals. 	<p>Mixed</p> <p>The current location-based method (using annual average emission factors) provides a straightforward way to allocate an organization's share of total system emissions. This estimation is determined by allocating a pro rata share of total system emissions according to electricity purchased and consumed within a defined geographic area and time period using an annual grid average emission factor and the organization's total energy usage. Under the current location-based method, the emissions reported in an organization's scope 2 location-based inventory will increase or decrease as result of either corresponding increases or decreases in their activities (i.e., electricity purchases and consumption), or changes in the grid average emission factor used by the reporting organization. While this approach can help ensure the completeness, consistency, comparability, and transparency of an organization's GHG inventory, it has limitations. It does not necessarily provide nor is it intended to inform a detailed or direct assessment of the relationship between an organization's activities (i.e., energy usage) and the grid emissions produced in supplying power. The actual emissions an organization causes can vary based on its specific practices and efforts to reduce emissions, and these may often not align well with the allocated emissions based on a simplified method like an annual average emission factor. For these reasons the current location-based method's ability to inform effective mitigation actions and create incentives for both individual and systemwide GHG reductions in line with global climate goals is limited. Further evaluation and refinement of the location-based method is discussed in the technical improvements section.</p> <p>Recommended or required project-based assessments could provide additional information to assess climate actions and goals. However, the absence of an easily implementable, standardized approach with consistent boundaries for determining which projects are evaluated and which are not may limit overall efficacy. Additionally, to ensure such quantifications do not systematically misrepresent emissions impacts, further consideration may be necessary to ensure reporting organizations do not exclusively focus on GHG emission abatement projects, while omitting accounting for and reporting on projects or actions that increase emissions.</p> <p>For many public target or goal programs as well as internal metrics used by reporting organizations, exclusively or primarily relying on project-based assessments to support climate action and goals may also require a transition period given the current state of practice, availability of standardized methodologies, and inclusion by target-setting programs and mandatory disclosure policies.</p>
<p><u>Support programs based on GHG Protocol and uses of GHG data</u></p> <ul style="list-style-type: none"> Approaches should promote interoperability with key mandatory and voluntary climate disclosure and target setting programs that are based on GHG Protocol standards, where appropriate, while ensuring policy neutrality. Refer to Annex 2 for further details. Approaches should support appropriate uses of the resulting GHG data and associated information by various audiences, including GHG programs, reporting companies, stakeholders, and other users of the resulting GHG information. 	<p>No</p> <p>This approach supports some usages of GHG data and programs based on GHG Protocol while eliminating a methodology widely used by organizations and programs globally.</p> <p>The location-based method provides users of GHG data with relevant climate risk information, and has been incorporated in mandatory (IFRS S2, ESRS E1, ISO 14064-1:2018, U.S. SEC Rule, and CA SB 253) and voluntary (CDP, GRI) programs globally. However, in eliminating the market-based method this approach only provides a single perspective on an organization's inventory, which may lack useful data for general users of GHG reports and increases the risk of overreliance on a single method. Exclusion of the market-based method would also be inconsistent with numerous existing mandatory disclosure frameworks (EFRAG CSRD, proposed U.S. SEC Rule and CA SB 253, etc.), and would eliminate the most widely used scope 2 accounting method for tracking progress toward climate goals and targets.</p> <p>While the reporting of project-based emissions assessments can provide additional relevant information for stakeholders, whether this method remains an <i>optional</i> category or is elevated to required or recommended has implications for its use by external programs. Elevating the project-based method to required or recommended could support its adoption by these programs, pending the feasibility of implementation for organizations.</p>

<p><u>Feasibility to implement</u></p> <ul style="list-style-type: none">• Approaches which meet the above criteria should be feasible to implement, meaning that they are accessible, adoptable, and equitable.• GHG Protocol accounting approaches should support broad adoption of GHG Protocol standards, including in voluntary and regulatory settings, and consider different users (level of capacity, resources, geography, regulatory environments, etc.).• For aspects of accounting approaches that meet the above criteria but are difficult to implement, the GHG Protocol should aim to improve feasibility, for example, by providing guidance and tools to support implementation.	<p>Mixed / Yes</p> <p>The location-based method is a current scope 2 accounting and reporting requirement and is currently used globally by a wide range of organizations. Continuing this existing requirement fit for its intended purposes is presumably a feasible option, however, technical improvements made to the location-based method may impact its feasibility for particular regions or organization types.</p> <p>While the project-based method has a long track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility as part of organizations' overall emission reporting is unknown. As such, the decision of whether to elevate it to a required or recommended reporting method has significant implications for the feasibility of this approach.</p>
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D. Maintain dual reporting requirement, with potential updates; Recommend or require project accounting

- Organizations shall report both the location- and market-based inventory methods, potentially incorporating updates to one or both methods as described in the Technical Improvements sections.
- Organizations [shall or should] (to be discussed with the TWG) report emission impacts from projects and interventions (i.e. the project-based method, or project-based assessments), separate from the inventory.

Option D: Maintain dual reporting requirement, with potential updates; Recommend or require project accounting	
Decision-making criteria	Evaluation
<p>Scientific integrity</p> <p>Approaches should ensure scientific integrity and validity, adhere to the best applicable science and evidence (including academic literature, modeling, or other research) and align with the latest climate science.</p>	<p>The concept of scientific integrity can be more specifically applied to the Technical Improvements section of this document. A growing body of research has identified potential issues with both the existing location- and market-based methods while also providing potential options to increase scientific integrity across each method. Preliminary analysis suggests that improvements to the market- and location-based methods may be required to ensure the scientific integrity of each method. The level of scientific integrity each method can achieve will depend on the specifics of how they are implemented, with some options initially demonstrating higher integrity than others. See the Technical Improvements section for more details on these improvements.</p>
<p>GHG accounting and reporting principles</p> <p>Approaches should meet the GHG Protocol accounting and reporting principles of accuracy, completeness, consistency, relevance, and transparency.</p> <p>Additional principles should be considered where relevant: conservativeness (for GHG reductions and removals), permanence (for removals), and comparability (TBD, subject to TWG and ISB discussions). Options may present tradeoffs among principles which should be evaluated. Refer to Annex 1 for further details.</p>	<p>1. Relevance</p> <p>Corporate Standard: Ensure the GHG inventory appropriately reflects the GHG emissions (and removals, if applicable) of the company and serves the decision-making needs of users – both internal and external to the company.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that are appropriate for the intended use of reported information.</p> <p>Yes</p> <p>Required dual reporting of both the location-based and market-based methods in a scope 2 inventory, along with required or recommended separate project-based assessments, enables a range of options for an organization to disclose their overall emissions and the impacts of their initiatives. Depending on specific implementation details, this approach may offer the most comprehensive means to report clear and relevant information, helping inform internal and external users make decisions.</p> <p>The location-based method and the market-based method provide two ways to allocate grid emissions to the reporting organization. The location-based method provides an allocation of regional emissions based on electricity use. The market-based method, depending on its implementation, can allocate emissions based on the organization’s specific energy usage and procurement decisions, such as purchasing renewable energy, reflecting their active role in influencing grid emissions. Both methods, when effectively applied, can provide a comprehensive understanding of the organization’s responsibility for the emissions associated with purchased energy.</p> <p>Recommending or requiring a robust and standardized usage of GHG Protocol’s project-accounting assessments can provide an option for organizations to selectively assess actions or investments to evaluate their emission abatement or increase potential. This can be relevant in evaluating what actions could result in the greatest emissions impact per investment. Externally, project-based emissions assessments can be used to communicate the impacts of specific actions undertaken by a reporting organization to reduce or avoid emissions separately from the overall GHG emissions allocated to the reporting organization. Project accounting assessments must be reported separately from the inventory report’s emissions estimates of the reporting organization’s energy usage. As project-accounting assessments are currently not included in most target-setting or mandatory disclosure programs it is unclear how currently relevant this information is for the decision-making needs of users—both internal and external to the reporting organization. Elevating the project-based method to required or recommended could support its further adoption by these programs.</p> <p>Together, these three methods provide both internal and external users with the necessary insights to understand the full scope of the organization's emissions and the effectiveness of its sustainability strategies, thereby reflecting the substance and economic reality of the company’s business practices.</p>

<p>GHG accounting and reporting principles (cont.)</p>	<p>2. Completeness</p> <p>Corporate Standard: Account for and report on all GHG emissions (and removals, if applicable) from sources, sinks, and activities within the inventory boundary. Disclose and justify any specific exclusions.</p> <p>Project Accounting Standard: Consider all relevant information that may affect the accounting and quantification of GHG reductions and complete all requirements.</p>	<p>Yes</p> <p>The location-based and market-based methods require accounting for and allocation of all relevant emission sources within the chosen inventory boundary and thus aligns with the Corporate Standard Principle of completeness.</p> <p>Required dual reporting, combined with recommended or required project-based assessments, can provide a complete view relative to the other options of an organization's electricity-related emissions by ensuring that all GHG sources and activities within the inventory boundary are accounted for (once via the location-based method and once via the market-based method) and that all relevant information affecting the quantification of GHG reductions is considered.</p> <p>This reporting option would account for all GHG activities (e.g., purchase energy) within the inventory boundary. However, the approach may face challenges accounting for all GHG emission activities within the inventory boundary if inconsistencies arise in the application of the market-based method—due to its complexity—or the location-based method—due to variations in activity or grid data, potentially leading to incomplete reporting of the organization's inventory of emissions. See technical improvements for specific parameters within the location-based and market-based methods.</p> <p>By elevating the project-based method to a recommended or required reporting category, this approach may support project-based assessments can incorporate all relevant information that affect a project's potential GHG reductions at a system level separate from the overall GHG emissions of the reporting organization. While this can be done completely for specific projects, it may provide an incomplete representation of all actions, investments, etc. associated with the reporting organization.</p>
	<p>3. Consistency</p> <p>Corporate Standard: Use consistent methodologies to allow for meaningful performance tracking of GHG emissions (and removals, if applicable) over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.</p> <p>Project Accounting Standard: Use data, methods, criteria, and assumptions that allow meaningful and valid comparisons.</p>	<p>Yes</p> <p>Required dual reporting, combined with recommended or required project-accounting assessments, can provide reporting methodologies that produce relevant and complete GHG information consistently over time. Dual reporting focuses on all operations within an organization's inventory boundary, while project accounting addresses primary and secondary effects through separate disclosures. For dual reporting to maintain consistency, the market-based method must apply energy procurement and consumption choices uniformly across reporting periods, while the location-based method requires the consistent use of grid average emission factors based on regional data. Project-accounting assessments, on the other hand, must utilize standardized data, methods, criteria, and assumptions to ensure consistent and comparable reporting of emissions reductions outside the inventory, reflecting the broader impact of specific initiatives.</p> <p>This approach also aligns with the established reporting practices of the last decade under the GHG Protocol Scope 2 Guidance, supporting continuity in reporting even if methodologies evolve with new scientific insights and the advancing role of the GHG Protocol.</p>
	<p>4. Transparency</p> <p>Corporate Standard: Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate</p>	<p>Yes</p> <p>Required dual reporting, combined with recommended or required project-accounting assessments, can provide a suite of reporting methodologies that transparently disclose comprehensive GHG information. By elevating the project-based method to a recommended or required reporting category, this approach may result in GHG data that in aggregate better meets the transparency principle as the application of the project-based method may be better understood and applied by GHG reporters.</p>

<p>GHG accounting and reporting principles (cont.)</p>	<p>references to the accounting and calculation methodologies and data sources used.</p> <p>Project Accounting Standard: Provide clear and sufficient information for reviewers to assess the credibility and reliability of GHG reduction claims.</p>	<p>The degree to which a reporting method or combination of methods meets the transparency principle is largely a factor of the technical specifics of that reporting method(s) and is difficult to assess in the abstract. Given that all three reporting methods included in this approach have the capacity to provide transparent and auditable GHG information, this option appears to be in alignment with the GHG Protocol Transparency Principle and criterion.</p>
	<p>5. Accuracy</p> <p>Corporate Standard: Ensure that the quantification of GHG emissions (and removals, if applicable) is systematically neither over nor under actual emissions (and removals, if applicable), and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.</p> <p>Project Accounting Standard: Reduce uncertainties as much as is practical.</p>	<p>N/A</p> <p>The accuracy each method can achieve will depend on the specifics of how they are implemented, with some technical improvements initially demonstrating stronger alignment with the accuracy principle than others. Further evaluation of research associated with each dual reporting method is necessary to ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions and that uncertainties are reduced as far as practicable. See the technical improvements section for discussion on both the existing method’s accuracy and details on any improvements that may impact its accuracy.</p> <p>Including both the location-based and market-based methods, along with recommending or requiring project-based assessments, helps ensure that users receive a more accurate representation of the reporting organization’s GHG emissions, reducing the risk of any one method systematically misrepresenting emissions impacts.</p>
	<p>6. Comparability (subject to discussion on TWG)</p> <p>Apply common methodologies, data sources, assumptions, and reporting formats such that the reported GHG inventories from multiple companies can be compared.</p>	<p>Mixed / Yes</p> <p>Requiring dual reporting can enhance comparability by providing a comprehensive view of an organization’s emissions through two distinct methods of allocating the grid’s emissions: the location-based method, which offers a broad estimate based on regional grid carbon intensity, and the market-based method, which allocates emissions based on the organization’s specific energy usage and procurement decisions. This dual approach helps address relevant issues by providing both a general perspective on grid emissions and a detailed view of how the organization’s energy choices affect its allocated emissions, supporting a transparent assessment of the reported information.</p> <p>However, comparability depends on the consistent application of key implementation details, such as standardized activity data, emission factor sources, market boundaries, data quality, and vintage criteria. Inconsistent use of these factors could undermine the ability to accurately compare emissions across reporting organizations and may lead to potential misinterpretations of environmental performance.</p>

		<p>With regard to the project-based method, it is crucial to maintain a clear separation of project impacts from the broader inventory to enable users to make informed comparisons and decisions with reasonable confidence in the integrity of the reported inventory and project-assessment information.</p>
<p><u>Support decision making that drives ambitious global climate action</u></p> <ul style="list-style-type: none"> Approaches should advance the public interest by informing and supporting decision making that drives ambitious actions by private and public sector actors to reduce GHG emissions and increase removals in line with global climate goals. GHG Protocol accounting frameworks should accurately and completely measure emissions such that the resulting GHG data informs effective individual and systemwide GHG mitigation action in line with global climate goals. Accounting approaches should not support or incentivize actions that are contrary to global climate goals. Approaches should provide the necessary information to support sector-specific decarbonization in line with climate goals. 		<p>Yes</p> <p>The option of requiring dual reporting of Scope 2 emissions, combined with required or recommended project-based assessments, offers a more comprehensive framework for supporting global climate action and goals. By requiring both the location-based and market-based methods, this approach may incentivize reporting organizations to take a broader range of actions that align with the transition to a net-zero electricity grid. The location-based method encourages organizations to reduce overall electricity consumption and improve energy efficiency, while the market-based method can additionally enable the procurement and use of clean energy resources, facility siting decisions, and load management which can in turn contribute to the decarbonization of the grid.</p> <p>This dual reporting structure, when complemented by project-based assessments, helps ensure that no single method’s quantifications are overly weighted, thus providing a more actionable representation of an organization’s GHG emissions. It also aims to mitigate the potential weaknesses of relying on a single method by offering multiple perspectives on emissions, which can reduce uncertainties and better support climate goals. The accuracy of each method will depend on its specific implementation, with some technical improvements likely demonstrating stronger alignment with the Decision-Making Criteria and Hierarchy. Further evaluation and refinement of these methods is discussed in the technical improvements section.</p> <p>By encouraging a comprehensive approach to emissions reporting, this combined option has a higher probability of supporting global climate action more effectively than options that use only a subset of these methods. It increases the likelihood that all relevant mitigation actions are considered, providing stakeholders with the necessary information to assess progress toward climate goals and make informed decisions that contribute to the transition to a net-zero future.</p>
<p><u>Support programs based on GHG Protocol and uses of GHG data</u></p> <ul style="list-style-type: none"> Approaches should promote interoperability with key mandatory and voluntary climate disclosure and target setting programs that are based on GHG Protocol standards, where appropriate, while ensuring policy neutrality. Refer to Annex 2 for further details. Approaches should support appropriate uses of the resulting GHG data and associated information by various audiences, including GHG programs, reporting companies, stakeholders, and other users of the resulting GHG information. 		<p>Yes</p> <p>This option has the potential to support uses of GHG data and programs based on the GHG Protocol by generating emissions data that is both comprehensive and versatile. By offering multiple perspectives on an organization’s emissions, this approach can provide useful data for general users of GHG reports and reduce the risk of overreliance on a single method that might undercount impacts. Additionally, it can generate emissions data that is more likely to be interoperable with existing mandatory (IFRS S2, ESRS E1, ISO 14064-1:2018, U.S. SEC Rule, and CA SB 253) and voluntary climate disclosure and target-setting programs, such as the CDP, SBTi, RE100, and GRI. Project-based method reporting would add to this suite of relevant data, and by elevating it to a required or recommended reporting category with a more rigorous and standardized methodology this approach would likely increase the availability of this data compared with other approaches that exclude it or maintain it as only an optional reporting category with little guidance. However, the reporting of project-based assessments is currently under-utilized or not required by many programs, so it only provides the potential for such support. The effectiveness of this approach also depends on how these programs choose to apply and integrate the suite of methods provided by the GHG Protocol.</p>

<p><u>Feasibility to implement</u></p> <ul style="list-style-type: none">• Approaches which meet the above criteria should be feasible to implement, meaning that they are accessible, adoptable, and equitable.• GHG Protocol accounting approaches should support broad adoption of GHG Protocol standards, including in voluntary and regulatory settings, and consider different users (level of capacity, resources, geography, regulatory environments, etc.).• For aspects of accounting approaches that meet the above criteria but are difficult to implement, the GHG Protocol should aim to improve feasibility, for example, by providing guidance and tools to support implementation.	<p>Mixed / Yes</p> <p>The option of requiring dual reporting of Scope 2 emissions appears to be feasible for a wide range of organizations and regions. Dual reporting methods have a track record of being implemented by many reporting organizations, particularly in regions where both the location-based and market-based methods are well understood and supported by existing tools and resources.</p> <p>While the project-based method has a long track record of implementation in carbon markets to quantify project-level GHG reductions and removals, its feasibility as part of organizations' overall emission reporting, decision-making, and target-setting efforts is unknown. As such, the decision of whether to elevate it to a required or recommended reporting method has significant implications for the feasibility of this approach</p> <p>While implementation challenges may vary globally, particularly in regions with less access to high-quality data, the widespread availability of guidance and resources from the GHG Protocol could support broader adoption. The inclusion of project-based assessments, though currently under-utilized, has the potential to be integrated more widely as additional tools and resources are developed, making this approach increasingly feasible over time.</p>
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Appendix B – Detailed Decision-Making Criteria analysis for Location-based method technical improvements

To be provided

Appendix C – Detailed Decision-Making Criteria analysis for Market-based method technical improvements

To be provided