Template for submitting proposals related to GHG Protocol's *Corporate Standard, Scope 2 Guidance, Scope 3 Standard, Scope 3 Calculation Guidance* and market-based accounting approaches

(Optional)

Proposal instructions

GHG Protocol is conducting four related surveys in reference to the following GHG Protocol standards, guidance and topics:

1. Corporate Accounting and Reporting Standard (Revised Edition, 2004) ("Corporate Standard")
2. Scope 2 Guidance (2015)
3. Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011) ("Scope 3 Standard"), and Technical Guidance for Calculating Scope 3 Emissions, version 1.0, 2013 ("Scope 3 Calculation Guidance")
4. Market-based accounting approaches

The survey is open until March 14, 2023. To fill out the survey, click here.

As part of the survey process, respondents may provide proposals for potential updates, amendments, or additional guidance to the *Corporate Standard, Scope 2 Guidance, Scope 3 Standard, or Scope 3 Calculation Guidance*, by providing the information requested in this template. You may also use this template to provide justification for maintaining a current approach on a given topic.

Submitting proposals is optional. Respondents may submit multiple proposals related to different topics.

Proposals should be as concise as possible while providing the requested information. Submissions that are outside of the template may not be considered. Proposals may be made publicly available.

To submit the proposal, please save this file and fill out the fields below. When you've completed your proposal, please upload the file via this online folder. Please name your file STANDARD_Proposal_AFFILIATION, e.g., *Scope 2_Proposal_WRI*.

Respondent information

Name

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If proposals are made publicly available, would you like your proposal to be made publicly available? Please write either "Yes" (make publicly available) or "No" (do not make publicly available).

Yes

If your proposal is made publicly available, would you like it to be made publicly available with attribution (with your name and organization provided) or anonymous (without any name or organization provided)? Please write either "With attribution" or "Anonymous".

With attribution

Proposal and supporting information

1. **Which standard or guidance does the proposal relate to (Corporate Standard, Scope 2 Guidance, Scope 3 Standard, Scope 3 Calculation Guidance, general/cross-cutting, market-based accounting approaches, or other)? If other, please specify.**

Scope 2 Guidance: Standardized Reporting Format Proposal

2. **What is the GHG accounting and reporting topic the proposal seeks to address?**

Proposing that the Scope 2 Guidance require and recommend the disclosure of additional information beyond Scope 2 inventories to provide improved insight into the extent to which a reporting entity is mitigating emissions from electricity consumption and how it is achieving impact

from procuring carbon-free electricity (CFE); such disclosure could occur through a standardized "Carbon Facts."

The Scope 2 Guidance already requires or recommends the disclosure of information beyond location and market-based inventories (for example, see Chapter 7 of the current Guidance for what information an entity "shall" and "should" disclose), and we propose that the Guidance seek additional information that would give better understanding of the extent to which a reporting entity is mitigating emissions related to electricity consumption and achieving impact through procurement. The Guidance should signal the importance of disclosing the full range of information by directing reporting entities to report using a standardized format, which we term a "Carbon Facts" label. We believe this information will enhance the accuracy, relevance, and transparency of information provided to potential users of the Protocol (e.g., recognition programs, ESG rating companies, investors, consumers, etc.), while continuing to allow flexibility in reporting since reporting entities' abilities, procurement goals, and access to markets and data differ. This standardized format would permit reporting entities the flexibility and opportunity to disclose progress across one or more procurement strategies, such as:

- **Improving load / demand-side management** *[measured by changes to Scope 2 inventories and a proposed "Carbon Emissions Baseline"]*
- **Achieving annual matching** (within same regional grid or balancing authority) **of consumption and CFE purchases** *[measured by changes to Scope 2 market-based inventory and a proposed CFE Score]*
- **Achieving hourly 24/7 matching** (within same regional grid or balancing authority) **of consumption and CFE purchases** *[measured by changes to Scope 2 market-based inventory and proposed CFE Score]*
- **Achieving RE100 or CFE100 purchasing goals** (annual across broader geographic market boundaries used by the RE100 initiative today) *[measured by % of annual load matched with CFE attributes using RE100 market boundaries]*
- **Achieving incremental CFE resource development** (and other interventions) *[based on reporting entity descriptions of interventions that may affect emissions into the atmosphere]*
- **Maximizing avoided emissions** *[measured by estimated avoided emissions in tons and Avoided Emissions Score expressed as a percentage of a reporting entity's "Carbon Emissions Baseline"]*

In addition, this proposal complements other NB/GS proposals that 1) modify current location-based and market-based methods to incorporate more granular time and location criteria; and 2) introduce provisions for discussion and disclosure of avoided emissions impact. (See Market-Based Modernization Proposals 1a through 1h and separate Emissions Impact Disclosures Proposals 2a through 2f.)

3. What is the potential problem(s) or limitation(s) of the current standard or guidance which necessitates this proposal?

The Scope 2 Guidance has been successful in encouraging the development of wind and solar in the most economically viable locations. However, the Scope 2 Guidance does not address the actions needed to achieve new, more ambitious net zero goals to decarbonize electricity grids in all locations and times, to maximize carbon emissions reductions, and to ensure a diverse mix of CFE generation and balancing resources are developed to provide reliability. As the goals and market uses of GHG reporting have changed, the Scope 2 Guidance needs to be updated to provide more relevant and accurate information. Our proposals address three fundamental problems with the current Scope 2 Guidance.

1) It does not accurately measure the emissions associated with a reporting entity's electricity use and fails to take into account the location and timing of purchased CFE supply bundled with Energy Attribute Certificates (EACs)[1] and unbundled EACs relative to the location and timing of a reporting entity's consumption (i.e., an organization can report zero Scope 2 market-based emissions and claim to consume 100% clean energy even when the buyer clearly relies on grid supply, including fossil generation, to serve its consumption).
2) It does not measure the *actual* emissions impact (avoided emissions) to the atmosphere resulting from a reporting entity's electricity procurement. The Protocol therefore cannot distinguish between high and low emission impact actions taken by reporting entities.
3) It does not ensure the diversity of carbon-free resources (firm, variable, balancing, etc.) needed to achieve net-zero goals reliably and affordably.[2]

This proposal focuses on identifying the range of information reporting entities should disclose to give a better perspective of their emissions from electricity consumption and avoided emissions impact from CFE procurement using a standardized format. Disclosing this information will increase the accuracy, relevance, and transparency of information provided to potential users of the Protocol (e.g., recognition programs, ESG rating companies, investors, consumers, etc.), while continuing to allow flexibility in reporting since reporting entities' abilities, procurement goals, and access to markets and data differ.

4. Describe the proposed change(s) or additional guidance.

Evaluating buyers, their emissions from using electricity, and their efforts to achieve GHG reduction impact through procurement requires collecting and disclosing a range of information, certainly more than what is captured in current location-based and market-based inventories. The ultimate and ideal result of modernizing accounting and disclosure should be the ability to capture the full range of relevant information in a single summary format. For example, analogous to nutrition facts labels customers commonly see on packages at the local grocery store, a "Carbon Facts" label might summarize carbon-related information in a standard and comparable format. It would seek to

[1] EACs in this proposal refer to energy attribute certificates with carbon-free emissions.

[2] To be fair, the GHG Protocol was never intended to a) accurately measure emissions associated with the timing and location of an organization's electricity use, b) actual emission reductions on the grid, or c) ensure a diverse mix of resources needed to achieve full decarbonization of the electric grid. Because of this, the existing Protocol cannot be relied on in its current form to measure (in a pure accounting sense), incentivize, or recognize actions that will do the most to speed decarbonization.

summarize the GHG emissions resulting from a buyer's electricity use and help reveal how a buyer's procurement strategy and decision making furthered real-world decarbonization progress. Like a food label, some metrics reported may appear favorable, while others at the same time may appear unfavorable.

- **Proposal 3a: Adopt a standardized reporting format, like illustrated in the "Carbon Facts" label, including location-based inventory, market-based inventory, avoided emissions, and other information related to CFE procurement efforts.** The granularity and extent of the disclosures that might make up a Carbon Facts label could increase over time. A nearer-term "Carbon Facts 1.0" label might look like this (individual elements of the label are described in Proposal 3b):

Carbon Facts 1.0 (Illustrative)

Reported for Prior Calendar Year

Consumption		__MWh
Location-Based Inventory __ tons	**Market Boundary** __ Same as today __ LMP Load Zone	**Time Interval** __ Annual __ Month __ Hour
Modified Market-Based Inventory __ tons (Annual Match)	**Market Boundary** __ Within or Delivered to Regional Grid / BA	**Time Interval** __ Annual
CFE Score (Annual) _%		
Modified Market-Based Inventory __ tons (Monthly or Hourly Match)	**Market Boundary** __ Within or Delivered to Regional Grid / BA __ LMP Load Zone	**Time Interval** __ Month __ Hour
CFE Score (Hourly) __%		
Percent of Annual Load Matched with CFE Attributes __% (Not by regional grid / balancing authority)	(Using current RE100 market boundaries)	
Description of Decarbonization Actions		
Incremental Total CFE (by resource type)	__ MW / __ MWh	
Describe Other Buyer Actions		
Avoided Emissions		
Avoided Emissions [AE] (after interventions)	**__ tons**	
Carbon Emissions Baseline [CEB]	**__ tons**	
Avoided Emissions Score [AE/CEB]	**__%**	

Attributional Information to Better Reflect Emissions from Electricity Use (Tied to timing and location of buyer consumption)

Consequential Information to Measure Decarbonization Impacts from Buyer Actions (Not necessarily tied to timing and location of buyer consumption)

Evaluation & Recognition

Annual Match

24/7 Match

Increase Accuracy

Incremental CFE

Avoided Emissions

- **Proposal 3b: Require ("shall disclose") and recommend ("should disclose") the disclosure of a wider range of information than called for by current Guidance and beyond Scope 2 inventories that will provide additional perspective of the emissions arising from electricity consumption and GHG reduction impact arising from CFE procurement.**

  The current Scope 2 Guidance requires ("shall"), recommends ("should"), and suggests ("may") various disclosures. Chapter 7 of the Guidance summarizes most of these guidelines in one place.

  "Shall" / Required Disclosures[3]

  - ***"Modified" location-based and market-based inventories (see NB/GS Market-Based Modernization Proposal incorporating time and location granular matching criteria).*** Similar to the current Guidance, reporting entities shall disclose location-based and market-based inventories, but the Guidance shall require reporting entities to use time and location granular information when available in inventory calculation. We also encourage reporting entities to disclose inventories on a regional grid or balancing authority basis, when practical.

  - ***Description of Decarbonization Actions/Discussion of Avoided Emissions Impact (see separate NB/GS Emissions Impact Disclosures Proposal to introduce new provisions to the Guidance for emissions impact disclosures).*** Reporting entities shall describe their efforts to procure CFE on an incremental basis, identifying individual transactions and other relevant details (transaction type, capacity, location, technology) and identify how their efforts aim to achieve decarbonization impact. The current Guidance (in Chapter 7.2 – "Role of corporate procurement in driving new projects") already has a provision for disclosure of procurement activities, but disclosed activities should not be limited to only driving new projects and should include any activity that has GHG reduction impact, including sustaining the lifespan of existing CFE projects and load management projects. Such disclosure will provide an opportunity for electricity buyers pursuing relatively more ambitious strategies to differentiate themselves from other buyers pursuing strategies less likely to have impact.

  - ***CFE Score (calculated on an annual and/or hourly basis)***. Reporting entities shall measure and disclose the degree to which electricity consumption is matched with carbon-free electricity generation for a given market boundary and time interval. If measured hourly, such that CFE and/or EACs cannot exceed consumption in any hour, the total CFE and/or EACs divided by total load across all hours in the year would result in the annual average CFE Score matched to hourly consumption. A CFE Score indicates the extent to which a reporting entity is procuring CFE to match its consumption at given locations and times. The score can signal how aggressively a reporting entity is moving to procure CFE over time.

[3] The Guidance treats each "shall" as a requirement but identifies options (data hierarchies) in meeting these requirements.

"Should" / Recommended Disclosures[4]

In addition to maintaining the recommendation to disclose ***annual electricity consumption and other instrument retirement and instrument features***, the Guidance should also recommend the disclosure of:

- ***Avoided Emissions Quantification.*** To complement discussion of avoided emissions impact, reporting entities should disclose calculations of avoided emissions impact arising from procurement, investments, and other strategies. Reporting entities should disclose relevant assumptions and the method used to quantify avoided emissions.
- ***Carbon Emissions Baseline (CEB).*** The CEB equals a buyer's consumption at a specific time and location multiplied by the marginal emissions factor at that time and location.[5, 6] This metric is like the modified location-based method proposed (i.e., hourly load multiplied by the applicable hourly system average emissions factors for the market area). However, it should be based on a buyer's hourly consumption and marginal emission factors (instead of average emission factors).[7] The CEB can be used to more accurately measure the marginal impact of changes in customer consumption levels (energy efficiency) or load patterns (load shifting and curtailment), holding all else on the grid constant.
- ***Avoided Emissions Score***. Calculated by dividing avoided emissions by the CEB. This score, expressed as a percentage, or some other fair and accurate way to contextualize the avoided emissions figure could provide insight into the magnitude of actions taken relative to a reporting entity's size. "We calculate emissions reduction as a percentage of the quantity of emissions caused by the corporate load in the absence of procurement."[8,9] Organizations whose avoided emissions are equal to their CEB (i.e.,

[4] See section 7.2.

[5] The Carbon Emissions Baseline is similar to what WattTime refers to as "induced" emissions caused by electricity consumption or Tabors et al call the "carbon footprint of consumption," where both induced and avoided emissions would be calculated in a consistent, apples-to-apples manner, using marginal emissions rates. (Henry Richardson, *Accounting for Impact, Refocusing GHG Protocol Scope 2 Methodology on 'Impact Accounting'*, WattTime, September 2022, at 5); (See also Hua He, Aleksandr Rudkevich, Xindi Li, Richard Tabors, Alexander Derenchuk, Paul Centolella, Ninad Kumthekar, Chen Ling, Ira Shavel, *Using Marginal Emission Rates to Optimize Investment in Carbon Dioxide Displacement Technologies*, Tabors Caramanis Rudkevich, The Electricity Journal, Volume 34, November 2021, at 2.)

[6] Note that the emissions factors used to calculate the CEB would be linked to the timing and location of customer consumption; whereas the emissions factors used to calculate the avoided emissions should be based on the location of the intervention, which may or may not be the same as the location of the customer.

[7] If hourly customer load and marginal emissions factors are not available, annual load and average eGrid fossil (or non-baseload) emissions factors could be used as a proxy for marginal emissions associated with consumption absent any buyer contracts or purchases.

[8] Enrique Gutierrez, Julia Guyon, Craig Hart, Zoe Hungerford, and Luis Lopez, *Advancing Decarbonisation Through Clean Electricity Procurement*, International Energy Agency, November 2022, at 84. "Using marginal emissions calculations gives a more accurate picture of how interventions reduce load or increase generation at specific times" (at 57).

[9] This proposal also is similar in concept to the "Renewable Energy Score" recommended by RMI, represented by the percentage of Weighted Avoided Emissions (defined as the renewable energy purchased multiplied by the marginal emissions factor of the location of that renewable energy), relative to the Total Induced Emissions

Avoided Emissions Score equals 100%) could be said to be "impact neutral" under this approach. A reporting entity also could have an Avoided Emissions Score that exceeds 100% ("impact positive") when its avoided emissions exceed its CEB.[10]

- ***Percent of Annual Load Matched with CFE Attributes*** (sourcing of attributes not restricted to only those sourced from the same regional grid as a reporting entity's load). Many electricity buyers have adopted goals to purchase renewable or carbon-free electricity equal to their total annual consumption. Such goals do not necessarily aim to match consumption on a time and location basis and may involve purchasing EACs from different grids than load.

"May" / Optional Disclosures[11]

- ***Information regarding Unabated Fossil Generation in Retail Supply.***
- ***Information on Transactions made to Mitigate Climate-related Financial Risk from Electricity Use.*** To provide information about reliance on purchased fossil-based electricity, a registrant could disclose information about fossil generation in the procured electricity that served the registrant's load and transactions it has undertaken to mitigate exposure to such generation.

- **Proposal 3c: WRI should provide guidance and work with recognition programs, ESG rating companies, and climate leadership programs to improve accuracy, transparency and credibility of climate claims based on the GHG Protocol.** Greater guidance is necessary regarding reporting entity claims related to the Protocol (e.g., what can be claimed given certain calculations). This will especially be true if the Protocol recognizes an expanded menu of options for reporting (e.g., annual versus hourly matching, different market boundaries, annual versus hourly matching when calculating Scope 2 inventories, and/or inclusion of avoided emissions calculations, etc.). Reporting entities should be provided clear guidance about claims with respect to:
  - When and under what conditions can a reporting entity claim to be "using" 100% clean energy,
  - How to characterize emissions (and changes to emissions) in Scope 2 market-based inventories or CFE Score % with annual versus hourly matching,
  - How to characterize annual matching across broad geographic boundaries (e.g., RE100 or CFE100), and
  - When and under what conditions can a reporting entity claim reductions in emissions into the atmosphere (avoided emissions).

(defined as the total electricity purchases multiplied by the marginal emissions factor of the location of that power usage). (Samuel Huestis, Charles Cannon, Sahithi Pingali, *Approach to Quantify Net Material Emissions Impact of Renewable Energy Purchases*, RMI, May 2022, at 5.)

[10] See Henry Richardson, *Accounting for Impact, Refocusing GHG Protocol Scope 2 Methodology on 'Impact Accounting'*, WattTime, September 2022, at 5.

[11] See section 7.3.

See comments submitted in NB/GS Market-Based Modernization Proposal (Proposal 1g) and separate Emissions Impact Disclosures Proposal (Proposal 2e) to improve accuracy, transparency and credibility of climate claims.

5. Please explain how the proposal aligns with the GHG Protocol decision-making criteria and hierarchy (A, B, C, D below), while providing justification/evidence where possible.

A. GHG Protocol accounting and reporting approaches shall meet the GHG Protocol accounting and reporting principles (see Annex for definitions):

- Accuracy, Completeness, Consistency, Relevance, Transparency
- Additional principles for land sector activities and CO_2 removals: Conservativeness, Permanence, and Comparability if relevant

See NB/GS Market-Based Modernization Proposal for how modifications to the current market-based methods to introduce new time and location matching criteria result in inventories that more accurately reflect the emissions associated with electricity consumption. Also see separate NB/GS Emissions Impact Disclosures Proposal which calls for reporting entities to disclose information about the GHG reduction impact of their CFE procurement efforts.

This Standardized Reporting Format (like a Carbon Facts) Proposal seeks the disclosure of more information than what is captured by our recommended modified Scope 2 inventories to provide a more complete, transparent, and relevant perspective of a reporting entity's efforts to mitigate the emissions from its electric consumption and achieve GHG reduction impact through CFE procurement. This proposal argues that the Guidance should call for disclosure under a standardized template to highlight how the full range of information sought is necessary for developing appropriate understanding and insight into: whether and by how much a reporting entity is mitigating the emissions associated with the location and timing of its consumption; whether and by how much a reporting entity is achieving GHG reduction impact through CFE procurement; and whether a reporting entity is seeking to deploy the full range of variable and firm and dispatchable technologies necessary to decarbonize the electric grid.

B. GHG Protocol accounting and reporting approaches shall align with the latest climate science and global climate goals (i.e., keeping global warming below 1.5°C). To support this objective (non-exhaustive list):

- Direct emissions reported in a company's inventory should correspond to emissions to the atmosphere. Reductions in direct emissions reported in a company's inventory should correspond to reductions in emissions to the atmosphere.
- Indirect emissions reported in a company's inventory should in the aggregate correspond to emissions to the atmosphere. Reductions in indirect emissions reported in a company's inventory should in the aggregate correspond to reductions in emissions to the atmosphere.

Progress in decarbonizing the electric grid is behind the pace necessary to limit global warming 1.5°C. We believe that existing accounting and reporting practices may inhibit faster progress and seek

change to current disclosure practices. Under current practice, Scope 2 inventories do not provide an accurate perspective of the emissions arising from the purchase and use of electricity. Our Scope 2 Guidance Survey comments highlight instances of when it is possible to report reductions in inventories despite no or unequal decreases in real-world emissions to the atmosphere. It is also possible for reporting entities to report greatly reduced (or even zero) Scope 2 emissions while remaining reliant on grid-supplied fossil energy. In addition, the current Guidance does not distinguish between CFE procurement practices that are likely to achieve relatively higher GHG reduction and practices that achieve limited reduction in actual emissions.

This Proposal, along with our other Proposals calling for the integration of more time and location-granular matching criteria in market-based reporting and new provisions for avoided emissions disclosure, aims to ensure that climate disclosure indicates whether reporting entities are decarbonizing emissions from electricity consumption or achieving emissions reductions through CFE procurement (whether it directly impacts emissions from consumption or not) under science-based timelines. This Proposal identifies a range of information beyond only the preparation of Scope 2 inventories to evaluate such progress.

C. GHG Protocol accounting frameworks should support ambitious climate goals and actions in the private and public sector.

- Would this proposal enable organizations to pursue more effective GHG mitigation/decarbonization efforts as compared to the existing standards and guidance? If so, how?
- Would this proposal better inform decision making by reporting organizations and their stakeholders (e.g., related to climate-related financial risks and other relevant information associated with GHG emissions reporting)?

This Proposal supports not just the adoption of ambitious climate goals, but also recognizes that different electricity buyers are taking *different* approaches to reducing electric sector emissions and gives them an opportunity to disclose necessary information to attest to ambition and impact of their goals. This Proposal recognizes that many buyers have begun to transition from procuring EACs to match up to 100% of annual consumption toward strategies that intend to achieve relatively higher GHG reduction impact.

This Proposal recognizes that buyers seeking to merely purchase EACs to match consumption may not be achieving GHG reduction impact and could claim greatly reduced (or even zero) Scope 2 inventories under the market-based method while remaining reliant on fossil-heavy grid-supplied electricity. The Scope 2 Guidance currently permits reporting entities to match EACs with MWh of consumption on an annual basis without consideration for the timing, location, and GHG impact of either their own load or the output of the EAC-generating project. With few restrictions on matching, many buyers are purchasing EACs from grids where wind and solar deployment has been relatively abundant and irrespective of GHG reduction impact and matching to their consumption on different grids. In other instances, buyers have purchased EACs from existing projects that are not achieving incremental GHG reduction impact. This Proposal calls for reporting entities to simultaneously disclose: a) “modified” market-based Scope 2 inventories that better reflect emissions from consumption by limiting matching to only EACs sourced from within or delivered to the same grid and

match the timing of load and CFE generation; and b) emissions impact from CFE procurement transactions.

To meet such purchasing goals, electricity buyers have often prioritized transacting with projects that deploy new capacity, and by guaranteeing to purchase EACs and/or the electricity generated by the project, buyers have helped in enabling project deployment of gigawatts of new, mostly wind and solar, capacity. Even after meeting initial 100% purchasing goals, many buyers are aware that they continue to rely on grid-supplied fossil-intensive generation and have set new goals to match their consumption with CFE on a 24/7 time and location basis with CFE resources. In parallel, other buyers recognize that their CFE procurement can achieve relatively high decarbonization impact by targeting CFE deployment in relatively fossil-intensive locations or times and pursing transactions that deliver the highest GHG reduction per dollar spent.

Our Carbon Facts label provides a standardized framework for reporting entities to report progress while pursuing one or more procurement goals (e.g., 24/7 matching, RE100, avoided emissions, incremental CFE development, etc.). This information can then be used by recognition programs and ESG rating companies to recognize and reward companies that take actions with high climate impact.

D. GHG Protocol accounting frameworks which meet the above criteria should be feasible. (For aspects of accounting frameworks that meet the above criteria but are difficult to implement, GHG Protocol should provide additional guidance and tools to support implementation.)

- What specific information, data or calculation methods are required to implement this proposal (e.g., in the case of scope 2, data granularity, grid data, consumption data, emission information, etc.)? Would new data/methods be needed? Are current data/methods available? How would this be implemented in practice?
- Would this proposal accommodate and be accessible to all organizations globally who seek to account for and report their GHG emissions? Are there potential challenges which would need to be further addressed to implement this proposal globally? What would be the potential solutions?

See responses to question #5.D submitted in NB/GS Market-Based Modernization Proposal and separate Emissions Impact Disclosures Proposal.

6. Consistent with the hierarchy provided above, are there potential drawbacks or challenges to adopting this proposal? If so, what are they?

Reporting entities may not have access to the full range of data necessary to calculate certain metrics sought by our Standardized Reporting Format Proposal. In addition, the preparation and disclosure of more information may increase cost and complexity for reporting entities. Certain entities may be reluctant to disclose additional information and may prefer that the Guidance limit its requirements/recommendations to a limited number of metrics.

Our proposal is aware of these potential challenges. While not all data is readily available and calculations for certain are not yet automated/standardized, reporting entities should attempt to disclose the full range of information sought by the Carbon Facts label and transparently indicate which metrics they are not able to calculate. In addition, the Carbon Facts label has built-in flexibility. For example, the proposal allows entities flexibility to select different market boundaries and time intervals with a transition towards greater recognition of buyers who rely on more granular and accurate data to support claims. In addition, certain disclosures, such as the disclosure of transactions for incremental CFE procurement and the calculation of a CFE Score, are based on data and information currently used in Scope 2 reporting and should be readily attainable.

7. Would the proposal improve alignment with other climate disclosure rules, programs and initiatives or lead to lack of alignment? Please describe.

This proposal would improve alignment with other climate disclosure programs, encouraging the Guidance to adopt disclosure requirements/recommendations found in other programs and encouraging the Guidance to prioritize the disclosure of a broader range of information beyond Scope 2 inventories that other programs should also consider. For example, the Task Force for Climate-related Financial Disclosure (TCFD) encourages reporting entities to disclose not only Scope 2 inventories but additional information regarding an entity's opportunities and risks arising from the clean energy transition. Our proposal similarly asks reporting entities to disclose their CFE procurement and emission reduction impact opportunities such that leaders can demonstrate the relative ambition and results from their efforts and potentially connect those efforts to risk reduction. In addition, CDP already seeks more detailed disclosure about the location and resources involved in CFE procurement.

Also see responses to question #7 submitted in NB/GS Scope 2 Market-Based Modernization Proposal and separate Emissions Impact Disclosures Proposal.

8. Please attach or reference supporting evidence, research, analysis, or other information to support the proposal, including any active research or ongoing evaluations. If relevant, please also explain how the effectiveness of the proposal can be evaluated and tracked over time.

See responses to question #8 submitted in NB/GS Scope 2 Market-Based Modernization Proposal and separate Emissions Impact Disclosures Proposal.

9. If applicable, describe the process or stakeholders/groups consulted as part of developing this proposal.

Over the past four years, we have participated in numerous discussions with stakeholders and working groups as part of developing this proposal, including:

- **NextGen Carbon-Free Electricity Procurement Project**, partnership with Clean Air Task Force, Green Strategies, Inc. and The NorthBridge Group, Inc.
- Conferences and consultations with Clean Energy Buyers Alliance (CEBA) members and Clean Energy Buyers Institute's (CEBI) Next Generation Carbon-Free Electricity Procurement Initiative
- Participation in Columbia University Center on Global Energy Policy stakeholder workshops on the GHG Protocol update
- Participation in EnergyTag granular certificate standards development and working groups[12]
- Consultations with utilities and wholesale suppliers
- Consultations with other environmental non-profits and registries[13]
- Consultations with technology software and blockchain developers[14]

We also reviewed numerous studies, academic papers, and articles in the process of developing this proposal (see response to question #10 below). Based on our participation in these conversations and review of these studies and articles, we have found that stakeholder positions related to Scope 2 market-based accounting fall into four general categories:

1) Some stakeholders support continuing **Scope 2 market-based attributional inventory reporting and adding a preference for use of more granular data** tied to the timing and location of a buyer's consumption.

2) Some stakeholders support **eliminating Scope 2 market-based** accounting **and replacing it with only a consequential avoided emissions impact** accounting/disclosure (Avoided Emissions). Some also suggest comparing this to a buyer's carbon emissions baseline (CEB) to provide

[12] The EnergyTag Granular Certificate Scheme Standard details how certificates should be issued, transferred and retired to avoid double-counting. The Standard has the support of over 100 organizations from around the world, including UN Energy and most of the world's largest electricity providers, buyers, and trade associations. It was developed with the oversight of the world's leading energy attribute system experts. EnergyTag's Chair founded and ran the Association of Issuing Bodies, which oversees the world's largest energy attribute system today, the European Guarantee of Origin, which tracks over 30% of European electricity.

[13] In the United States, M-RETs, the world's largest registry operator, has piloted GCs successfully and can offer hourly tracking across many states in the U.S today. The I-REC registry operates in over 55+ countries and is offering its GC solution for customers around the world.

[14] Various granular certificate and hourly matching software providers can offer hourly tracking today to their customers (e.g., Flexidao, Granular Energy, Powerledger, Cleartrace, etc.).

better context, where the CEB equals a buyer's consumption at a specific time and location multiplied by the marginal emissions factor at that time and location.

3) Some stakeholders support **retaining and improving the accuracy of Scope 2 market-based inventories** (like in #1) **and separately reporting the consequential emissions impact of their actions.** (like in #2).

4) Some stakeholders support **combining both approaches** – e.g., **calculating avoided emissions (#2 above) and comparing them to / netting them against their emissions inventory from their load (#1 above)**.

Our recommendation at this time is to adopt the third approach, which we believe would address many of the concerns raised by stakeholders, and provide better insight to measure, incentivize, and recognize the climate impact of the range of procurement and other actions taken by reporting entities.

10. If applicable, provide any additional information not covered in the questions above.

Next Generation Procurement – Key Papers and Articles

The NorthBridge Group assembled the following list of papers and articles that discuss efforts to 1) match CFE with load on a 24/7 basis; 2) measure avoided emissions; 3) modernize the GHG Protocol and Scope 2 accounting; 4) understand the impact and value of voluntary procurement efforts; and 5) develop environmental liability accounting.

(Sorted by topic and date)

Matching CFE Supply with Load (24/7)

1. Jan Pepper, Greg Miller, Sara Maatta and Mehdi Shahriari, *Achieving 24/7 Renewable Energy By 2025*, Peninsula Clean Energy, January 2023.
2. Adam Diamant, *24/7 Carbon-Free Energy: Matching Carbon-Free Energy Procurement to Hourly Electric Load*, EPRI, December 2022.
3. Emily Pontecorvo, *How a New Subsidy for 'Green Hydrogen' Could set off a Carbon Bomb, Grist*, December 2022.
4. International Energy Agency, *Advancing Decarbonisation Through Clean Electricity Procurement*, November 2022.
5. Iegor Riepin and Tom Brown, *System-Level Impacts of 24/7 Carbon-free Electricity Procurement in Europe,* Department of Digital Transformation in Energy Systems, TU Berlin, October 2022.
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7. Roger Ballentine, Patrick Falwell, Liana Biasucci and Neil Fisher, *Modernizing How Electricity Buyers Account and are Recognized for Decarbonization Impact and Climate Leadership*, Green Strategies and The NorthBridge Group, August 2022.
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Proposal Annex

GHG Protocol Decision-Making Criteria and Hierarchy

A. First, GHG Protocol accounting and reporting approaches shall meet the GHG Protocol accounting and reporting principles:
- Accuracy, Completeness, Consistency, Relevance, Transparency
- Additional principles for land sector activities and CO_2 removals: Conservativeness, Permanence, and Comparability if relevant
- (See table below for definitions)

B. Second, GHG Protocol accounting and reporting approaches shall align with the latest climate science and global climate goals (i.e., keeping global warming below 1.5°C). To support this objective (non-exhaustive list):
- Direct emissions reported in a company's inventory should correspond to emissions to the atmosphere. Reductions in direct emissions reported in a company's inventory should correspond to reductions in emissions to the atmosphere.
- Indirect emissions reported in a company's inventory should in the aggregate correspond to emissions to the atmosphere. Reductions in indirect emissions reported in a company's inventory should in the aggregate correspond to reductions in emissions to the atmosphere.

C. Third, GHG Protocol accounting frameworks should support ambitious climate goals and actions in the private and public sector:
- Accounting framework/s would enable organizations to pursue more effective GHG mitigation/decarbonization efforts as compared to the existing standards and guidance
- Accounting framework/s would better inform decision making by reporting organizations and their stakeholders (e.g. related to climate-related financial risks and other relevant information associated with GHG emissions reporting)

D. Fourth, GHG Protocol accounting frameworks which meet the above criteria should be feasible to implement for the users of the frameworks.
- For aspects of accounting frameworks that meet the above criteria but are difficult to implement, GHG Protocol should provide additional guidance and tools to support implementation.

GHG Protocol Accounting and Reporting Principles

Principle	Definition
Accuracy	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.
Completeness	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.

Consistency	Use consistent methodologies to allow for meaningful performance tracking of emissions (and removals, if applicable) over time and between companies. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
Relevance	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.
Transparency	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.
Conservativeness (Land Sector and Removals Guidance)	Use conservative assumptions, values, and procedures when uncertainty is high. Conservative values and assumptions are those that are more likely to overestimate GHG emissions and underestimate removals, rather than underestimate emissions and overestimate removals.
Permanence (Land Sector and Removals Guidance)	Ensure mechanisms are in place to monitor the continued storage of reported removals, account for reversals, and report emissions from associated carbon pools.
Comparability (optional) (Land Sector and Removals Guidance)	Apply common methodologies, data sources, assumptions, and reporting formats such that the reported GHG inventories from multiple companies can be compared.