# Greenhouse Gas Protocol
# Land Sector and Removals Initiative
## Project Overview

## 1 Project Overview

The Greenhouse Gas Protocol (GHG Protocol) is a multi-stakeholder partnership of businesses, non-governmental organizations (NGOs), governments, and others convened by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Launched in 1998, the mission of the GHG Protocol is to develop internationally accepted greenhouse gas (GHG) accounting and reporting standards and tools, and to promote their adoption in order to achieve a low emissions economy worldwide.

The Greenhouse Gas Protocol is developing new *Land Sector and Removals Guidance* on how companies account for and report the following activities in their greenhouse gas inventories:

- Land use
- Land use change
- Carbon removals and storage
- Biogenic products
- Related topics

The project will develop internationally accepted guidance on corporate GHG accounting on the above topics. The new guidance is expected to be used by companies to:

- **Inform mitigation strategies** by understanding the GHG emissions/removals impacts of land use, land use change, bioenergy and carbon removal activities
- **Set targets and track performance** by including the above activities in GHG targets
- **Report** GHG inventories including GHG emissions and carbon removals and report progress toward GHG mitigation goals

The new guidance will be designed to create more consistency and transparency in the way companies quantify and report GHG emissions and removals from land use, land use change, bioenergy and carbon removal technologies and track progress toward GHG mitigation goals, following a credible approach. The guidance will be developed through an inclusive, multi-stakeholder process and will build on existing methods and approaches.

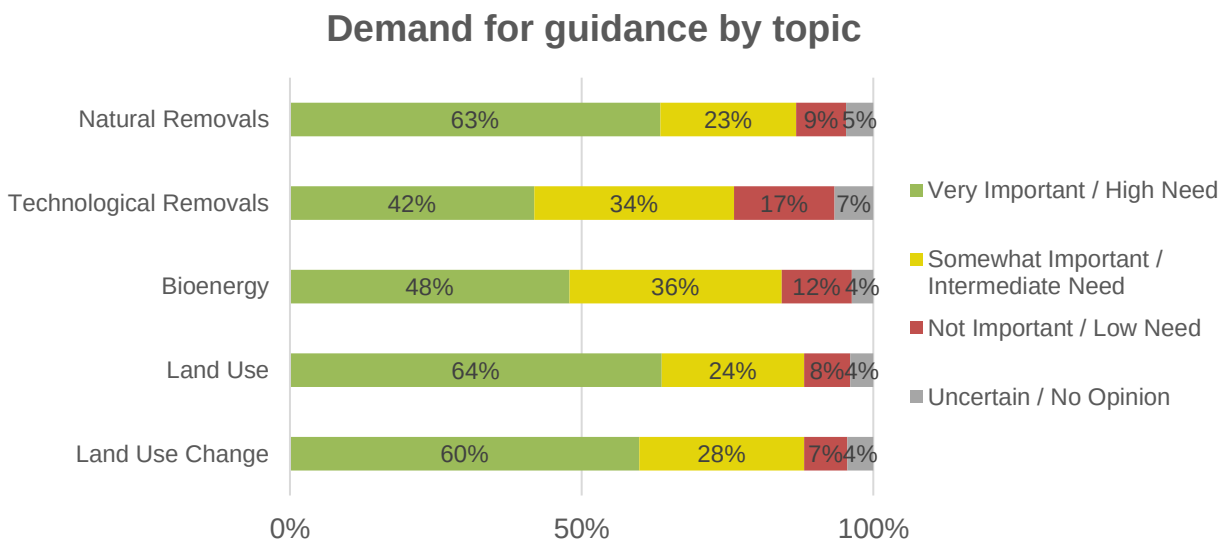
The new guidance is also likely to be adopted by key programs and initiatives such as the Science Based Targets Initiative.

## 2 Summary of Scoping Survey

In early 2019, WRI developed a survey to assess the demand for additional Greenhouse Gas Protocol guidance on carbon dioxide removals (natural and technological), bioenergy, land use and land use change. The survey was distributed online and ran from January to April 2019. A total of 417 individuals responded to the survey from businesses, governments, NGOs, academic/research institutions and consultants across over 50 countries.

**Key Findings**

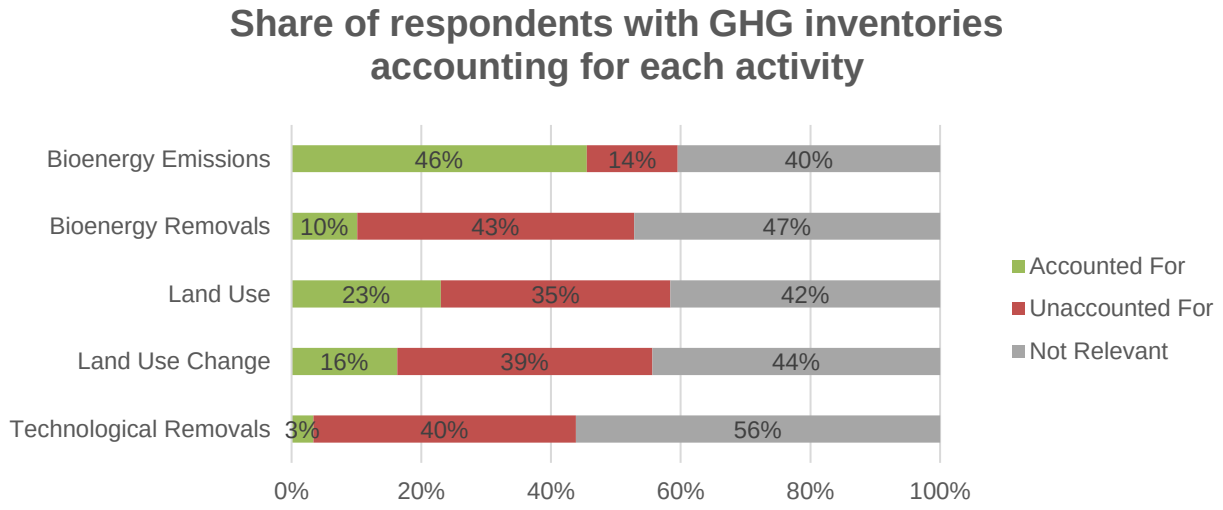
1) **There was strong demand across survey respondents for guidance in all areas identified**




More than three quarters of survey respondents identified new guidance on each topic as being important (either very important or somewhat important):

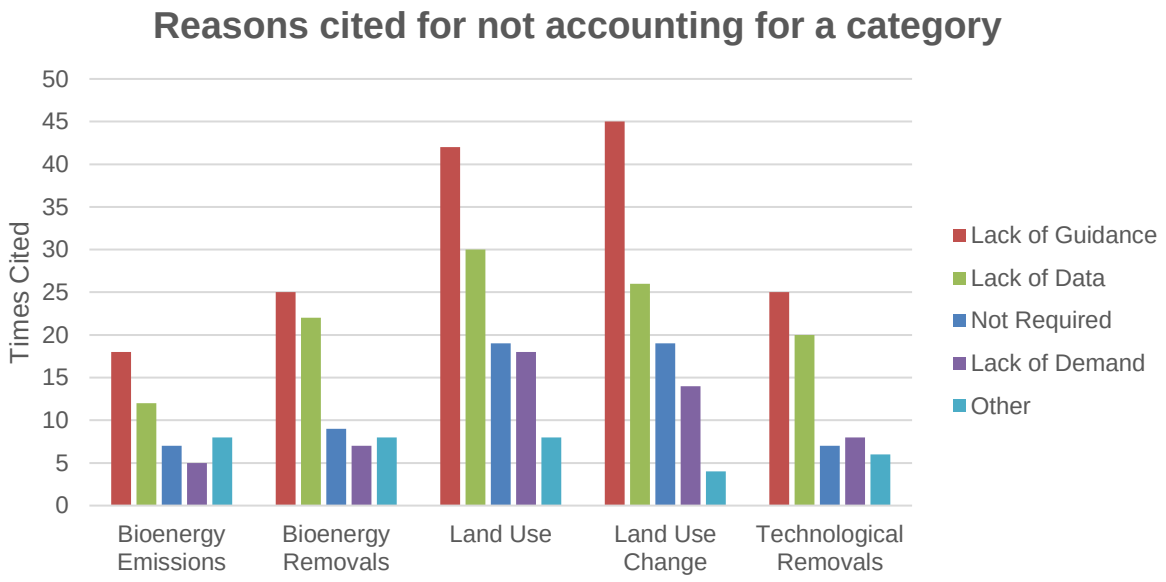
- Natural (biogenic) carbon removals (86%)
- Technological carbon removals (76%)
- Bioenergy (84%)
- Land use (88%)
- Land use change (88%)

2) **Few companies currently account for land sector emissions and removals, even when relevant**



Emissions and removals from bioenergy, land use and land use change are relevant for more than half of respondents with GHG inventories (n=178), yet few companies account for bioenergy removals, land use and land use change. Very few companies are currently accounting for technological removals (e.g., carbon capture and storage) but 76% of stakeholders still identified a need for new guidance in this area.

3) **Lack of guidance was the most common reason respondents cited for why they were not accounting for activities, where such activities were relevant**




## 3 Scope

The GHG Protocol *Land Sector and Removals Guidance* will address the following topics:

1) **Removals:** Accounting and reporting for carbon dioxide removals and storage
2) **Land sector emissions and removals:** Accounting and reporting for greenhouse gas emissions and removals from agriculture, forestry, other land use, and land use change
3) **Biogenic products:** Accounting and reporting for greenhouse gas emissions and removals from the production and consumption of biogenic products such as bioenergy

## 4 Draft List of Topics to Address

### 4.1 Carbon Dioxide Removals

- Defining terms and concepts
  - Removals (from the atmosphere) vs. carbon storage in pools/reservoirs (i.e. carbon sequestration)
  - Removal enhancements vs. avoided emissions or reduced emissions
  - Removals occurring in the company's value chain vs. removals occurring outside of the value chain
- Types of removals and storage
  - Biogenic removals and storage (e.g., afforestation, reforestation, forest restoration, urban tree planting, agroforestry, building soil carbon, etc.)
  - Technological removals and storage (e.g., direct air capture, enhanced weathering/mineralization, etc.)

- Accounting methods for removals and sequestration across scopes 1 and 3
    - Carbon dioxide removals or carbon fluxes from the atmosphere vs. monitoring carbon storage in pools
    - Accounting for removals and storage over time
    - Allocating removals across companies and scopes
    - Accounting for biogenic and technological removals that do not store carbon and will be emitted back to the atmosphere (i.e. carbon removal and utilization)
    - Accounting for biogenic and technological removals with temporary or long-term storage, including monitoring and verification
- Quantification methods and data sources
    - Identification of relevant tools, methodologies/protocols, datasets, etc.
- Reporting
    - Separate reporting of emissions and removals
    - How to report removals across the value chain (e.g., whether to establish scope 1 removals and scope 3 removals)
    - Separate reporting of removals vs. carbon storage
    - Separate reporting of removals outside of the scopes (i.e., purchased from/sold to other companies, or interventions with impacts outside the value chain)
- Target setting and tracking changes over time
    - Setting targets that cover removals
    - Setting a base year and recalculating base year removals and storage
    - Setting separate targets for emissions and removals
    - Role of removals in achieving net zero targets
    - Tracking removal enhancements within an inventory
    - Mitigation strategies/actions to enhance removals
- Alignment with or revisions to other GHG Protocol standards

## 4.2 Land Sector

- Types of emissions, removals and sequestration within the land sector
    - Carbon emissions and removals from land use (e.g., forest management, crop and livestock production, bioenergy feedstock production, soil carbon, etc.)
    - Carbon emissions and removals from land use change (e.g., deforestation, afforestation, wetland conversion, etc.)
        - Direct and indirect land use change and related impacts from changes in production
    - Agricultural GHG emissions (e.g., livestock methane emissions, soil nitrous oxide emissions, etc.)
    - Biogenic removals and temporary to long-term storage in biogenic products/materials (e.g., furniture, building materials, etc.)
    - Biogenic carbon dioxide emissions and removals from bioenergy production and consumption (e.g., biomass, biofuels, biogas)
- Land sector accounting approaches
    - Use of land-based vs. activity-based accounting methods
    - Addressing the timing of removals and emissions
    - Separate biogenic carbon emissions and removals accounting vs. bringing biogenic emissions and removals into scopes 1, 2 and 3
    - Guidance by scope

        - Scope 1 accounting (e.g., for farmers, ranchers, timber/forest management companies, bioenergy feedstock producers, land managers/owners, etc.)
        - Scope 2 accounting (e.g., for bioenergy-sourced electricity consumption)
        - Scope 3 accounting (e.g., for food and beverage companies, forest product companies, apparel companies, retailers, finance/investors, etc.)
    - Guidance by sub-sector
        - Forest management / forest products
        - Cropland management / crops
        - Rangeland management / animal products
        - Bioenergy feedstock production / bioenergy (aligning bioenergy accounting approaches with land sector accounting approaches)
- Quantification methods and data sources
    - Methods across carbon pools (i.e., biomass carbon, dead organic carbon, soil organic carbon, carbon storage in biogenic products/materials)
    - Use of primary (monitored) data vs. secondary (estimated) data and modeling approaches
    - Data collection based on the company's location within the value chain (e.g., land managers, processers and retailers)
    - Data approaches depending on whether there is data traceability
    - Estimating and managing uncertainty in data, methods and models
- Reporting requirements for the land sector
    - Reporting emissions and removals across scopes (i.e., scope 1, 2 and 3)
    - Separate reporting of fossil versus biogenic carbon
    - Whether and how to report avoided emissions (e.g., in a bioenergy life cycle)
    - How to report purchases or sales of credits/certificates
- Target setting and tracking changes over time
    - Setting targets that cover land sector activities
    - Setting a base year and recalculating base year emissions and removals
    - Identifying land sector mitigation strategies and interventions
    - Role of bioenergy and land use removals in achieving GHG targets
- Alignment with or revisions to other GHG Protocol standards and guidance
    - Agriculture Guidance (e.g., livestock emissions, emissions from manure management, soil emissions, biomass burning), Corporate Standard, Scope 3 Standard, Scope 2 Guidance, Product Standard
- Relationship of corporate land sector accounting to other programs and initiatives
    - Jurisdictional accounting initiatives (i.e., national GHG inventories, REDD+ programs)
    - Project-based accounting initiatives (i.e., Agriculture Forestry and Other Land Use (AFOLU) sector offset/inset projects, C removal certificates)
    - Sustainability certification (i.e., sustainable agriculture, green gas certificates, apparel and forestry standards)

## 4.3 Bioenergy and other biogenic products

- Guidance for biogenic product producers and consumers
- Direct / scope 1 GHG accounting for consumers
    - Accounting for direct biogenic emissions
- Indirect / scope 2 GHG accounting for electricity consumers

    - Accounting for indirect biogenic emissions associated with purchased electricity, heat, steam or cooling
- Indirect / scope 3 accounting for producers and consumers
    - Accounting for upstream life cycle GHG emissions and removals for consumers
    - Accounting for downstream life cycle GHG emissions for producers
    - Accounting for bioenergy carbon capture and storage across the value chain
- Evaluating mitigation impacts to inform mitigation strategies
    - Comparing GHG impacts relative to counterfactual scenarios
- Target setting and tracking progress
    - Accounting for bioenergy and biogenic products in GHG emissions and removals targets
- Reporting
    - Reporting emissions and removals across scopes (i.e., scope 1, 2 and 3)
    - Separate or combined reporting of fossil versus biogenic carbon
    - Whether and how to report avoided emissions
    - How to report purchases or sales of credits/certificates

## 5 Approach

Key elements of the Greenhouse Gas Protocol approach include:

- **Develop guidance through a global, inclusive, multi-stakeholder process** in partnership with companies, government agencies, NGOs, and other experts and stakeholders from around the world. GHG Protocol has twenty years of experience convening global stakeholders to develop consensus GHG accounting methodologies. The GHG Protocol will follow the same type of global, inclusive, and open multi-stakeholder process used to develop the *GHG Protocol Corporate Standard* (2004), the *GHG Protocol for Project Accounting* (2005), the *Corporate Value Chain (Scope 3) Standard* (2011), and the *Product Life Cycle Standard* (2011).

- **Build on existing approaches**, such as the IPCC guidelines for national GHG inventories, GHG Protocol *Agricultural Guidance* and *LULUCF Guidance for Project Accounting*, ISO 14064-1:2018, Quantis' *Accounting for Natural Climate Solutions* guidance, Gold Standard Value Change Initiative's *Value Chain (Scope 3) Intervention Guidance* and *Guidance for Soil Organic Carbon*, GHG Protocol Brazil Forestry tool, REDD+ programs and other jurisdiction land sector approaches, CDM and voluntary AFOLU sector project methodologies and other methods and reports recommended by participants in the scoping process.

- **Pilot test draft guidance** by a set of companies to gain real-world feedback on the practicality and usefulness of draft guidance and ensure that the final guidance is well-suited to their needs.

- **Ensure rigorous and user-friendly technical design** to ensure a true and fair account of emissions, removals and sequestration and provide comprehensive guidance for land sector accounting aligned with international best practices. The guidance will be based on key GHG accounting principles (relevance, accuracy, completeness, consistency, and transparency).

# 6 Governance and Development Process

## 6.1 Overview

WRI and WBCSD will convene a series of stakeholder groups as part of the global, inclusive, multi-stakeholder guidance development process. The stakeholder groups will be balanced by including participation from diverse geographies and include a range of government, business, and civil society participants. All outputs will be subject to comprehensive review by any interested stakeholders.

The governance process to oversee and develop the new guidance will consist of five groups:

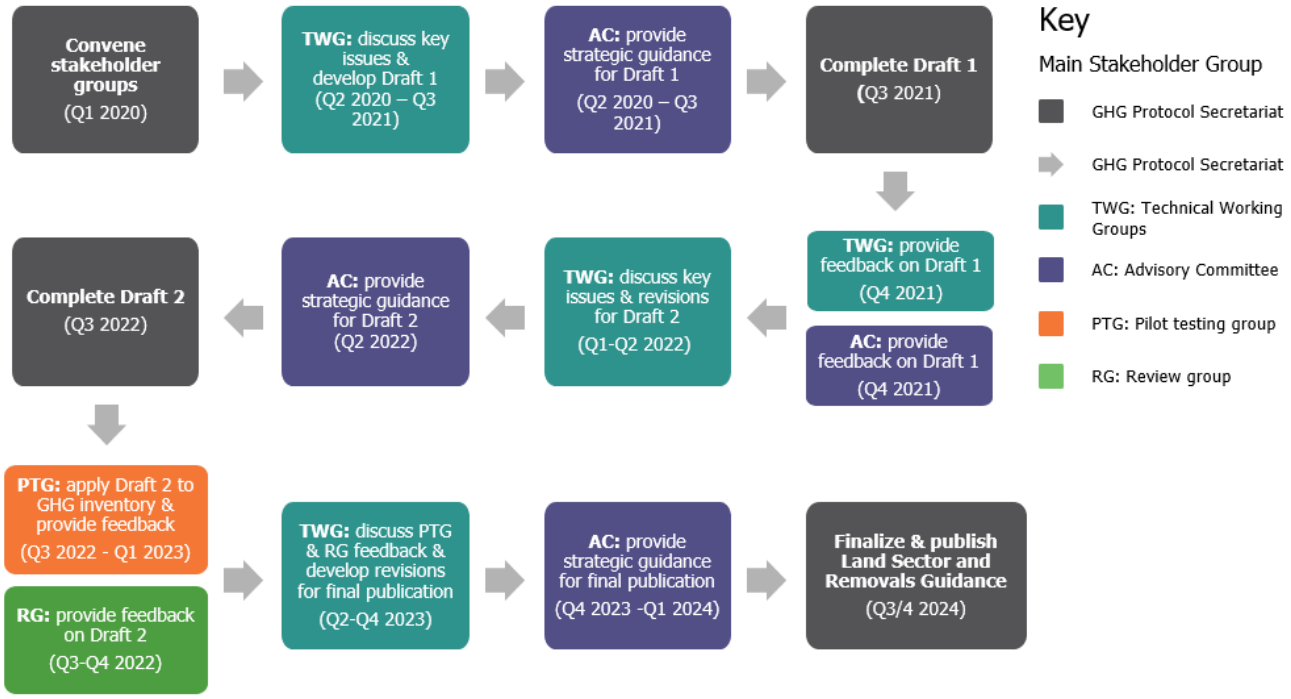
- Secretariat
- Advisory Committee
- Technical Working Group(s)
- Review Group
- Pilot Testing Group

**Table 1: Summary of responsibilities and expected commitment of each stakeholder group**

| Group | Responsibilities | Commitment |
|---|---|---|
| Secretariat (WRI and WBCSD) | Convene, facilitate, and oversee process | The Secretariat will consist of 5 FTE staff dedicated to this initiative |
| Advisory committee | Provide strategic guidance on the goals and direction of the project | Participate in 2-4 meetings per year |
| Technical working group(s) | Develop the technical content of the guidance | Participate in biweekly conference calls during the development of the first draft (unless fewer calls are necessary); and the necessary time to prepare and review materials (approx. 5-10 hours per month) |
| Review group | Review and provide feedback on draft guidance produced through the working group process | At the discretion of the participant, review and provide written comments on draft guidance |
| Pilot testing group | Implement the draft guidance and provide feedback for their improvement | Implement the draft guidance. Provide feedback on the strengths and weaknesses of the draft guidance. Generate case studies to be included in the final publication(s). |

The following figure illustrates the overall governance and development process.

*Figure 1: Overview of GHG Protocol Land Sector and Removals Guidance Development Process*




## 6.2 Decision making process

As described in more detail in section 6.3 each of the groups (the 1. Secretariat, 2. Advisory Committee, 3. Technical Working Group(s), 4. Review Group, and 5. Pilot Testing Group) plays a distinct role in the development and decision-making process of the GHG Protocol Land Sector and Removals Guidance. The GHG Protocol Secretariat aims to facilitate decision-making on the various elements of the guidance by evaluating options according to the decision-making criteria.

Decisions and development of GHG Protocol standards and guidance are made according to the GHG Protocol decision-making criteria and hierarchy, explained below.

### GHG Protocol decision-making criteria and hierarchy

1. First, GHG Protocol accounting and reporting approaches shall meet the GHG Protocol accounting and reporting principles (see below), and shall align with the latest climate science and global climate goals (i.e. keeping global warming below 1.5°C).
2. Second, GHG Protocol accounting frameworks should support ambitious climate goals and actions in the private and public sector.
3. Third, 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, the GHG Protocol should provide additional guidance and tools to support implementation.

**Table 2: GHG Protocol Accounting and Reporting Principles**

| Principle | Definition |
|---|---|
| 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. |
| 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. |
| 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. |
| 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. |
| Conservativeness | 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 | Ensure mechanisms are in place to monitor the continued storage of reported removals, account for reversals, and report emissions from associated carbon pools. |

## 6.3 Terms of reference for stakeholder groups

See below for additional details on the composition, responsibilities, decision making process, commitment and acknowledgement for each of the groups.

### 1. Secretariat

WRI and WBCSD will convene and facilitate the guidance development process and act as the secretariat.

*Responsibilities*

- Convene participants
- Raise funds to support the process
- Facilitate and coordinate meetings of the advisory committee, technical working groups, and stakeholder workshops

- Draft written inputs into the advisory committee and technical working group process, including background on relevant standards and methodologies, accounting issues and challenges, and key decisions to be made by each group
- Draft sections of the standards/guidance
- Recruit pilot testers and manage pilot testing
- Ensure consistency and user-friendly presentation in the final standards across all sections developed by the technical working groups
- Produce final publications taking into account feedback received to ensure the highest quality

*Decision Making Process*

In cases where the Technical Working Group and Advisory Committee is unable to reach consensus recommendations, the Secretariat retains the authority to make a final decision, guided by the majority viewpoint and GHG Protocol decision-making criteria and hierarchy described above.

## 2. Advisory Committee

The Advisory Committee will provide strategic guidance on the goals and direction of the project.

*Composition*

The Advisory Committee will consist of 10-20 strategic and technical advisors with expertise in GHG accounting and reporting related to carbon removals and sequestration and land sector accounting (i.e., agriculture, forestry, other land use, land use change and bioenergy expertise). Participation in the Advisory Committee is by invitation only.

*Responsibilities*

1) Strategic guidance

- Provide advice on the objectives and scope of the standards/guidance
- Provide advice and guidance on objectives and composition of working groups and ensure that working group outputs are consistent with established objectives
- Provide guidance on the topics to be addressed by the technical working groups
- Support broad adoption and use of the standards/guidance by companies, GHG reporting and target setting programs/initiatives, governments, financial institutions, and civil society

2) Technical and policy guidance

- Recommend solutions to major technical or policy disagreements or questions when the technical working groups are unable to reach consensus and/or provide solutions (e.g., technical questions include what types of methods are available, while policy questions include what types of methods should be required or optional.).

3) Standards/guidance review

- Review draft standards/guidance from the technical working groups for relevance, accuracy, consistency, and completeness.

*Decision Making Process*

Members of the Advisory Committee will provide inputs and recommendations on key questions. In cases where the Advisory Committee is unable to reach consensus recommendations, the Secretariat retains the authority to make a final decision, guided by the GHG Protocol decision-making criteria and hierarchy.

*Commitment*

Advisory Committee members are requested to make a two-year commitment to participate in the standards/guidance development process. This is expected to involve:

- 2-4 meetings per year (for 3 years)

*Acknowledgement*

Members of the Advisory Committee will be acknowledged as such and listed by name and affiliation in the final publication.

## 3. Technical Working Group(s)

Members of the technical working group(s) will develop the technical content of the standards/guidance. The number of technical working groups is to be determined.

*Composition*

Each technical working group(s) will consist of about 15-20 experts from business, government, academia, and NGOs with technical backgrounds in quantifying carbon removals and sequestration and land sector accounting (i.e., agriculture, forestry, other land use, land use change and bioenergy expertise). A Secretariat staff member will be designated as a facilitator for each group.

*Responsibilities*

- For the set of technical accounting issues designated to the group: review relevant existing methodologies and practices; analyze the issues and challenges; and develop recommendations around content of standards/guidance
- Draft sections of text on the designated topics and review draft text at frequent intervals
- Receive and respond to feedback on draft chapters from the Advisory Committee, the Review Group, the pilot testing phase, and public comment periods

*Decision-Making Process*

Technical Working Groups will strive to reach consensus recommendations on each aspect of the standards/guidance. If the Technical Working Group is unable to reach a consensus, the group will provide the Advisory Committee with a set of options for review and recommendation, indicating the relevant advantages and disadvantages of each option. In cases where the Advisory Committee is unable to reach a consensus, the Secretariat retains the authority to make a final decision, guided by the majority viewpoint and decision-making criteria and hierarchy.

*Commitment*

Technical working group members are requested to make a two-year commitment to participate in the standards and guidance development. This is expected to involve:

- 2 conference calls per month during the first draft development (unless fewer calls are necessary), with optional participation in additional conference calls in sub-groups as needed
- Occasional calls after the first draft is developed, as needed
- The necessary time to prepare and review materials (approx. 5-10 hours per month)

*Acknowledgement*

Members of the Technical Working Groups will be acknowledged as Technical Working Group Members and listed by name and affiliation in the final publication.

## 4. Review Group

The review group will provide feedback on the draft guidance as it is produced through the working group process.

*Composition*

The group will consist of any interested stakeholders from government, business, NGOs, academia, etc.

*Responsibilities*

At the discretion of the individual participant, provide written feedback on draft guidance. Comments from the Review Group will be incorporated at the discretion of the Technical Working Groups, Advisory Committee members, and the Secretariat.

*Commitment*

Receive draft guidance and provide written feedback at the discretion of the individual participant.

*Acknowledgement*

Stakeholders who submit comments as part of the Review Group will be acknowledged and recognized as Reviewers and listed by name and affiliation in the final publication.

### 5. Pilot Testing Group

After the draft guidance is prepared, a select group of companies and organizations will have an opportunity to test the draft guidance to ensure that it can be practically implemented, provide any feedback for its improvement, and serve as important case studies in the final publication. The Secretariat will provide technical support to pilot testers in implementing the draft guidance. Feedback from the pilot testing will be incorporated into the final version of the guidance.

*Composition*

The group will consist of selected organizations representing a diversity of sectors and geographic locations.

*Responsibilities*

Implement the draft guidance. Provide detailed, constructive feedback on the strengths and weaknesses of the draft guidance. Generate case studies to be included in the final publication.

*Commitment*

Commit to testing and implementing the draft guidance, providing feedback through a questionnaire, and developing a case study.

*Acknowledgement*

Pilot testers will be recognized as Pilot Testers and listed by affiliation in the final publication.

## 6.4 List of participants

**Advisory Committee Members**

| | |
|---|---|
| Greg Downing | Cargill |
| Thomas Maddox / Tatiana Boldyreva | CDP |
| Soojin Kim | ClimateWorks Foundation |
| Nicolas Gordon | CMPC |
| Michele Galatola / Susanna Andreasi Bassi | European Commission |
| Francesco Tubiello | Food and Agriculture Organization of the United Nations |
| Owen Hewlett | Gold Standard |
| Uwe Fritsche | IEA Bioenergy / IINAS |
| Andreas Ahrens | IKEA |
| Kevin Rabinovitch | Mars |
| Gladys Naylor | Mondi |
| Conor McMahon | Nestlé |
| Jon Dettling / Alexi Ernstoff | Quantis International |
| Leah Samberg | Rainforest Alliance |
| Alex Cantlay | Shell |
| Antti Marjokorpi | Stora Enso |
| Sarita Da Cunha Marques Severien | Suzano |
| Volker Sick | Global $CO_2$ Initiative / University of Michigan |
| Martha Stevenson | WWF |
| Bernhard Stormyr | Yara |

**Technical Working Group Members**

| | |
|---|---|
| Maya Kelty | 3Degrees |
| Richard Sheane | 3Keel |
| Simon Gmuender | AdAstra |
| Beatriz Shanez Jimenez | Aether UK |
| Jad Daley | American Forest |
| Edie Sonne Hall | American Forest Foundation |
| Caroline Gaudreault | Anthesis |
| Sofyan Kurnianto | Asia Pacific Resource Holdings International |
| Annette Cowie | Australia NSW Dept. of Primary Industries / IEA Bioenergy |
| Tilmann Silber | Barry Callebaut |
| Monica McBride | Bayer |
| Fabio Nogueira de Avelar Marques | Brazilian Tree Industry (IBÁ) |
| Amargit Singh | Biz Excellence Systems Sdn Bhd |
| Mike McMahon | BP |
| Yuki Hamilton Onda Kabe | Braskem |
| Mounyelle Nkake Manfred Claude Cyrille | Cameroon Ministry of External Relations |
| John Kazer | Carbon Trust |
| César Dugast | Carbone 4 |
| Pedro Faria | CDP |
| Peggy Kellen | Center for Resource Solutions |
| Juan Jose Rincon Cristobal | Climate Change Atelier, S.L. |
| Louis Uzor | Climeworks |
| Catharina Hohenthal | Confederation of European Paper Industries |
| Marie-Pierre Bouquet Lecomte | Danone |
| Edwin Alders | DNV GL |
| Michael Goldsworthy | Drax |
| Caroline Wade | Ecosystem Services Market Consortium |
| Thibaut Brac de la Perriere | EDF |
| Joe Rudek | Environmental Defense Fund |
| Braulio Pikman | Environmental Resources Management Brazil |
| Jessie Dzura | Enviva Biomass |
| Harmen Dekker | European Biogas Association |
| Parminder Plahe | European Investment Bank |
| Valeria De Laurentiis | European Joint Research Centre |
| Jesse Scharf | European Renewable Gas Registry |
| Sudha Padmanabha | Fair Climate Services Pvt. Ltd. |
| Allison Thomson | Field to Market |
| William Gischlar | Firmenich Inc. |
| MaryKate Bullen | Forest Investment Associates |
| Pina Gervassi | Forest Stewardship Council |
| Steven Rosenzweig | General Mills |
| Ruaraidh Petre | Global Roundtable for Sustainable Beef |
| Roger Ballentine | Green Strategies |
| Madeleine Hardy | Guidehouse |
| Remi Samad | Heineken |

| | |
|---|---|
| Christoph Leibing | Inter IKEA Group |
| Andreas Flad | KlimAktiv Consulting GmbH |
| Miguel Brandão | KTH - Royal Institute of Technology, Sweden / IEA Bioenergy |
| George Peridas | Lawrence Livermore National Lab |
| Laura Overton | Mars Incorporated |
| Anthansia Xeros | Mastercard |
| Pete Garbutt | McDonald's Corporation |
| Lauren Cooper | Michigan State University Forestry Department |
| Christian Ramaseder | Mondi |
| Rob Waterworth | Mullion Group |
| Kirsten Vice | NCASI |
| Urs Schenker | Nestlé Research |
| James Goudreau | Novartis |
| Michelle Nutting | Nutrien |
| Tom Oldfield | Olam International |
| Morten Pedersen | Orsted |
| Mary Booth | Partnership for Policy Integrity |
| Abdulmutalib Yussuff | Project Drawdown |
| Olivia Tuchten | Promethium Carbon |
| Jeff Seale | Regrow Agriculture |
| Jamie Bohan | Republic Services, Inc. |
| David Morris | Royal DSM |
| Jacob Crous | Sappi Forests |
| Steve Muzzy | Second Nature |
| Tanya Yatchenia | Shell |
| Derik Broekhoff | Stockholm Environment Institute |
| Simon Armstrong | Sustainable Biomass Program |
| David Cockburn | Tetra Pak |
| Stephan Wehr | The Delphi Group |
| Ran Tao | The Estée Lauder Companies Inc |
| Steve Wood | The Nature Conservancy |
| Michael Mugarura | Thünen Institute of Forest Ecosystems |
| Cher Xue | True North Collective |
| Sara Ohrel | United States Environmental Protection Agency |
| Sasha Wilson | University of Alberta |
| Gary Bull | University of British Columbia |
| Diarmaid Clery | University of East Anglia |
| Matthew Brander | University of Edinburgh |
| Rachel Lamb | University of Maryland |
| Hilton Thadeu do Couto | University of São Paulo |
| Ara Erickson | Weyerhaeuser |
| Anna Stephens | WSP |
| Christa Anderson | WWF |

## Pilot Testing Companies (as of June 16, 2023)

Pilot testing companies that have agreed for their names to be shared at this stage are listed below. Please note that public acknowledgement in the final publication of the guidance will be determined by which organizations complete the pilot testing process and will be confirmed in a later stage.

A.P. Moller - Maersk A/S
AB InBev
Altri Florestal
AMAGGI
Ansell
APRIL
Aptar
Arauco
Arla Foods
Bayer
Braskem
BTG Pactual Timberland Investment Group ("TIG")
Bunge
Canadian Forest Products Ltd.
Cargill, Inc
CDPQ
Church Commissioners of England
Clean Energy
Corteva Agriscience
Dawn Meats Group and Dunbia
Dexco S.A
Drax
General Mills
GFL Environmental
Green Asia Network
Greenwood / Westchester – Nuveen
Grupo Alimenta
Hancock Natural Resource Group (HNRG), a Manulife Investment Management company
Hedeselskabet
IKEA Industry
Ingka Investments
Inter IKEA
International Paper
International Woodland Company A/S
Land O'Lakes, Inc.
Lenzing AG
Maple Leaf Foods
Marfrig Global Foods S.A.
Mars Incorporated
McDonald's
Neste Oyj
Nestle
New Forests
Noosa Council
Nutrien
OCP Group
Olam International Limited
PepsiCo
Pernod Ricard
Philip Morris SA
Preferred by Nature
Protos
Rabobank
Rayonier, Inc
Sappi Southern Africa Ltd (Forests only)
Stockholm Exergi
Stora Enso Oyj
Suzano S.A.
Sveaskog
Sylvamo
Tate & Lyle
The New Zealand Merino Company
Tyson Foods, Inc.
UPM
Vale S.A.
Wasa, part of Barilla Group
Weyerhaeuser
Yeo Valley Farms

## Pilot Testing Supporting Partners (as of June 16, 2023)

Supporting partners that have agreed for their names to be shared at this stage are listed below. Please note that public acknowledgement in the final publication of the guidance will be determined by which organizations complete the pilot testing process and will be confirmed in a later stage.

2050 Consulting AB
3p metrics
ACT Commodities
AdAstra Sustainability
AECOM
Carbon Trust
Carbone 4
CEPI
ClimatePartner GmbH
Embrapa
Environmental Defense Fund
ERM
Field to Market: The Alliance for Sustainable Agriculture
Guidehouse

Indigo Ag

Lestari Capital

Mullion Group

NCASI

Quantis

Regrow Ag

RMI, Sustainable Aviation Buyer's Alliance (SABA) co-led by RMI and Environmental Defence Fund (EDF)

South Pole

Verra

WRAP

WSP

## 7 Timeline (Subject to Change)

| Activities | 2020 | | | | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Convene stakeholder groups | ■ | | | | | | | | | | | | | | | | | | | |
| Technical Working Group and Advisory Committee discussions and development of first draft | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | | |
| TWG and Advisory Committee review of first draft (6 weeks) | | | | | | | | ■ | ■ | | | | | | | | | | | |
| Revision through TWG and AC | | | | | | | | | ■ | ■ | | | | | | | | | | |
| Review by Review Group (2 months) | | | | | | | | | | | ■ | ■ | | | | | | | | |
| Pilot Testing (5 months) | | | | | | | | | | | ■ | ■ | ■ | | | | | | | |
| Revision through TWG and AC based on feedback from pilot testing and review | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | | | |
| Finalize and publish | | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ |