WORLD RESOURCES INSTITUTE

wbcsd

GREENHOUSE GAS PROTOCOL

Land Sector and Removals Initiative

Project Overview

Updated November 2020

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 launching a process to develop new 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
- Bioenergy and other 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.

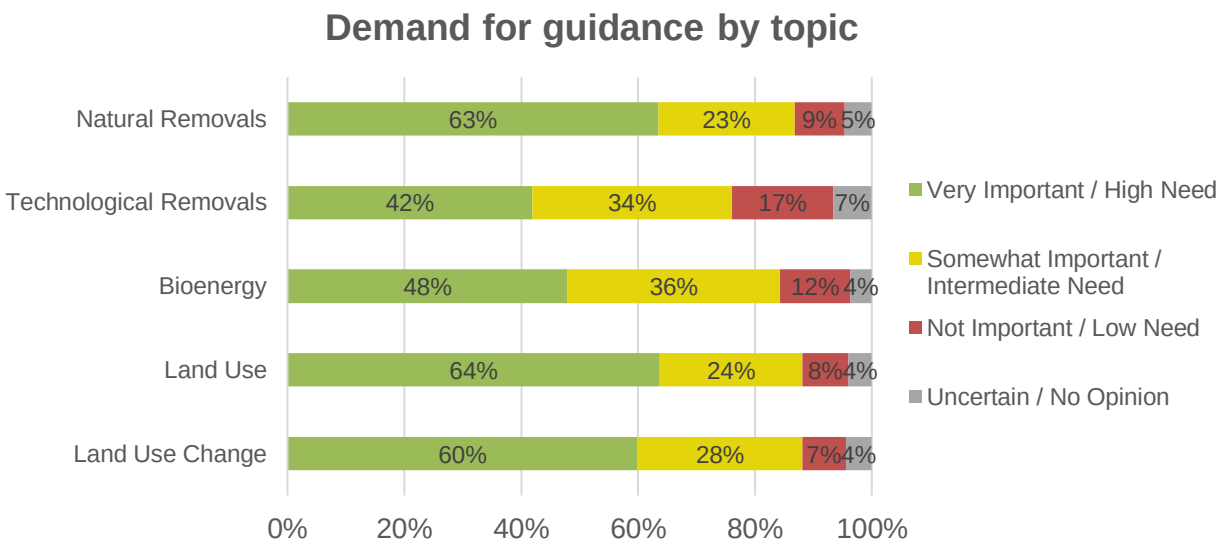
The new guidance is also likely to be adopted by key programs and initiatives such as the Science Based Targets Initiative.

2. Summary of Survey Findings

In early 2019 WRI developed a survey to assess the demand for additional Greenhouse Gas Protocol guidance on carbon 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

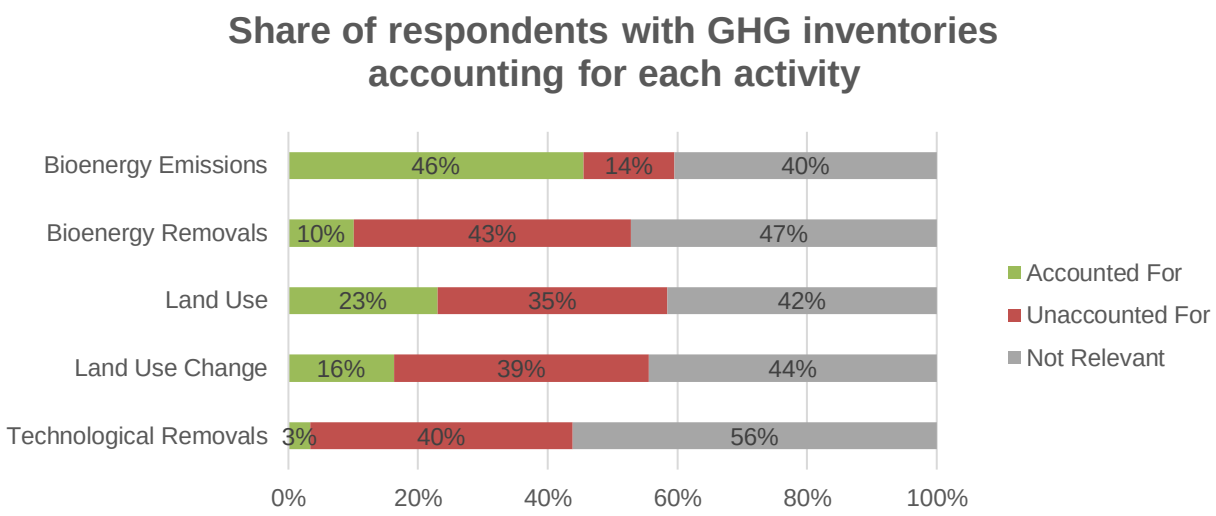
1) There was strong demand across survey respondents for guidance in all areas identified



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

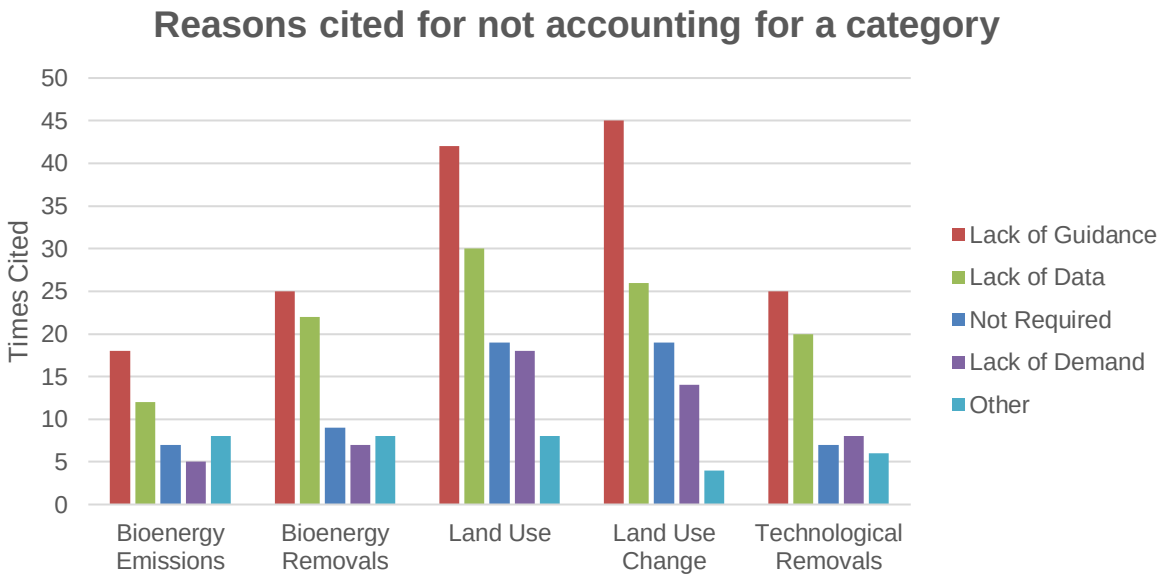
- Natural carbon removals (86%)
- Technological carbon removals (76%)
- Bioenergy (84%)
- Land use (88%)
- Land use change (88%)

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

GHG Protocol is developing a new guidance document to address the following topics:

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

4. Draft List of Topics to Address

Carbon Removals

- Defining terms and concepts
    - Carbon removals (from the atmosphere) vs. carbon storage in pools/reservoirs (i.e. carbon sequestration)
    - Carbon removal enhancements vs. avoided emissions or reduced emissions
    - Carbon removals occurring in the company's value chain vs. carbon removals occurring outside of the value chain
- Types of carbon removals and sequestration
    - Biogenic carbon removals and storage (e.g., afforestation, reforestation, forest restoration, urban tree planting, agroforestry, building soil carbon, etc.)
    - Technological carbon removals and storage (e.g., carbon capture and storage, direct air capture, enhanced weathering/mineralization, etc.)
- Accounting methods for removals and sequestration across scopes 1 and 3
    - Carbon removals or carbon fluxes from the atmosphere vs. monitoring 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 vs. reporting net GHG impacts
    - 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 carbon 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

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)

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 biogenic carbon removals for consumers
    - Accounting for downstream life cycle GHG emissions for producers
    - Accounting for bioenergy carbon capture and storage across the value chain

- Use of certificates/credits and certification standards
    - Sustainability standards for feedstocks
    - Bioenergy certificates/credits
- 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 (e.g., in a bioenergy life cycle)
    - 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 are 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 Process

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

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 4 FTE staff dedicated to this initiative
Advisory committee	Provide strategic guidance on the goals and direction of the project	Participate in 1 in-person meeting per year and 2-3 conference calls per year
Technical working group(s)	Develop the technical content of the guidance	Participate in biweekly conference calls between approximately January 2020 and July 2020 (unless fewer calls are necessary); with possibility of 1 in-person meeting per year; and the necessary time to prepare and review materials (approx. 5-10 hours per month)
Review group	Review and provide feedback on draft guidance as they are produced through the working group process	At the discretion of the participant, review and provide written comments on draft guidance twice during the process (once in 2021 and once in 2022)
Pilot testing group	Implement the draft guidance and provide feedback for their improvement	Implement the draft guidance in 2021. Provide feedback on the strengths and weaknesses of the draft guidance. Generate case studies to be included in the final publication(s).

Advisory Committee Members

(as of April 2020)

Greg Downing	Cargill
Morgan Gillespy	CDP
Frances Wang	ClimateWorks Foundation
Nicolas Gordon	CMPC
Michele Galatola	European Commission
Till Neeff	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
Duncan Pollard	Nestlé
Jon Dettling	Quantis International
Martin Noponen	Rainforest Alliance
Alex Cantlay	Shell
Antti Marjokorpi	Stora Enso
Cristiano Resende De Oliveira	Suzano
Volker Sick	Global CO_2 Initiative / University of Michigan
Martha Stevenson	WWF
Bernhard Stormyr	Yara

Carbon Removals Technical Working Group Members

(as of April 2020)

Mike McMahon	BP
John Kazer	Carbon Trust
César Dugast	Carbone 4
Pedro Faria	CDP
Louis Uzor	Climeworks
Catharina Hohenthal	Confederation of European Paper Industries
Marie-Pierre Bouquet Lecomte	Danone
Edwin Alders	DNV GL
Parminder Plahe	European Investment Bank
Sudha Padmanabha	Fair Climate Services Pvt. Ltd.
Remi Samad	Heineken
Christoph Leibing	Inter IKEA Group
Andreas Flad	KlimAktiv Consulting GmbH
Cher Xue	Kohler Company
George Peridas	Lawrence Livermore National Lab
Anthansia Xeros	Mastercard
Elizabeth Willmott	Microsoft
Urs Schenker	Nestlé Research
MaryKate Bullen	New Forests

Morten Pedersen	Niras
James Goudreau	Novartis
Abdulmutalib Yussuff	Project Drawdown
David Morris	Royal DSM
Mark Downes	Shell
Conor McMahon	South Pole
Ran Tao	The Estée Lauder Companies Inc
Sasha Wilson	University of Alberta
Diarmaid Clery	University of East Anglia
Hilton Thadeu do Couto	University of São Paulo
Ara Erickson	Weyerhaeuser
Chris Weber	WWF

Land Sector Technical Working Group Members

(as of April 2020)

Richard Sheane	3Keel
Beatriz Shanez Jimenez	Aether UK
Edie Sonne Hall	American Forest Foundation
Jad Daley	American Forest
Sofyan Kurnianto	Asia Pacific Resource Holdings International
Annette Cowie	Australia NSW Dept. of Primary Industries / IEA Bioenergy
Oliver von Hagen	Barry Callebaut
Jeff Seale	Bayer Crop Science
Yuki Hamilton Onda Kabe	Braskem
Juan Jose Rincon Cristobal	Climate Change Atelier, S.L.
Caroline Wade	Ecosystem Services Market Consortium
Braulio Pikman	Environmental Resources Management Brazil
Luca Zampori	European Joint Research Centre
Allison Thomson	Field to Market
Pina Gervassi	Forest Stewardship Council
Jeff Hanratty	General Mills
Ruaraidh Petre	Global Roundtable for Sustainable Beef
Laura Overton	Mars Incorporated
Pete Garbutt	McDonalds's Corporation
Lauren Cooper	Michigan State University Forestry Department
Rob Waterworth	Mullion Group
Caroline Gaudreault	NCASI
Michelle Nutting	Nutrien
Tom Oldfield	Olam International
Michele Zollinger	Quantis International
Jacob Crous	Sappi Forests
David Cockburn	Tetra Pak
Stephan Wehr	The Delphi Group
Peter Ellis	The Nature Conservancy
Michael Mugarura	Thünen Institute of Forest Ecosystems
Rachel Lamb	University of Maryland

Bioenergy Technical Working Group
(as of April 2020)

Maya Kelty	3Degrees
Amargit Singh	Biz Excellence Systems Sdn Bhd
Mounyelle Nkake Manfred Claude Cyrille	Cameroon Ministry of External Relations
Peggy Kellen	Center for Resource Solutions
Michael Goldsworthy	Drax
Thibaut Brac de la Perriere	EDF
Alan Kroeger	Enviva Biomass
Harmen Dekker	European Biogas Association
Jesse Scharf	European Renewable Gas Registry
William Gischlar	Firmenich Inc.
Roger Ballentine	Green Strategies
Miguel Brandão	KTH - Royal Institute of Technology, Sweden / IEA Bioenergy
Christian Ramaseder	Mondi
Tom Berg	Navigant
Mary Booth	Partnership for Policy Integrity
Fabio Nogueira de Avelar Marques	Plantar Carbon
Olivia Tuchten	Promethium Carbon
Jamie Bohan	Republic Services, Inc.
Steve Muzzy	Second Nature
Simon Armstrong	Sustainable Biomass Program
Gary Bull	University of British Columbia
Matthew Brander	University of Edinburgh
Sara Ohrel	United States Environmental Protection Agency
Anna Stephens	WSP

7. Draft Timeline (subject to change)

Activities	2020				2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Convene stakeholder groups												
Technical working group discussions												
Develop first draft												
Stakeholder review												
Develop second draft												
Pilot testing												
Develop third draft												
Stakeholder review												
Publish final guidance												

8. How to Participate in the Process

The Greenhouse Gas Protocol is an open, inclusive, multi-stakeholder process that depends on the active participation of stakeholders to ensure the success and broad adoption of its standards. Now that the Advisory Committee and Technical Working Groups have been convened, stakeholders have two options for participating in the development process:

- Review Group
- Pilot Testing Group

See the sections below for roles and responsibilities of each group. Note that the Review Group and Pilot Testing Group will not be active until 2021 when first drafts are ready.

If you are interested in participating, please fill out this form to participate in the Review Group, Pilot Testing Group, or to receive updates.

If you any have questions, please contact Matt Ramlow at Matt.Ramlow@wri.org.

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.

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.