Webinar

Greenhouse Gas Protocol land sector and removals guidance

Science-based Targets for Forest, Land and Agriculture (FLAG)

March 3, 2021
This is a zoom webinar. Your camera and microphone are automatically muted.

Participants can send questions via the Q&A button at the bottom of the screen.

Participants can add comments via the chat button at the bottom of the screen.

Presenters address questions during Q&A time slot at the end.

Slides and a recording of this meeting will be shared after this call.

Please note that this meeting will be recorded.
We are pleased to introduce our esteemed presenters for today's webinar. They bring a wealth of experience and expertise in their respective fields.

**MARTHA STEVENSON**
Sr Director, Forests Strategy & Research, WWF

**TIM LETTS**
Deputy Director, Climate & Business WWF

**DAVID RICH**
Senior Associate, WRI

**AMIR SAFAEI**
Manager, NCS Supply, WBCSD

**CHRISTA ANDERSON**
Senior Program Officer, Climate, WWF

**MONICA MCBRIDE**
Director, Agricultural & Environmental Metrics, WWF

**CHRISTOPHER WEBER**
Global Climate & Energy Lead Scientist, WWF

**MATT RAMLOW**
Research Associate, WRI
AGENDA

Introduction  5 min
GHG Protocol update  15 min
FLAG project update  15 min
Q&A  25 min
WHAT IS FLAG/AFOLU AND WHY IS IT IMPORTANT?

Agriculture, Forestry, and Other Land Use (AFOLU) emissions represent ~24% of global annual GHG emissions

BUT

There is not a standard method for companies to account for and set targets for these emissions
TWO COMPLEMENTARY PROJECTS ON LAND-BASED EMISSIONS

GHG PROTOCOL UPDATE | WRI, WBCSD

**Scope:** Develop updated and improved Greenhouse Gas (GHG) Protocol guidance on the land sector and removals

FLAG PROJECT | WWF

**Scope:** Develop methods and guidance to enable the forest, land, and agriculture sectors to set science-based targets (SBTs) that include forests, land, and agriculture (FLAG) emissions
Corporate GHG accounting and target setting

1. Measure & account
2. Set target
3. Report
4. Reduce emissions
5. Update annually
AGENDA

Introduction 5 min
GHG Protocol update 15 min
FLAG project update 15 min
Q&A 25 min
Greenhouse Gas Protocol standards for the private sector

Corporate Standard

Scope 2 Guidance

Corporate Value Chain (Scope 3) Standard

Agriculture Guidance

Product Standard

Project Protocol

Policy and Action Standard

Available at www.ghgprotocol.org
Existing guidance for the land sector

- Limited guidance for corporate GHG inventories on accounting for emissions and removals from land use, land use change and forestry
- Existing guidance:

  - Agriculture Guidance
  - Product Standard (Appendix B)
  - Mitigation Goal Standard (Chapter 6)
  - LULUCF Guidance for Project Accounting
Need for new guidance

Demand for guidance by topic

- **Natural Removals**: 63% Very Important / High Need, 23% Somewhat Important / Intermediate Need, 9% Not Important / Low Need, 5% Uncertain / No Opinion
- **Technological Removals**: 42% Very Important / High Need, 34% Somewhat Important / Intermediate Need, 17% Not Important / Low Need, 7% Uncertain / No Opinion
- **Bioenergy**: 48% Very Important / High Need, 36% Somewhat Important / Intermediate Need, 12% Not Important / Low Need, 4% Uncertain / No Opinion
- **Land Use**: 64% Very Important / High Need, 24% Somewhat Important / Intermediate Need, 8% Not Important / Low Need, 4% Uncertain / No Opinion
- **Land Use Change**: 60% Very Important / High Need, 28% Somewhat Important / Intermediate Need, 7% Not Important / Low Need, 4% Uncertain / No Opinion
GHG Protocol Land Sector and Removals Guidance

- Corporate-level greenhouse gas accounting and reporting guidance for:
  - Land use and management
  - Land use change
  - CO₂ removals and storage (biogenic and technological)
  - Biogenic products across the value chain

- Value chain approach building on Corporate Standard and Scope 3 Standard

- Help companies:
  - Inform mitigation strategies
  - Set targets and track performance
  - Report GHG inventories and progress toward targets
  - Support Paris Agreement goal of balancing emissions and removals globally by mid-century
Multi-stakeholder development process

- Secretariat (WRI & WBCSD)
  - Advisory Committee (20)
    - TWG: Removals (30)
    - TWG: Land (30)
    - TWG: Bioenergy (30)
  - Review Group
  - Pilot Testing Group
Including CO₂ removals in inventories

- Fossil Carbon Pools
- Atmospheric Carbon Pools
- Land-based Carbon Pools
- Product Carbon Pools
- Geologic Carbon Pools
- Ocean-based Carbon Pools
Land sector GHG impacts

Direct GHG impacts from land management:

- Land Use Change Carbon Impacts
- Land Management Carbon Impacts
- Biogenic Product Carbon Impacts
- Land Management (e.g. Agriculture) GHG Emissions
- Other GHG Emissions

Indirect GHG impacts from biogenic product consumers:

- Land Use Change Carbon Impacts
- Land Management Carbon Impact
- Biogenic Product Carbon Impacts
- Land Management (Agriculture) GHG Emissions
- Production GHG Emissions
- Processing GHG Emissions
- Transportation & Distribution GHG Emissions
- Use/Combustion

Biogenic CO₂ emissions for end user
Land use change carbon impacts

Scope 1 and Scope 3
- Account for and report on land use change emissions on lands owned controlled by the reporting company or within their value chain
- Report impacts at both the level of direct suppliers and sourcing regions
- Metrics
  - Direct land use change emissions
  - Statistical land use change emissions

Land Tracking Category
- Account for and report on the global impacts of land use
- Metrics
  - Indirect land use change emissions (t CO$_2$e)
  - Carbon opportunity cost (t CO$_2$e)
  - Land occupation (ha)

Image sources: Ramankutty et al. (2008), Sam Beebe/Ecotrust.
Land management carbon stock changes

• Reporting guidance
  – CO₂ emission → where net carbon stock decreases occur
  – CO₂ removals → where net carbon stock increases occur, in accordance with criteria for reporting removals (in development)

• Methods under consideration
  – Carbon stock change factors
  – Model-based approaches
  – Remote sensing-based approaches
  – Measurement-based approaches
  – Hybrid approaches
Project timeline

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<tr>
<th>Activities</th>
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<td>Convene stakeholder groups</td>
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<td>Technical working group discussions</td>
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<td>Stakeholder review</td>
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<td>Develop second draft</td>
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<td>Pilot testing</td>
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<td>Develop third draft</td>
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- We welcome your inputs; if interested please [sign up](#) for one of our stakeholder groups:
  - Review Group
  - Pilot Testing Group
The Science Based Targets Initiative (SBTi) is a collaboration providing a consistent vision and approach for how corporations can set GHG emissions reduction targets in line with the Paris Agreement.
### SBTI SECTOR DEVELOPMENT PROJECTS

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Company X commits to reduce absolute scope 1 and 2 GHG emissions 42% by FY2030 and scope 3 GHG emissions 30%.

### Current Target

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Purchased goods and services</td>
<td>10,000,000</td>
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<tr>
<td>Capital goods</td>
<td>50,000</td>
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<tr>
<td>Fuel-and-energy-related activities (not included in Scope 1 or 2)</td>
<td>500,000</td>
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<tr>
<td>Upstream transportation and distribution</td>
<td>200,000</td>
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<tr>
<td>Waste generated in operations</td>
<td>30,000</td>
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<tr>
<td>Business travel</td>
<td>20,000</td>
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<tr>
<td>Employee commuting</td>
<td>100,000</td>
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<tr>
<td>Downstream transportation and distribution</td>
<td>2,000,000</td>
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<tr>
<td>Processing of sold products</td>
<td>0</td>
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<tr>
<td>Use of sold products</td>
<td>1,000,000</td>
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<tr>
<td>End of life treatment of sold products</td>
<td>200,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>14,100,000</strong></td>
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**Scope 1 & 2 Target: 450,000 tCO2e**

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<tr>
<th>Description</th>
<th>Value</th>
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<tr>
<td>Stationary combustion</td>
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<tr>
<td>Mobile combustion</td>
<td>100,000</td>
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<tr>
<td>Process emissions</td>
<td>0</td>
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<td>Fugitive emissions</td>
<td>0</td>
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<tr>
<td>Purchased electricity</td>
<td>200,000</td>
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**Scope 3 Target: 14,100,000 tCO2e**

<table>
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<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>1 Purchased goods and services</td>
<td>10,000,000</td>
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<tr>
<td>2 Capital goods</td>
<td>50,000</td>
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<tr>
<td>3 Fuel-and-energy-related activities (not included in Scope 1 or 2)</td>
<td>500,000</td>
</tr>
<tr>
<td>4 Upstream transportation and distribution</td>
<td>200,000</td>
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<tr>
<td>5 Waste generated in operations</td>
<td>30,000</td>
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<tr>
<td>6 Business travel</td>
<td>20,000</td>
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<tr>
<td>7 Employee commuting</td>
<td>100,000</td>
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<tr>
<td>8 Upstream leased assets</td>
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<tr>
<td>9 Downstream transportation and distribution</td>
<td>2,000,000</td>
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<tr>
<td>10 Processing of sold products</td>
<td>0</td>
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<tr>
<td>11 Use of sold products</td>
<td>1,000,000</td>
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<tr>
<td>12 End of life treatment of sold products</td>
<td>200,000</td>
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</tbody>
</table>

*biomass TBD*
Company X commits to reduce absolute scope 1 and 2 GHG emissions 42% by FY2030 and scope 3 GHG emissions 30%.
TWO FLAG TOOLS

1. FLAG SECTOR PATHWAY
   for companies with diversified emissions or further from direct production
   (Roe et al 2019)

2. COMMODITY PATHWAYS
   for companies with focused commodity emissions
   (PBL 2016)
1. **FLAG SECTOR PATHWAY**

for companies with diversified emissions or further from direct production

*(Roe et al 2019)*

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**Note:** For FLAG purposes, BECCS are reallocated across other wedges

**Source:** Roe et al 2019
Commodity Pathways

2. Commodity Pathways for companies with focused commodity emissions

(PBL 2016)

- Beef
- Dairy
- Pork
- Poultry meat & eggs
- Roundwood

- Rice
- Soy
- Palm Oil
- Maize
- Wheat
MAJOR QUESTIONS ALREADY ADDRESSED

1. Combining data sources and models
   - Two-pronged approach most appropriate
   - Combining specific commodity pathways and general FLAG sector pathway

2. Temperature targets
   - Well-below 2C and 1.5C pathway data are not available for all approaches
   - FLAG will proceed with available data noting that pathways for well-below 2C and 1.5C are similar for this sector

3. Accounting for GHG removals
   - SBTi includes only emissions reductions, not removals, in pathways
   - FLAG is proceeding to include removals in some form as they are a critical component of land-based mitigation
MAJOR ELEMENTS UNDERWAY

1. Roundwood commodity pathway
   - Needed and was not possible in prior work on commodity pathways
   - Status: developing options across several new datasets

2. Land use change in commodity pathways
   - Options available but not included in commodity pathway tool
   - Status: comparing existing methods used in commodity pathways and building out LUC specifications in the model

3. Continued alignment with GHG Protocol
   - A FLAG target pathway needs to be in alignment with accounting guidance
   - Status: close coordination ongoing
## PROJECT TIMELINE

<table>
<thead>
<tr>
<th>Q1 2020</th>
<th>Q2 2020</th>
<th>Q3 2020</th>
<th>Q4 2020</th>
<th>Q1 2021</th>
<th>Q2 2021</th>
<th>Q3 2021</th>
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<tr>
<td>Jan</td>
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<td>Apr</td>
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<td>Jun</td>
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<tr>
<td><strong>Scientific feasibility assessment and Model review</strong></td>
<td><strong>Develop V0.1 model and guidance</strong></td>
<td><strong>Develop V1.0 model and guidance</strong></td>
<td><strong>Develop V2.0 final model guidance and support tools</strong></td>
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*Note: Timeline and milestones are placeholders and should be replaced with actual dates and details.*
AGENDA

Introduction  5 min
GHG Protocol update  15 min
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Q&A  25 min
Webinar

Greenhouse Gas Protocol land sector and removals guidance

Science-based Targets for Forest, Land and Agriculture (FLAG)

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