GREENHOUSE GAS PROTOCOL

Actions and Market Instruments Technical Working Group

In Person Workshop, Washington DC
Meeting # 1.10

GHG Protocol Secretariat team:
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November 11-13, 2025

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

Our Objectives: Advance White Paper for ISB approval and public consultation

- Get to know each other better
- Create common understanding on key issues
- Understand and discuss sectoral examples and SBTi connections
- Refine Part 2 of White Paper - consolidate feedback
- Refine Part 3 of White Paper
  - Discuss and align on multi-statement reporting structure options
  - Align on calculation methodologies, (physical) traceability, residual emission factors
- Create common understanding of roadmap until year end and outlook for 2026

Our Agenda: Day 1

Time (EST)	**Topic**	**Format**	**Presenter**
11:00 am – 12:30 pm	Welcome & Agenda Ice-breaker, Expectations	Plenary	Secretariat
12:30 – 1:30	Lunch		
1:30 – 2:30	Align on White Paper sections 1-8 (focus on Part 2)	Plenary	Secretariat
2:30 – 2:45	Break		
2:45 – 5:00	Presentations of sectoral/practical examples by TWG members	Plenary (10 min presentation + 10 min discussion each)	TWG members
5:00 – 6:00	SBTi: latest updates on the SBTi Corporate Net-Zero Standard (relevant to AMI) and coordination/ alignment with AMI	Plenary (30 min presentation + 30 min discussion)	Giulia Camparsi
6:00	Joint dinner (Laos in Town)		

Our Agenda: Day 2

Time (EST)	**Topic**	**Format**	**Presenter**
9:00 – 10:30 am	Part 3 of the White Paper • Multi-statement reporting structure options • TWG feedback on section 9.1	Plenary	Secretariat
10:30 – 10:45	Break		
10:45 – 11:15	Scope 2 updates: market-based method	Plenary	Jessica Cohen (Constellation)
11:15-11:45	Scope 2 consequential methods public consultation	Plenary	Emma Konet (Tierraclimate)
11:45-12:15	Calculation methods	Plenary	Secretariat
12:15 – 1:00	Lunch		
1:00 – 2:15	Breakout • Residual emission factors • Traceability	Breakout groups	Breakout leads
2:15 – 2:45	Report back from breakout groups	Plenary	Breakout leads
2:45 – 3:00	Break		
3:00 – 3:30	Reporting statement options (main focus statements 2 and 3, applying GHG Protocol decision-making criteria) and intro to breakouts	Plenary	Secretariat
3:30 - 5:15	Reporting statement options (main focus statements 2 and 3, applying GHG Protocol decision-making criteria)	Breakout Groups	Breakout leads
5:15 – 6:00	Report back and discussion	Plenary	Breakout leads
6:00	Drinks and/or dinner		

Our Agenda: Day 3

Time (EST)	**Topic**	**Format**	**Presenter**
9:00 – 9:30 am	Summary of Day Two	Plenary	Secretariat
9:30 – 10:30	Continue work on open topics from Day 2	Plenary or Breakout Groups	Secretariat
10:30 – 11:00	Break		
11:00 – 12:30	Value chain related GHG impacts (statement 3) and Beyond value chain GHG impacts (statement 4) – how and where to draw the line?	Plenary	Secretariat
12:30 – 1:30	Lunch		
1:30 – 1:45	Assign breakouts for WP text revisions	Plenary	Secretariat
1:45 – 3.00	• Revise and propose white paper text on tabled topics	Breakout	Breakout leads
3:00 – 4:00	Wrap up • Stock take on decisions made and remaining open questions • Identify key open questions to continue in 2026 • Assignment of follow up tasks for finalization of White Paper • Roadmap until year-end and outlook for 2026	Plenary	Secretariat
4:00 pm	Workshop concludes		

White Paper Part 3

Wednesday, November 12th

9:00 – 10:30 am

- Section 9, table 9.1
- Multi-statement reporting structure options

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Rules of engagement for the workshop

- To ensure we have time to dedicate to all topics in our full workshop schedule, we will be using the following categories to prioritize and sequence topics:
  1. **White Paper edit requested** – a change is requested to existing text in the white paper to address a perceived factual error or mischaracterization
  2. **White Paper addition requested** – a change is requested to add additional text or options
  3. **Workshop parking lot** – identification of a topic which requires additional conversation beyond the currently-allotted time to resolve
     - To be revisited on day 2 or day 3, time permitting (some time is set aside on Day 3 of the workshop to return to tabled topics)
     - Parking lot topics not addressed in the workshop will be moved to phase 2
  4. **Phase 2 topic** – identification of a topic to be (further) addressed or resolved in phase 2 of the workstream
     - Phase 2 topics will be addressed starting in January
- The Secretariat will keep an active list of all topics identified in the categories above

AMI White Paper Outline and Steps

Section	TWG Review	Secretariat Edits	Workshop	Next Step (Nov 17 – Dec 1)
1. Introduction	N/A	N/A	N/A	N/A
2. Precedent in GHG Protocol standards	N/A	N/A	N/A	N/A
3. Need for multi-statement GHG reporting structure	N/A	N/A	N/A	N/A
4. Purpose, goals, and objectives	Complete	Complete	Review, conclude edits	N/A
5. Key concepts, terms and definitions for Actions and Market Instruments workstream	Complete	Complete	Review, conclude edits	N/A
6. Principles for GHG accounting and reporting	Complete	Complete	Review, conclude edits	N/A
7. Target setting and role of programs	Complete	Complete	Review, conclude edits	N/A
8. Possible statements	Complete	Complete	To discuss statement options. If TWG reaches agreement on statements, revise section 8. If TWG does not reach agreement on statements, discuss next steps (outlined on later slides).	Secretariat edits after workshop (based on workshop outcomes/discussion) if needed
9. Accounting and reporting specifications of each possible statement (Table 1)	Complete	Complete	To discuss and conclude edits	Secretariat edits after workshop if needed
9. Accounting and reporting specifications of each possible statement (Table 2 - 7)	Partial	N/A	To discuss select issues	Secretariat edits after work-shop and/or explain content is draft and subject to change

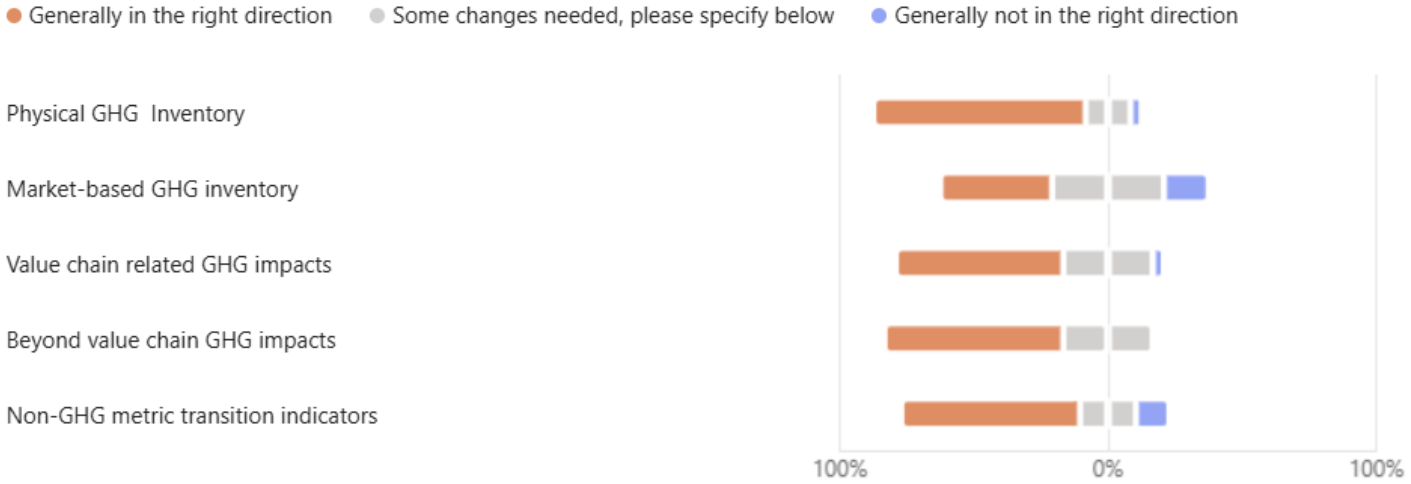
Section 9: Accounting and reporting specifications for each potential statement

- The purpose of this section is to define and differentiate each possible statement to inform the decision of which statements should be included in a GHG report.
  - For statements that are included, the specifications are also needed to define the accounting and reporting requirements.

- **Table 9.1:** Definition and purpose for each potential statement
  - A. Definition
  - B. Purpose
  - C. Limitations
  - D. Intended/supported claims
  - E. Unit of measure
  - F. Unit of analysis (e.g. entity, action or product)
  - *G. Types of actions and market instruments that could be reflected in the statements, subject to future additional design and eligibility criteria*
  - *H. Examples of actions and market instruments that could be reflected in the statements, subject to future additional design and eligibility criteria*

Note: Italics = not included in last round of TWG feedback

TWG Feedback – Table 9.1, Row A: Definition



Need clearer/stricter definitions and less ambiguity (especially on "market-based")

- Many commenters asked to clarify whether market-based means contractual/EACs, how it relates to inventory, and whether a market-based inventory should be included or merged with other statements.

Traceability / chain-of-custody (CoC) and physical traceability

- Several respondents recommended replacing vague "market-based" or "value chain" labels with assessments based on CoC, traceability, or a value-chain association test (AIM/VCI/TCAT references).

Some respondents recommend removing or combining market-based inventory statement with value-chain impacts statement

- Several TWG members argued that a market-based inventory statement is redundant or should be subsumed into a single value-chain GHG impacts statement

Mixed views on non-GHG transition indicators — many concerned about scope creep while some others see value

TWG Feedback – Table 9.1, Row A: Definition (1/2)

Questions to discuss

1. **Should the definition of physical inventory include the element of allowing traceable market instruments?**
   - Recommend adding traceable to Physical Inventory: "An inventory of scope 1, scope 2, and scope 3 GHG emissions and removals occurring within the reporting company's operations and traceable value chain using inventory accounting methods..." because it could be difficult to understand what is "within value chain" due to the complexity of supply chain"
     - **To discuss on Day 2 early afternoon (traceability)**
2. **TWG members agree that the market-based GHG inventory shouldn't be used in lieu of the physical inventory. However, there is disagreement about whether this statement should be optional or required if using market instruments?**
   - "agree it is optional; this is not something that should be in lieu of the physical"
   - "[This] statement should be required by any company making use of market-based methods for any scope. I'd encourage avoiding a definition that labels this as 'an optional statement'"
     - **To discuss on Day 3 morning, time permitting (which statements should be required vs optional)**
3. **Should actions be allowed to be reported in multiple statements (i.e. reported in the value chain related GHG impacts statement and other statements)?**
   - *[Favors allowing reporting an action in multiple statements]* "Limiting an action to be reported in a single statement (i.e. if not reflected in the physical inventory report it will) will just encourage reporting actions in the statement where they appear to have the most impact, when in reality we may be missing the whole story"
   - *[Favors limiting reporting an action to one statement]* "For statements 3 and 4, delete the [second option] as double reporting of the same impacts should be avoided across statements"
     - **To discuss on Day 2 afternoon (statement 2 vs 3)**

TWG Feedback – Table 9.1, Row A: Definition (2/2)

Questions to discuss

1. **Should the impact statements clarify their relationship to CoC or the value chain?**
   - *[Regarding statement 2]* "The concept of "market-based" is no longer valid, as we can instead describe interventions in terms of their CoC uncertainty and distance from known value chain as described by the physical inventory"
   - *[Regarding statement 3]* "It would be important to include the methodology and (lack of) traceability, as this is what defines it. Basically 'Value chain interventions using consequential accounting'"
   - *[Regarding statements 3 and 4]* "More precise definitions are needed, specifically with respect to the definition of "value chain". Would suggest using AIM Platform Value Chain Association Test to determine association for both ledgers"
   - *[Regarding statement 3]* "Calling this statement "Value chain and Sector-related mitigation" or simply just "Sectoral impact" would enhance the clarity that the strict physical traceability requirements that apply to the physical inventory do not apply here"
   - *[Regarding statement 4]* "Will need to adjust title and definition to reflect decisions on physical traceability referenced earlier. TCAT's approach to value chain, sectoral, and global mitigation is clearer on the degree of physical traceability needed for each statement"
     - **To discuss on Day 3 morning (within value chain/BVC)**
2. **Should the non-GHG metric transition indicators statement be removed from consideration? Should it be renamed?**
   - "This opens the possibility for a lot of story telling without clear guidance and rules as to what for example constitute a "decision-relevant" and "decarbonization-relevant" metric. This becomes very company specific and it could be that there are other spaces, such as transition plans, where they can provide this complementary actions and metrics"
   - "I would suggest to specify that those indicators serve to demonstrate a state of progress for any given transition, using whatever metrics are most relevant for each specific transition"
   - "Adding language related to "climate adaptation-relevant" or similar, in addition to "decarbonization-relevant" metrics, to align with most recent recognition of the need for such investments"
     - **To add to parking lot**

Proposed text edits – Table 9.1, Row A: Definition

Physical GHG inventory

White paper definition:

An inventory of scope 1, scope 2, and scope 3 GHG emissions and removals occurring within the reporting company's operations and value chain using inventory accounting methods, without double counting by the same entity, and independent of any GHG trades such as purchases or sales of allowances, offsets, and credits (Land Sector and Removals Standard).

Revision:

An inventory of scope 1, scope 2, and scope 3 GHG emissions and removals occurring within the reporting company's operations and [traceable] value chain using inventory accounting methods, without double counting by the same entity, and independent of any GHG trades such as purchases or sales of allowances, offsets, and credits (Land Sector and Removals Standard).

Market-based GHG inventory

TWG members favor the TCAT definition listed in the white paper:

"An optional statement that reports a company's GHG emissions as reported in the GHG Physical Inventory Statement, adjusted by any qualified reductions or removals from market-based instruments (e.g., renewable energy certificates, sustainable aviation fuel certificates). This statement may be used in lieu of or in addition to the GHG Physical Inventory Statement to report inventory emissions, if allowed by the relevant target-setting or disclosure policy." (TCAT)

Revision:

First two options retained

Third option edited as follows: An [optional] statement that reports a company's GHG emissions as reported in the GHG Physical Inventory Statement, adjusted by [any qualified reductions or removals from] market-based instruments [without physical traceability]

Value chain related GHG impacts

TWG members disagree about whether to include the red portion of the white paper definition:

Quantified GHG impacts of actions implemented by the reporting company within its operations or value chain which are not reported in other statements (e.g. not reflected in the physical GHG inventory due to data/methods used).

Revision:

Quantified GHG impacts of actions implemented by the reporting company within its operations or value chain [which are not reported in other statements].

Beyond value chain GHG impacts

TWG members disagree about whether to include the red portion of the white paper definition:

Quantified GHG impacts of actions implemented by the reporting company outside its value chain which are not reported in other statements.

Revision:

Quantified GHG impacts of actions implemented by the reporting company outside its value chain [which are not reported in other statements].

Non-GHG metric transition indicators

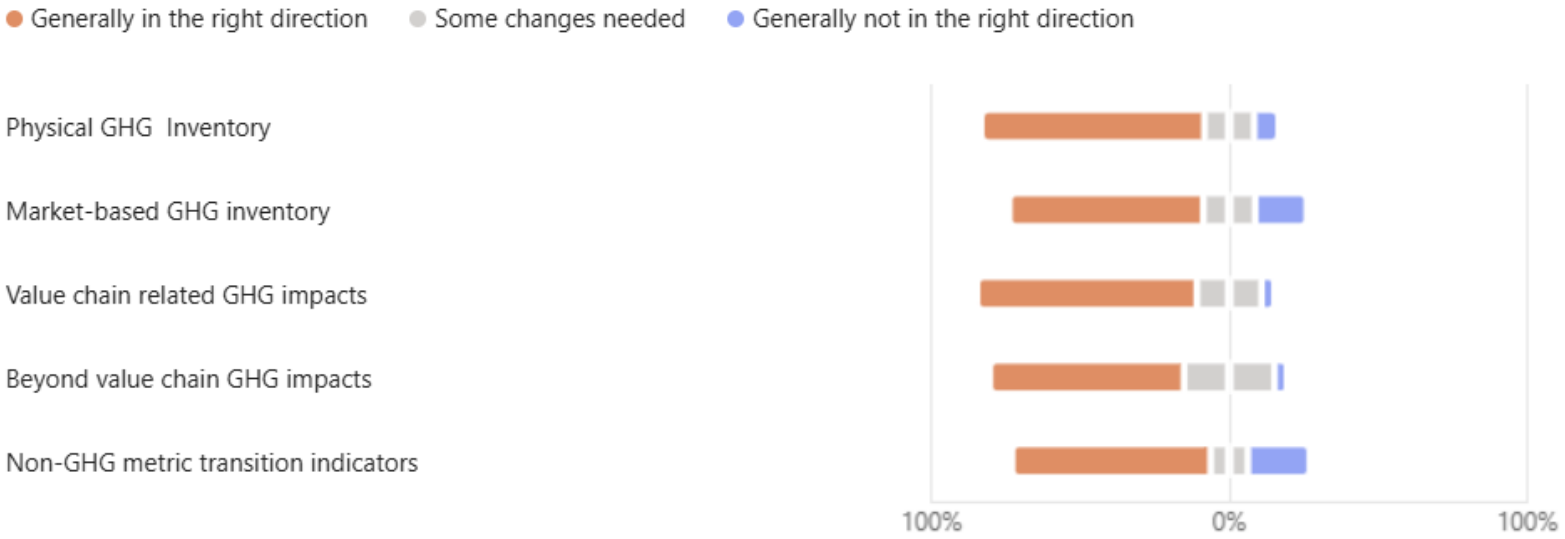
White paper definition:

A standardized reporting structure for various decision-relevant and decarbonization-relevant metrics and indicators such as financing contributions to mitigation, percentage of procurement or products sold that meet defined criteria, intensity metrics, or other key performance indicators.

Revision:

A standardized reporting structure for various decision-relevant and decarbonization-relevant metrics and indicators [such as financing contributions to mitigation, percentage of procurement or products sold that meet defined criteria, intensity metrics, or other key performance indicators.]

TWG Feedback – Table 9.1, Row B: Purpose



TWG feedback:

Clarify the "purpose" vs the "information described"

- Current text reads as method/description, not a clear user-purpose (why which stakeholder group would use the statement).

Be explicit about target-setting role and program rules

- Statements to say whether/how they can be used for target setting (and that it depends on program rules), include that in statement five, too.

Desire for alignment between claims and purpose (rows 1.B & 1.D)

- Align Row D. Intended/Reported Claims with Row B. Purpose.

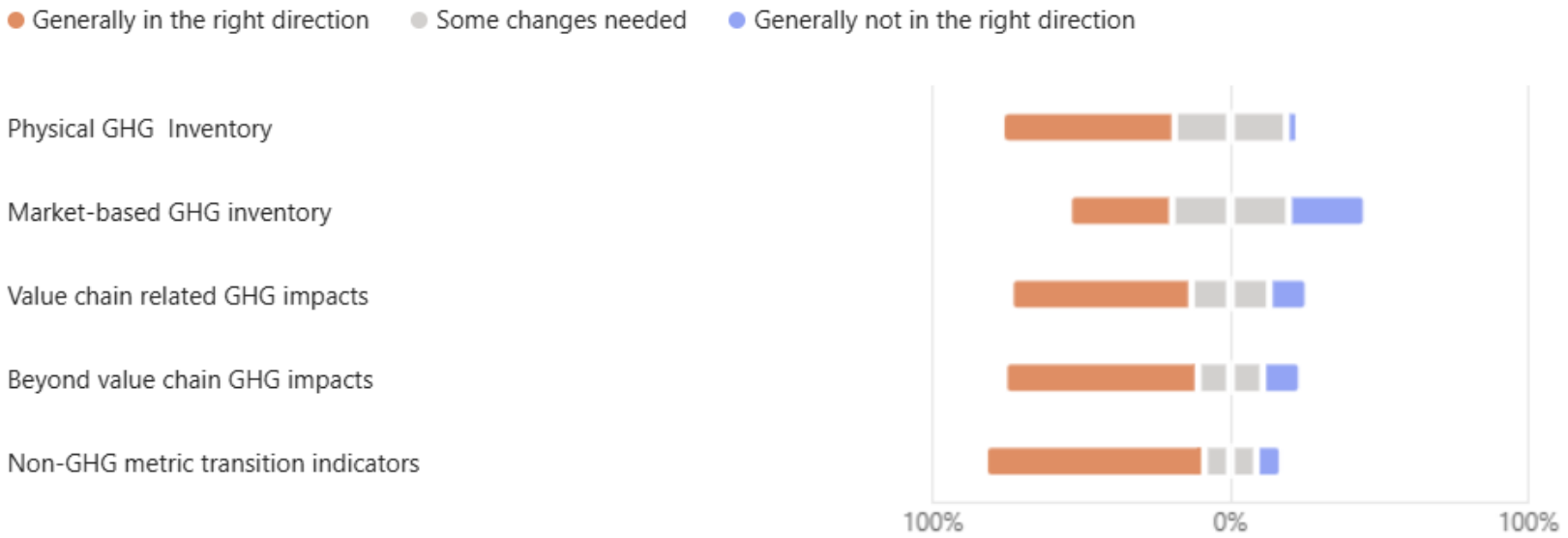
Align language (with SBTi)

- Direct/indirect mitigation; "track against targets" / "substantiate progress against targets"

Proposed text edits – Table 9.1, Row B: Purpose

Physical GHG inventory	Market-based GHG inventory	Value chain related GHG impacts	Beyond value chain GHG impacts	Non-GHG metric transition indicators
• Provides a **comprehensive accounting and disclosure** of an organization's annual GHG emissions (resulting from …) • **Current foundation for the ecosystem** of corporate GHG accounting, reporting and setting targets • **Provides information** on the sources of emissions and trends over time • **Informs mitigation actions** by identifying emission reduction opportunities that reduce activity data or emission factors (in reporting company operations or value chain) (corresponding to SBTi direct mitigation) • **Allows for setting GHG targets and tracking progress** over time (subject to decisions by target setting program rules) • **Informs investors and other stakeholders** about climate-related risks of the reporting entity	• Provides a **comprehensive accounting and disclosure** of an organization's annual GHG emissions (resulting from…) **based on contractual and residual emission factors** • **Provides information** on the sources of emissions and trends over time based on contractual and residual emission factors • **Allows for setting targets and tracking** of progress against [attributional]targets (if instruments are eligible under target setting program rules) • **Informs mitigation actions** • **Recognizes value chain associated mitigation** action where a company cannot physically reduce emissions but can act through contractual investments and therefore **incentivize investment and mitigation** in value chains, particularly hard to abate sectors	• Provides **quantification of outcomes of corporate actions** on climate mitigation **within value chain** • **Allows for setting targets and tracking** against [consequential or impact-based targets] targets (if instruments are eligible under target setting program rules) • **Informs mitigation actions by identifying emission reduction opportunities** (corresponding to SBTi indirect mitigation) • **Recognizes value chain associated mitigation** action where a company cannot physically reduce emissions but can act through contractual investments and therefore incentivize investment and mitigation in value chains, particularly hard to abate sectors	• Provides **quantification of outcomes of corporate actions** on climate mitigation **outside value chain** • **Allows for setting targets and tracking** against [consequential or impact-based] targets (if instruments are eligible under target setting program rules) • Beyond value chain mitigation **enables companies to report on efforts to 'deliver additional near-term mitigation outcomes** to achieve the peaking of global emissions in the mid-2020s and the halving of emissions by 2030 through driving additional finance into the scale-up of nascent climate solutions and enabling activities to unlock the systemic transformation needed to achieve net zero by mid-century globally.' (SBTi)	• **Provide simple, easy to measure, easy to communicate key performance indicators** that are **decision-relevant** and decarbonization-relevant and can be used to track performance without more complex GHG quantification • **Allows for setting targets and tracking** progress against non-GHG indicator targets (if eligible under target setting program rules)

TWG Feedback – Table 9.1, Row C: Limitations



TWG feedback:

- Mostly supportive of proposed text for statements 3, 4, 5
- Key questions listed on next slide

Parking lot (to address in next phase)

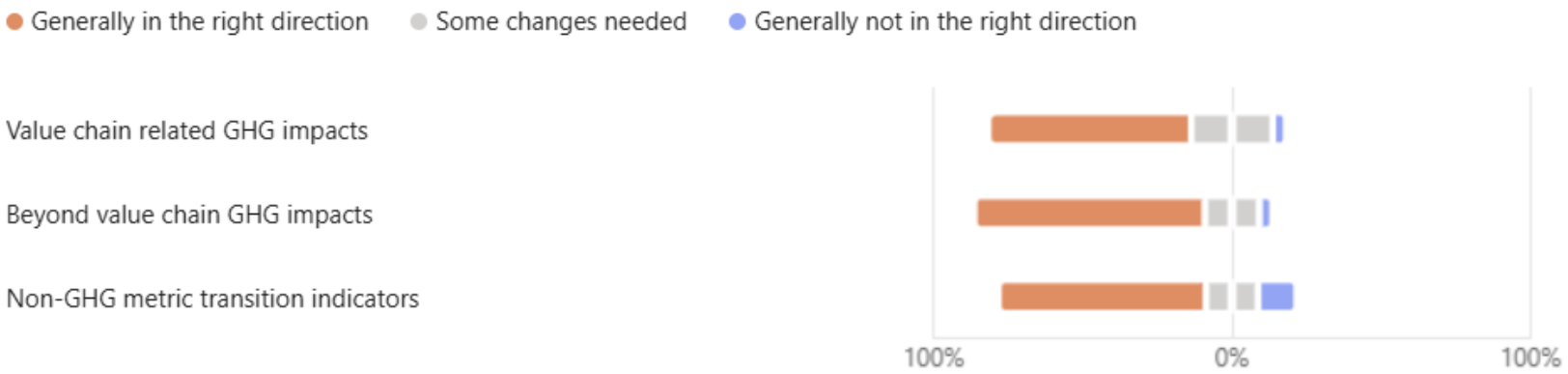
- Non-GHG metric transition indicators (statement 5)
- Full list of limitations relative to the exact specifications of each statement

TWG Feedback – Table 9.1, Row C: Limitations

Questions to discuss

1. **Disagreements on market-based inventory limitations**
   - Technical accuracy: "engagement on projects that provide market based EFs in agriculture can help the company understand the underlying assumptions that are "fed into" their inventory, and often this can be a catalyst to improve the physical inventory in general"
   - "there is wide diversity of MBIs and also within that diversity, there are different system conditions for each one. It is NOT true that 'do not result on the expected mitigation action'"
     - **To discuss on Day 2 afternoon**
2. **Whether fungibility and unit-matching is a limitation or a strength**
   - "I think we should defend that these are distinct statements that can be evaluated together to evaluate comprehensive climate impact, but we don't recommend direct additional or subtraction of attributional and consequential tonnes because it doesn't make numerical sense and could confuse stakeholders"
   - "I consider it is a strength that this is about real indicators rather than a GHG metric that is prone to complex accounting methods and errors. The listed limitation "assumes" that having everything in a common denominator is desirable, which I would disagree with because you only need this is you want to compare/net statements."
   - "Additional limitation for statement 2: risk of creating confusion by reporting two different "totals" (one under statement 1 and one under statement 2). While statements 3-5 provide information that complements statement 1, statement 2 is an alternative"
     - **To discuss on Day 2 afternoon**
3. **Data quality and capabilities**
   - "There is significantly more uncertainty in the accuracy of physical inventory data for Scope 3. Many of the scope 3 limitations listed under Market Based Inventory also seem to apply to Physical Inventory"
   - "For column 1. Physical - data capabilities is also a big limitation."

TWG Feedback – Table 9.1, Row D: Intended/supported claims



TWG feedback:

- Mostly supportive of proposed text for statements 3, 4, 5
- Key questions listed on next slide

Parking lot (to address in next phase)

- Non-GHG metric transition indicators (statement 5)
- Should GHG Protocol or target setting and disclosure programs define appropriate claims related to each statement?
  - In any case we should discuss the intended claims now to design a system around intended claims
- Terminology: Emission reduction vs avoided emission vs enhanced reduction

TWG Feedback – Table 9.1, Row D: Intended/supported claims

Questions to discuss

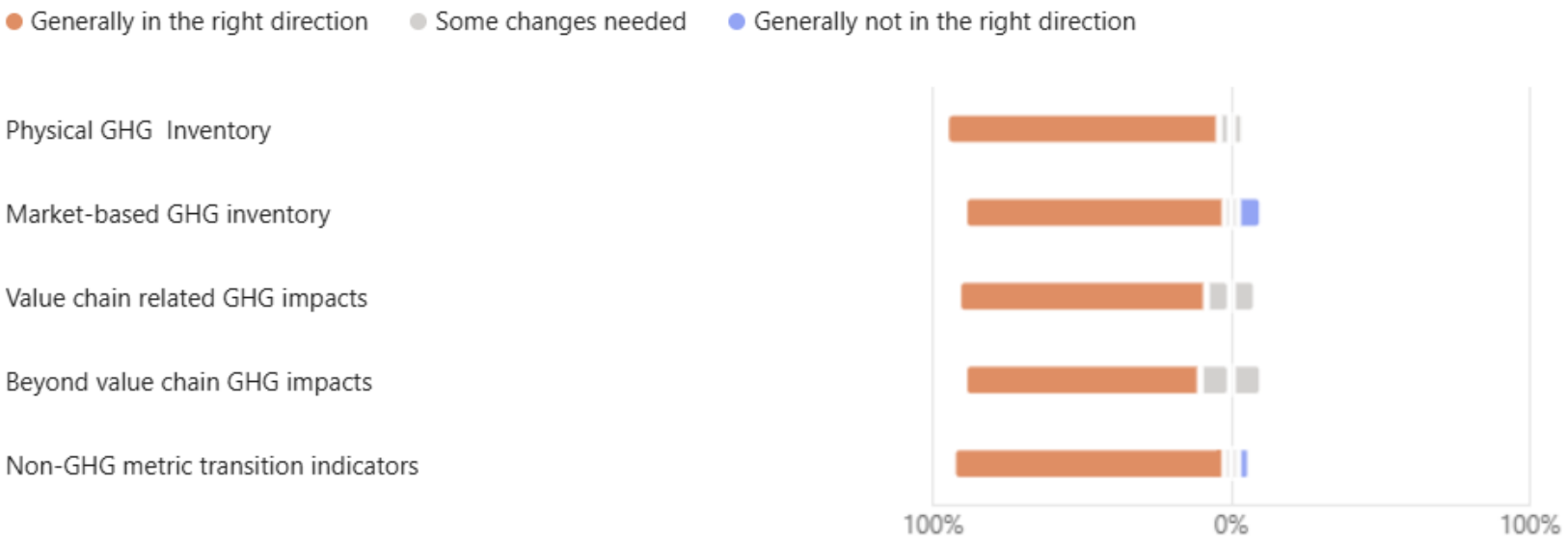
1. **Intended/supported claims of physical GHG inventory and market-based GHG inventory**
   - Two cells not included in the previous draft
     - **To discuss on Day 2 afternoon**
2. **Role of reporting company in order to report GHG impacts**
   - "it is not clear whether a reporting company themselves has to take the action in their value chain, or if is sufficient to report an action that has been taken in their value chain."
     - **To discuss in phase 2 (eligibility criteria)**
3. **Value chain vs sectoral focus for statement 3**
   - " "Beyond value chain GHG impacts"- There are degrees of claims outside the value chain that depend on how the value chain is defined. In particular, between sectoral and global. The former may not be fully associated with the direct value chain, but is closely linked to sectoral mitigation actions. Companies will likely want to differentiate between such actions and investments, and more general BVCM investments. Therefore, more nuanced claims would be needed."
     - **To discuss on Day 3 morning**
4. **Reducing number of statements would simplify claims**
   - "Getting rid of statement 2 (market-based GHG inventory) would make claims simpler, as we would be splitting actions that drive the claim into either value chain or beyond value chain along with a clearer statement about what the value chain actions actually achieve."
     - **To discuss on Day 2 afternoon**

TWG Feedback – Table 9.1, Row D: Intended/supported claims

Questions to discuss

5. **Whether statements should be mutually exclusive and avoiding double counting between statements**
   - "Potentially add something on the value chain impact to avoid double counting with market based instruments."
   - "There is still an open question if the SAME instrument can be represented in BOTH elements, or if there is an exclusive OR for any given instrument. The main argument in favour of double reporting had to do with giving full transparency on both the effects from an attributional as well as consequential accounting perspective, and letting the target setter choose which number is more representative. Yet, this flexibility could lead to misleading statements and make it complicate to ensure compatibility with all target setting frameworks. Either way, it is important to highlight that depending on the difference between inventory EF and baseline EF, mitigation efforts can be over- or under-claimed in each of the accounting perspectives. This could be solved by restating in Section 6.4 that the more conservative accounting results has to be used"
     - **Option 1:** Include a requirement to avoid double counting between statements, such that a corporate GHG report for a single company contains no double counting of emissions, reductions, removals, or other impacts within it. All accounting and reporting elements and categories should be mutually exclusive for the reporting company.
       - Consequential impacts (e.g. avoided/reduced emissions relative to baseline scenario) of a given action (taken within the company's operations or value chain) can be reported in statement 3 if the impacts of that action are not captured in statement 1.
     - **Option 2:** Statements are overlapping and not mutually exclusive. They represent different quantities and are valuable for different purposes, but shall not be aggregated due to double counting between them. Companies, stakeholders, and target setting programs should exercise caution in not using more than one statement toward a single target or for other purposes due to double counting.
   - **To discuss on Day 2 afternoon**

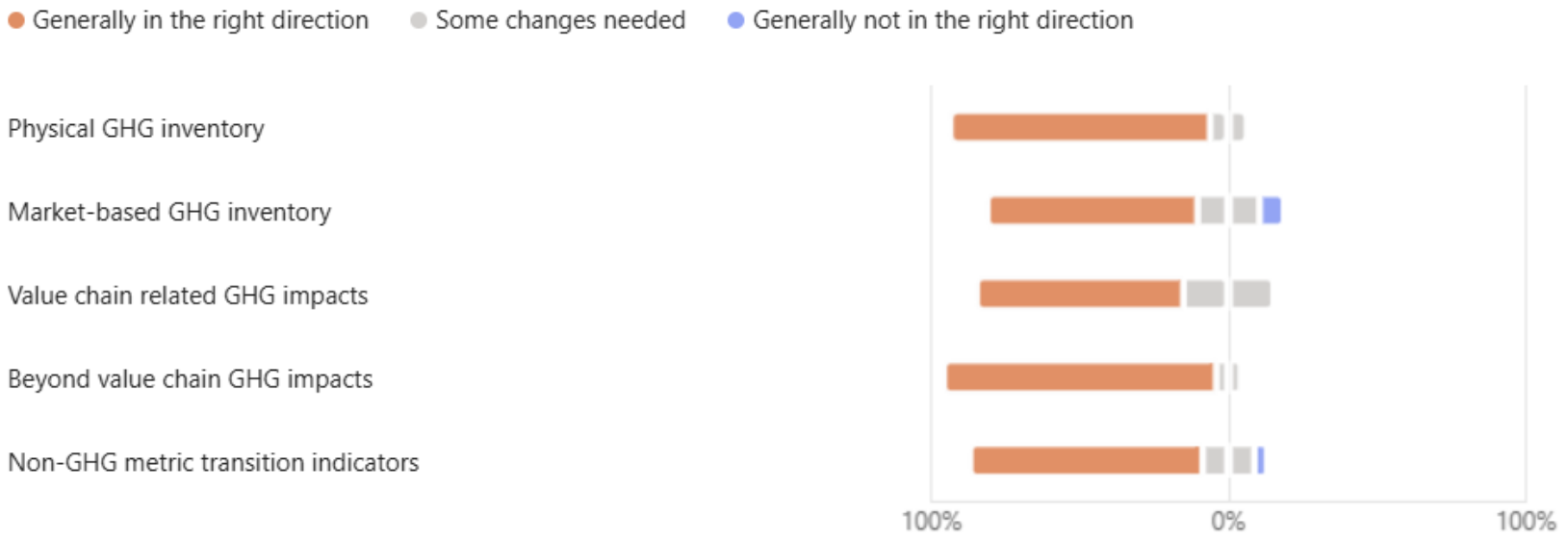
TWG Feedback – Table 9.1, Row E: Unit of measure



TWG feedback:

- Mostly supportive of proposed text
- A couple questions on terminology (for parking lot/future TWG meeting):
  - 'Emission reduction' vs 'avoided emission' vs 'enhanced reduction' vs other

TWG Feedback – Table 9.1, Row F: Unit of analysis



TWG feedback:

- Mostly supportive of proposed text
- For statement 3, some members raised concerns with 'products purchased/sold' as a separate unit of analysis from 'action'
  - Change made: subsumed products purchased/sold into 'action', i.e. "Action (e.g. discrete project, intervention, investment, production/sale of products, purchase/consumption of products, or other activity) implemented by the reporting company within the reporting company's value chain"
- Additional aggregation/disaggregation options added to Table 9.2, row F (e.g. entity and action level)

Scope 2 Update: Market-based Method

Wednesday, November 12th

10:45 – 11:15 am

Proposed changes to standard

Public consultation

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Proposed revisions to market-based method for consultation

- **Hourly matching**: require that all certificates be matched on an hourly basis, except in cases of exemption
- **Deliverability**: require that all certificates are sourced from generation deemed deliverable
- **Standard Supply Service (SSS)**: New guidance and requirement that a reporting entity shall not claim more than its pro-rata share of SSS
- **Updated definition of residual mix** and where no residual mix is available, use of fossil only rates

Implementation measures for feasibility

- **Load profiles** to translate annual or monthly data into hourly data
- **Exemption thresholds** to provide flexibility for for organizations under a threshold
- **Legacy clause** and other transition tools are being considered for existing investments
- **Phased implementation** rules are being considered to facilitate a smooth transition to new requirements

Hourly matching requirements for contractual instruments

*All contractual instruments used in the market-based method for scope 2 accounting **shall** be issued and redeemed for the same hour as the energy consumption to which the instrument is applied, except in certain cases of exemption where monthly or annual matching may be used.*

- Profiles
  - Hourly matching can use estimated data ("profiles") to represent how electricity is used or generated over time when direct hourly measurements aren't available.
  - These profiles based on typical usage or production patterns can come from utilities, suppliers, or public sources, and cover both consumption and generation.
  - Using profiles makes hourly matching significantly more feasible, even without advanced metering.

- Exemptions
  - Organizations below a defined threshold (load or SME status) may use contractual instruments issued and redeemed for the same month or year as the associated energy consumption, instead of hourly matching.

Deliverability requirements for contractual instruments

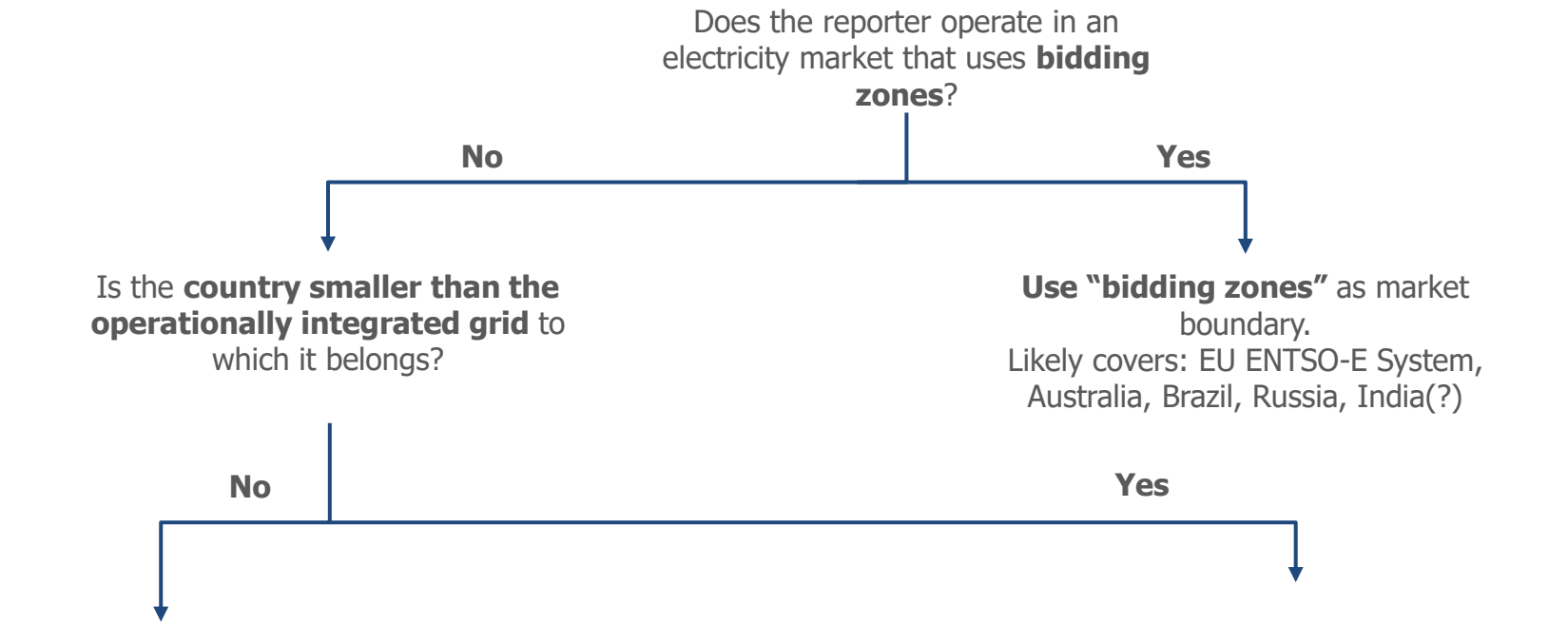
*All contractual instruments used in the market-based method for scope 2 accounting **shall** be sourced from the same market boundary in which the reporting entity's electricity-consuming operations are located and to which the contractual instrument is applied, or otherwise meet criteria deemed to demonstrate deliverability to the reporting entity's electricity-consuming operations.*

- Market boundaries are based on the principle of deliverability, informed by physical interconnection or coordinated market operations (e.g., synchronized transmission, regional dispatch, power pools, etc.)

- Outside a defined boundary, deliverability may be demonstrated through:
  - Price-based method: Attributes paired with evidence of excess transmission capacity (e.g., electricity price differentials between adjacent markets)
  - Contract-based method: Attributes paired with contracts or instruments that demonstrate physical delivery from the point of generation to the point of consumption

Draft for TWG Discussion

Proposed decision-tree for identifying the applicable market boundary



Guidance for African continent

Companies with demand located in countries across the African continent should prioritize demonstrating deliverability based on physical interconnection where possible. Where such demonstration is not feasible, companies shall use the borders of the applicable regional power pools as the market boundaries within which electricity is considered deliverable to this demand. Although physical interconnectivity may be limited in some cases, the existence of operational regional governance structures supports the treatment of these power pools as unified electricity markets for the purposes of defining deliverability.

In cases where a country participates in more than one regional power pool, organizations may align with any of the recognized power pools that include the demand location, provided claims are consistently applied and transparently disclosed.

Recognized power pools include:

- East African Power Pool (EAPP)
- Southern African Power Pool (SAPP)
- West African Power Pool (WAPP)
- Central African Power Pool (CAPP)
- North African Power Pool (NAPP)

Draft for TWG Discussion

Standard Supply Service

Definition

SSS refers to cases when there is a traceable and mandated financial relationship between customers of a supplier/utility and the electricity and/or contractual instruments from deliverable generation resources used to supply their load.

- **Passive Procurement** – SSS is not actively or voluntarily procured by buyers. Instead, it is delivered by default without company action. Often, SSS is **required** by regulations and government policies.
- **Meaningful, Traceable Financial Relationship** – SSS typically applies to situations when a company **must** pay "non-bypassable" charges incorporated in a monopoly or competitive supplier bill without selection of a supplier-specific product. It **may** also reflect customer taxpayer funding / subsidies of government-owned resources in a region used to serve load in that region.

Under the current Scope 2 Guidance, SSS-related emission factors may be reflected in retired EACs, supplier/utility emission rates (e.g., standard product offer), residual mix, and grid average.

Purpose

Primary purpose: Prevent "resource shuffling" of existing SSS resources to those interested in climate targets

Other purposes:

- Clarify the order of operations,
- Prevent "double counting",
- Align mandatory / compliance programs and voluntary procurement efforts (avoid need for over procurement and "double paying"),
- Improve allocation with link to traceable financial relationship (avoid "cost shifting" or misallocation),
    - Allow companies to claim what they purchase; not claim what they do not purchase, and
    - Avoid harm to non-participating customers.

Structure of Scope 2 Public Consultation

All proposed revisions are open for feedback with each section reflecting a different stage of development:

Section 3 (definitions and purposes):

- **Proposed updates** are described for feedback

Section 4 & 5 (LBM and MBM revisions):

- **Proposed text** is drafted for feedback

Section 6 & 7 (Exemptions, Legacy Clause, and other transition tools):

- Includes **draft options** or framing questions for feedback

The public consultation is open for feedback until **December 19th**.

Scope 2 Consequential Accounting Consultation

Wednesday, November 13th

11:15 – 11:45 am

- Public Consultation
- MIM Proposal

GREENHOUSE GAS PROTOCOL

Original Scope 2 subgroup remit

- **Purpose**
  - To develop recommendations for the consequential quantification and reporting of GHG emission impacts from a reporting organization's electricity sector actions.

- **Objectives**
  - Provide focused, actionable recommendations to advance consequential accounting measures.
  - **Part 1**: Outline of additional disclosure elements (e.g., statements, categories, etc.) needed to report on consequential measures of GHG emission impacts of electricity sector actions.
  - **Part 2**: Create a detailed proposal for the AMI TWG on consequential accounting and reporting of electricity sector emissions impacts, including clear methodologies and guidance for calculation.

Contextual drivers of consequential accounting work

- GHGP's role is to set the north star for GHG accounting methods.
- Attributional and consequential accounting methods communicate different yet equally valuable information about a company's GHG performance. **However…**
- There is currently a lack of adoption of consequential accounting, despite published documents like the 2005 *GHG Protocol for Project Accounting* and the 2007 *Guidelines for Quantifying GHG Reductions from Grid-Connected Electricity Projects*.
- The value of consequential accounting methods was heavily stressed in stakeholder feedback during the 2023 global survey period, and in particular for scope 2.
- There is a very engaged and vocal cohort within the scope 2 revision process that has consistently engaged on consequential methods.

Draft for TWG Discussion

Subgroup deliverables

- Three proposals were discussed for methods to quantify emissions impacts of electricity sector actions
- With the majority of support from the subgroup, two proposals were moved forward:

Proposal 1: Marginal Emissions Impact

- Induced consumption from load, using Marginal emission rates (MERs)
- Avoided emissions from generation projects (additionality required) using MERs
- Net impact (induced – avoided)

Proposal 2: Ad-hoc Consequential Guidance

- Applicable to all projects that have a high likelihood of producing negative secondary effects
- Accounting framework closely resembles traditional project accounting

Subgroup perspective on Proposal 1

- Proposal 1 was developed as a performance-oriented approach, not a traditional consequential method, to maintain usability while improving impact transparency.
  - Members emphasized that:
    - Attributional method inventories (LBM/MBM) can show changes in emissions that don't always reflect true grid emission impacts.
    - Consequential metrics, especially marginal impact, are necessary to understand and guide system-wide change alongside attributional methods.
    - Avoided emissions estimates alone are insufficient; a consumption benchmark (induced emissions) is needed for comparability and performance assessment.
- The subgroup's primary use case is support for target-setting and strategic procurement planning, not attributional inventory replacement.

Proposal 1 becomes "Marginal Impact Method"

- Quantifies emissions from **consumption activities** and **procurement activities** using marginal emission rates.
- Nets the two values to report a "net impact" number.
- Designed to provide reporting organizations with alternative options to influence emissions with their electricity consumption and procurement.
- Designed to complement, not replace, inventory accounting and reporting.
- Key components of methodology include:
  - Additionality requirement for procurement activities.
  - Use of build and operating margin emission factors to quantify impacts.
  - Hourly and geographically granular emission factors preferred.
  - No geographic limitations on procurement activities (may be outside operational value chain).

July ISB meeting – Feedback on Marginal Impact Method Proposal

Majority support for "No, in order to support the direction, I have significant concerns that need to be addressed" (7/11 members). ISB members did not support approving the proposal for public consultation. Feedback raised on the following:

Support for continued development

- Broad support for continued development of consequential or beyond value chain mitigation (BVCM) impacts related to the electricity sector.
- Broad support for coordinating with AMI on development of impact reporting, of which components of the MIM proposal should be further developed.

Implementation details

- Some concerns about the development of a netting or target-setting approach, rather than simply an avoided emissions methodology (more support for the avoided emissions half of the equation than the consumption impact half).
- Consensus view that the additionality test, as described in the MIM proposal, is not sufficiently rigorous to support avoided emission claims.
  - Request to examine relevant existing standards on additionality for potential alignment, such as Article 6.4.
  - Request for AMI to first consider additionality in the context of sector-agnostic impact accounting and reporting, and then apply those principles to specific sectors, which would include electricity.
- Some concerns were raised regarding the methodology and use of marginal emission rates.
  - Concern about a standard 50:50 weighting across build and operating margin impacts.
  - Concern about the credibility of marginal emission factors for specific claims, due to the current lack of consensus on a standardized calculation methodology.

Minority vote for "Yes, I support the proposal progressing to public consultation, but with concerns or suggestions." (4/11 members)

What is included in public consultation

- Background information on consequential/project accounting concepts, avoided emissions quantification, and GHG Protocol's approach to ongoing development of this accounting method through the *Actions and Market Instruments* working group.

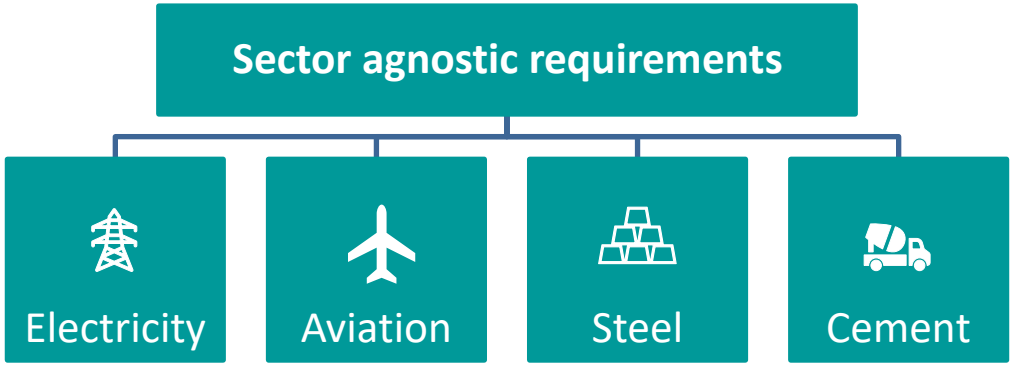
- Questions on:

1. Marginal emission rate (MER) methodologies
2. Treatment of additionality
3. Build and operating margin weighting approaches
4. Emissions impact formulas: (MWhs procurement) x (MERs) = emissions impacts in tonnes of CO_2e

Guidance for the Consequential Consultation

- This consultation is designed to collect information on electricity sector emissions impacts, which will be incorporated in the Actions & Market Instruments (AMI) ongoing process moving forward.

- Through this consultation the Secretariat is seeking both:
  - Specifics and details around quantifying emissions impacts of projects in the electricity sector.
  - General considerations and best practices for emissions impact quantification that can be applied to any sector or scope of emissions.



Calculation Methods

Wednesday, November 12th

11:45 am – 12:15 pm

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Today's Objectives

- Provide introductory overview of calculation methods assessment to inform discussions for statement 2 vs statement 3.
- Identify any missing methods for future analysis in phase 2.

- **Key findings:**
  - Calculation methods for statement 2 and 3 generally use the same underlying data and calculations.
  - Boundaries can be at the activity/project-level or product-level for statement 3 but should follow the scope 3 or scope 1 minimum boundary requirement for statement 2
  - Some calculation methods can be simple (substitution method) but some are complex (activity estimation method)
  - Statement 3 requires baseline assessment while not needed for statement 2
  - Statement 3 can include a broader variety of activities such as avoided emissions but underlying calculations are still generally the same
  - Various calculation methods are needed to address wide range of scenarios/mechanisms

Statement 2 Calculation Methods - Market-based Calculations

Key findings:

- All methods include attributional accounting
- Baseline assessment not required for most statement 2 methods
- Boundary excludes avoided emissions
- Calculations methods range in complexity:
  - Simpler: Substitution method
  - More complex: Activity estimation method
- No mentions of residual emissions factors, although may be a critical element for creating a market-based statement

Methods may include, but are not limited to:

Organization	Publication	Method
AIM Platform	Intervention Quality, Accounting and Reporting	Substitution Method
		Enhanced Substitution Method
		Activity Estimation Method
Task Force for Corporate Action Transparency (TCAT)	Mitigation Action Accounting and Reporting Guidance (MAARG)	Inventory Substitution Accounting Method for the Contractual Inventory
VCI	Value Chain (Scope 3) Interventions – Greenhouse Gas Accounting & Reporting Guidance	Substitution Method
	Accounting and reporting Scope 3 Interventions in the Food and Agriculture sector	Subtraction integration method
Verra	S3S Program Integration Guidance	Substitution Integration Method
Smart Freight Center	Voluntary Market Based Measures Framework for Logistics Emissions Accounting and Reporting	Market Based Accounting Method
Center for Resource Solutions (CRS)	Market-Based Accounting for Clean Fuels	Market Based Accounting Method

Statement 3 Calculation Methods

Key findings:

- All methods include consequential accounting methods
- Statement 3-aligned methods require determination of a baseline scenario
- Statement 3-aligned methods include a greater variety of activities (such as avoided emissions), but underlying calculations are generally the same
- Many methods consider leakage (or secondary effects) which are generally not addressed in Statement 2

Methods may include, but are not limited to:

Organization	Publication	Method
AIM Platform	Intervention Quality, Accounting, and Reporting	Project Accounting
TCAT	Mitigation Action Accounting and Reporting Guidance (MAARG)	Emission Reduction / Removal Accounting Method
GHGP	The GHG Protocol for Project Accounting	Project Accounting
	Policy and Action Standard	Policy and Action Accounting Methods
	Land Sector and Removal Guidance	Evaluating the Impact of Actions
ISO	ISO 14064-2: Quantification, monitoring and reporting of greenhouse	Quantification, monitoring and reporting of greenhouse gas emissions
WBCSD	Guidance on Avoided Emissions	Product/solution level Avoided Emissions Accounting

Topic Breakouts

Wednesday, November 12th

1:00 – 2:15 pm

- Residual emission factors
- Traceability

GREENHOUSE GAS PROTOCOL

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

Breakout: Residual Emission Factors

Time: 1:00-2:15

Task / key questions

1. **Residual emission factors:** Is the use of residual emission factors necessary for a market-based inventory, and if so, how could it be operationalized? Is it feasible? Could approaches be scope-specific?
   - Refer to options analysis handout for draft evaluation relative to decision-making criteria for discussion

2. Claims: What is the intended/supported claim(s) of market-based GHG inventory?

Please assign a note taker and a person who reports back

Participants

Kim Carnahan
Michael Gillenwater
Timothy Juliani
Jason Pierce
Steven Rosenzweig
Kai Nino Streicher
Hans Näsman
William Tyndall
Chris Davis
Jonathan Crook
Christopher Duck
Gilles Dufrasne
Ana Avzaradel Szklo

Facilitators

Cynthia

David

Breakout session Traceability

Time: 1:00-2:15

Task / key questions

Traceability:

1. What traceability requirements allow for adjustment of emission factors within the physical inventory?

2. What are the traceability requirements for statements 2 and 3?

3. Which chain of custody models can qualify to count in the physical inventory?

Please assign a note taker and a person who reports back

Participants

Autumn	Fox
Grant	Ivison-Lane
Hiromi	Kawamata
John	Kazer
Kristin	Komives
Inken	Ohlsen
Thuy	Phung
Patric	Puetz
Silvana	Paniagua
Giulia	Camparsi
Josh	Taylor
Andres	Casallas
Hans	Näsmann
Aditya	Mishra

Facilitators

Kevin

Ralf

Today's Objectives

- TWG recommendations and consensus, as possible

Key question to answer:

- **Residual emission factors:** Is the use of residual emission factors necessary for a market-based inventory, and if so, how could it be operationalized? Is it feasible? Could approaches be scope-specific?
  - And **market-based GHG inventory claims**

- **Traceability:** What traceability requirements allow for adjustment of emission factors within the physical inventory? What are the traceability requirements for statements 2 and 3? Which chain of custody models can qualify to count in the physical inventory?

Residual emission factors

Breakout: Residual Emission Factors

Time: 1:00-2:15

Task / key questions

1. **Residual emission factors:** Is the use of residual emission factors necessary for a market-based inventory, and if so, how could it be operationalized? Is it feasible? Could approaches be scope-specific?
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Facilitators

Cynthia

David

TWG Feedback – Q18, Residual Emission Factors

"Market-based GHG inventory: If a market-based inventory were developed for scope 1 and scope 3, could residual emission factors be developed and mandatorily used by all actors to avoid double counting?"

TWG feedback:

- Many respondents doubt that requiring residual emission factors for the market-based inventory is feasible.
- Respondents cited the diversity of EAC types and scope 3 categories as reasons why producing Scope 1 and 3 residual emission factors may be much more challenging compared to Scope 2 residual emission factors.
- Some think it's theoretically possible but operationally difficult. A few respondents reported use case examples but noted implementation and governance obstacles.
- Conditional support: some respondents propose residual emission factors for centrally governed registries/market instruments are possible (where registries exist and can enforce them), but not for every voluntary instrument.

Breakout Group: Residual Emission Factors

1. Residual emission factors: Is the use of residual emission factors necessary for a market-based inventory, and if so, how could it be operationalized? Is it feasible? Could approaches be scope-specific?

- **Option 1:** Market-based GHG inventory requires the use of residual emissions factors
- **Option 2:** Market-based GHG inventory does not require the use of residual emissions factors
- **Option 3**: Market based inventory does not require use of residual emission factors when technology/activity has less than 5% market penetration rate. Requires use of residual emission factors when market penetration rate is 5% or greater. Includes revisiting whether the market penetration rate threshold has been exceeded every x years.

Refer to options analysis handout for draft evaluation relative to decision-making criteria for discussion

2. What is the intended/supported claim(s) of market-based GHG inventory?

- **Statement 3 (Value chain related GHG impacts) intended/supported claim:** GHG emissions avoided or reduced or removals enhanced due to actions taken by the reporting company within their value chain
- **Statement 4 (Beyond value chain GHG impacts) intended/supported claim:** GHG emissions avoided or reduced or removals enhanced due to actions taken by the reporting company outside of their value chain
- **Statement 5 (non-GHG metric transition indicators):** Progress made in improving sectoral transition KPIs, achieving transition KPI targets

Traceability

Breakout session: Traceability

Time: 1:00-2:15

Task / key questions

Traceability:

1. What traceability requirements allow for adjustment of emission factors within the physical inventory?

2. What are the traceability requirements for statements 2 and 3?

3. Which chain of custody models can qualify to count in the physical inventory?

Please assign a note taker and a person who reports back

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Aditya	Mishra

Facilitators

Kevin

Ralf

TWG Feedback – Q17, Physical Inventory

"Physical GHG inventory: Which chain of custody models establish physical traceability? And/or what other tests establish physical traceability?"

TWG feedback:

- Respondents differ in suggested models to establish physical traceability
  - "Physical traceability should be fundamentally focused on establishing physical connectivity between the product/service and the EF."
  - Some suggested "drawing the line" at mass balance
  - Some suggested a "higher bar" given the introduction of new statements, suggesting instead IP or segregated
- Respondents suggested alternatives to chain of custody models
  - proof of sourcing, association tests (AIM), Inventory Alignment Test (TCAT), token-based systems
- "Underlying this debate, however, is the question of the difference between relationship to inventory boundary and the relationships to value chain. There is a push to allow traceability models to 'count' if they can establish likely relationship to value chain. This makes sense given the reality of many supply chains and the pressure for companies to have places to report their achievements."
- Sectoral caveats: some suggestions that agriculture and multi-tier supply chains will need tailored approaches via additional sector guidance recommended.

ValueChange

Physical traceability in GHG accounting

Break out discussion in AMI TWG

November 11, 2025

Why ask *physical* traceability in the GHG inventory?

Physical traceability is required to ensure that what is claimed in the GHG (physical) inventory actually happened in the company's value chain.

Physical traceability is relevant because it protects integrity in GHG reporting by ensuring:

- **Credibility**: emissions data reflects real material flows
- **Accuracy**: correct and representative emission factors are applied
- **No double counting**: only one actor per value chain tier can claim a given impact

Currently, **physical traceability requirements** for GHG accounting are (1) implicit in the Corporate Value Chain (Scope 3) Standard which implies primary data will demonstrate physicality (incl. mass balance) and (2) explicit in the forthcoming LSRS Interim Traceability Requirements require certain **Chain of Custody** models to establish physical traceability.

However, in practice, physical traceability using CoCs is hard for complex ag value chains among other sectors that are not certified and fragmented, data-poor, and/ or dynamic, making the level of control required by CoC challenging to achieve.

What are the forthcoming Interim Traceability Requirements and what do they entail?

The Interim Traceability Requirements, developed alongside the Land Sector and Removals Standard (LSRS), clarify how companies must demonstrate physical traceability when reporting land-related emissions or removals.

1. **Physical traceability is required when reporting at sourcing region or more granular level.** When reporting at jurisdictional or global level, physical traceability is not needed.
2. To establish physical traceability, companies **must use Chain of Custody models**.
3. For guidance on CoCs, GHG Protocol refers to the updated ISEAL CoC Guidance (2025).

Open question is: Would these interim requirements evolve?

One barrier is considering that CoC is the only way to establish traceability, when it is a broader tool

Chain of Custody

A forward-looking system that defines how materials and their associated characteristics are controlled, transferred, and verified between entities in a supply chain.

Requires active collaboration in the value chain.

How are volumes and attributes moved and handled from one actor to the next?

≠

Traceability

The ability to track and verify the history, origin, and journey of a material as it moves through various stages of production, processing, and distribution.

Could be established retrospectively and without active collaboration in the value chain.

Where did this come from?

When physical traceability is not feasible, the LSRS proposes an alternative pathway

Physical Traceability

When a company has the ability to identify, track, and collect information on activities (e.g., activity data or GHG emission or removals factors) related to material flows of goods and services in its value chain".

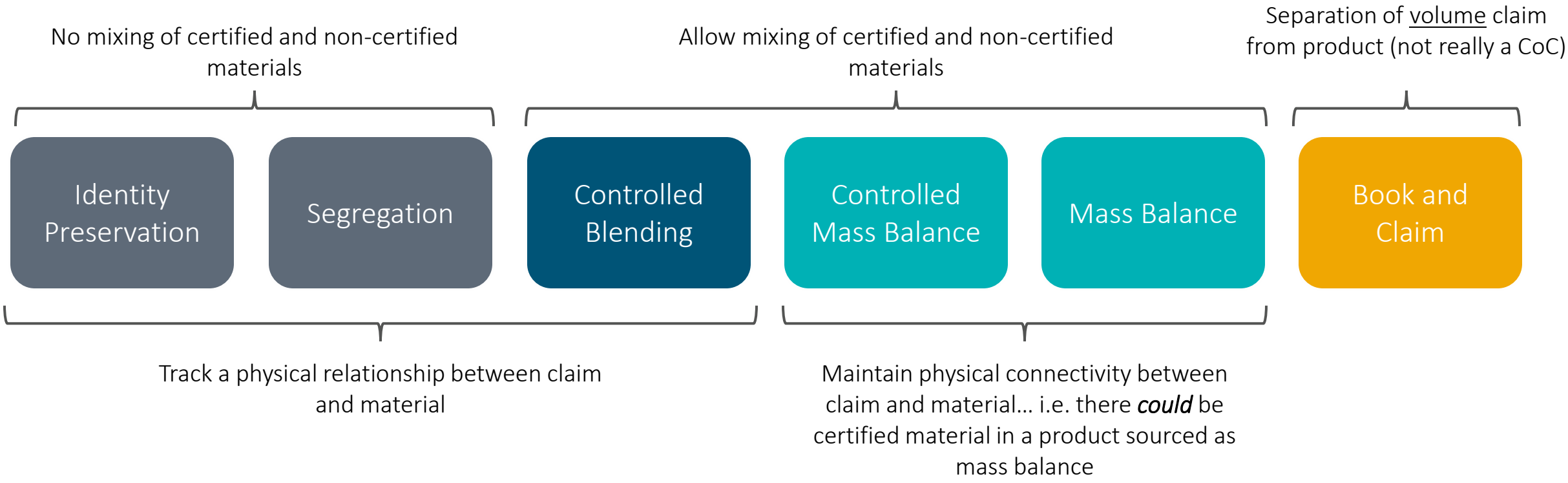
To report in the inventory

Impact traceability

When a company has the ability to identify, track, and collect information on the GHG emission or removal impacts of projects or interventions in the value chain of goods and services purchased or sold by the company.

To report separate from the inventory

What types of CoC models exist?

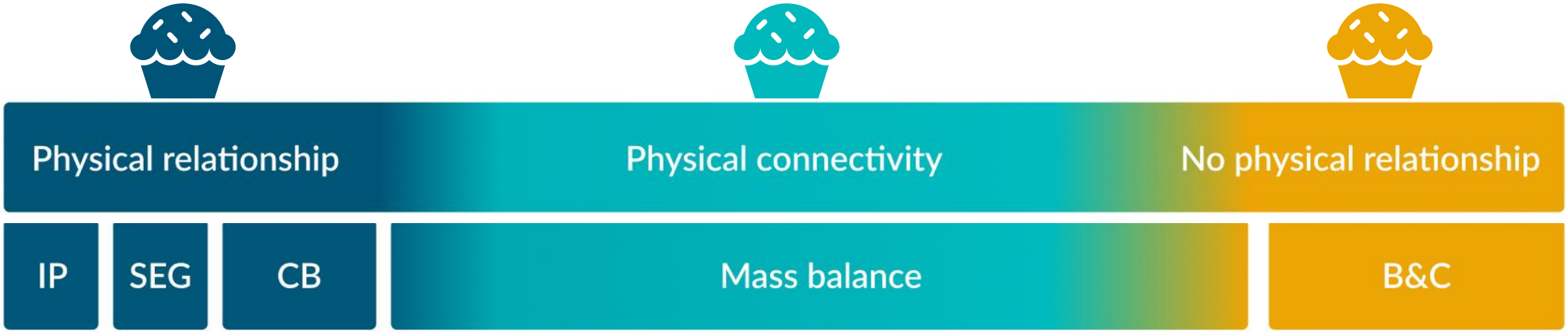


CoC models differ in how strong the physical relation is they establish

*"It is **certain** that this cake contains **exactly X amount** of certified sugar."*

*"It is **likely** (based on system rules) that this cake contains certified sugar."*

*"This cake **contains sugar, but not certified sugar**. But its sourcing has enabled the production of certified sugar elsewhere."*

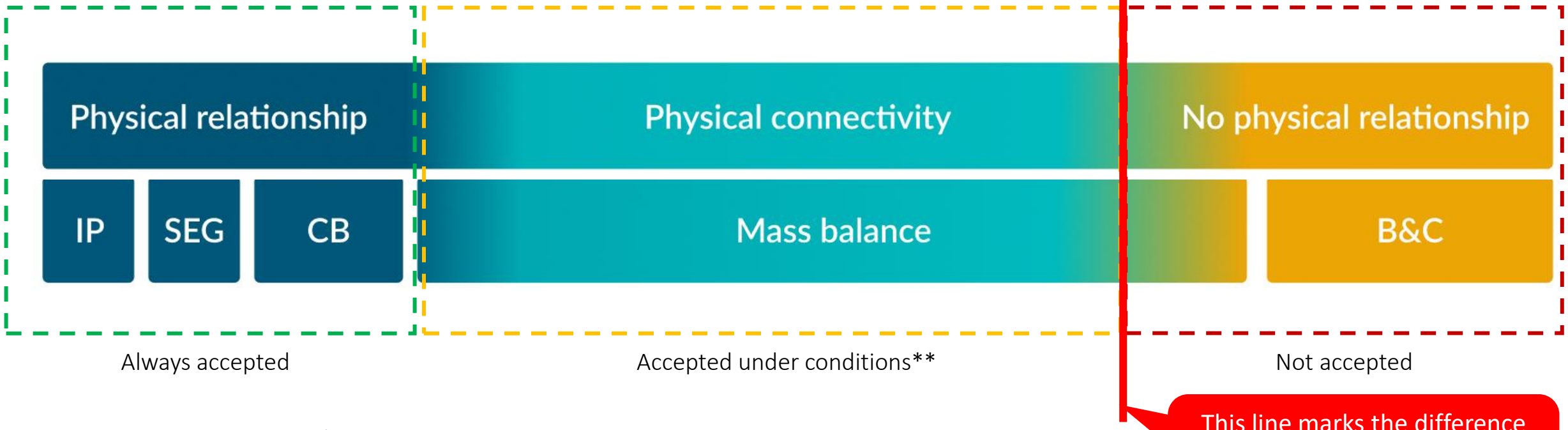


Source: Based on Physical Traceability in GHG Accounting Figure 2, p. 14

For reporting in the inventory* you need at least physical connectivity

Accepted under GHG Protocol: models that constitute physical relationships and models that constitute physical connectivity

Models that have no physical relation at all or in which the connectivity is too weak



*When reporting at sourcing region level or more granular

** Each node within one country and sourcing region – See section 3.2.2. in the report

ValueChange iseal

Where is the line?

For Physical Inventory

Mass balance is already accepted in current GHG Protocol Standards. However, what needs to be explicit is *what are the system boundaries that are acceptable under the physical inventory?*

- Geographical boundaries
- Transfer (batch, site, multi site/group)
- Temporal restrictions
- Product groups…

In addition to this, other considerations to be explicit:

- *What is required to demonstrate physical traceability beyond CoC models?*

Discussion question: *To what degree of detail should the AMI white paper provide guidance on these system boundaries to ensure both integrity and practical implementation?*

Where is the line?

For Market-Based Inventory

- Physical traceability to impacted products is not needed
- Impact traceability is needed to prove that mitigation outcomes are “adjacent to the value chain”
    - What are the requirements of this impact traceability?

Further clarification is also needed on:

- The minimum level of physical traceability required to credibly demonstrate that mitigation outcomes are adjacent to or associated with a company’s value chain.
- What would constitute impact traceability for inclusion in the Market Based inventory and the Value-chain related impacts.

ValueChange

Thank you

Co-founded by SUSTAINCERT CREDIBLE CLIMATE ACTION Gold Standard

The report clarifies the parameters that influence the design of your CoC model, and if its GHGP compliant

Using CoCs for GHG accounting requires definition on six essential parameters:

1. Transfer boundaries (spatial)
2. Temporal boundaries (timeframes for volume reconciliation)
3. Product groups
4. Distribution rules (conversion factors)
5. Allocation keys – *additional requirement for Scope 3 reporting*
6. Attribution options (proportional or non-proportional)

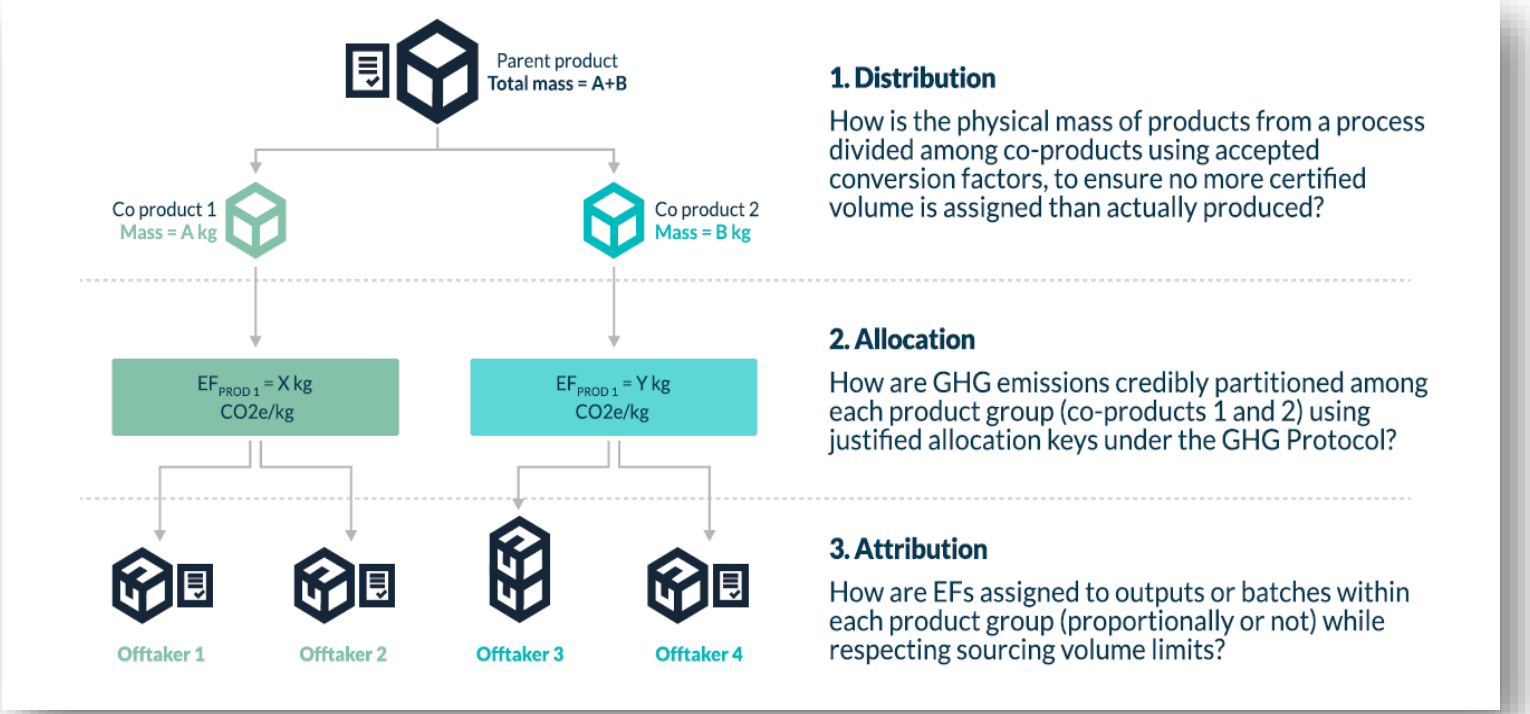


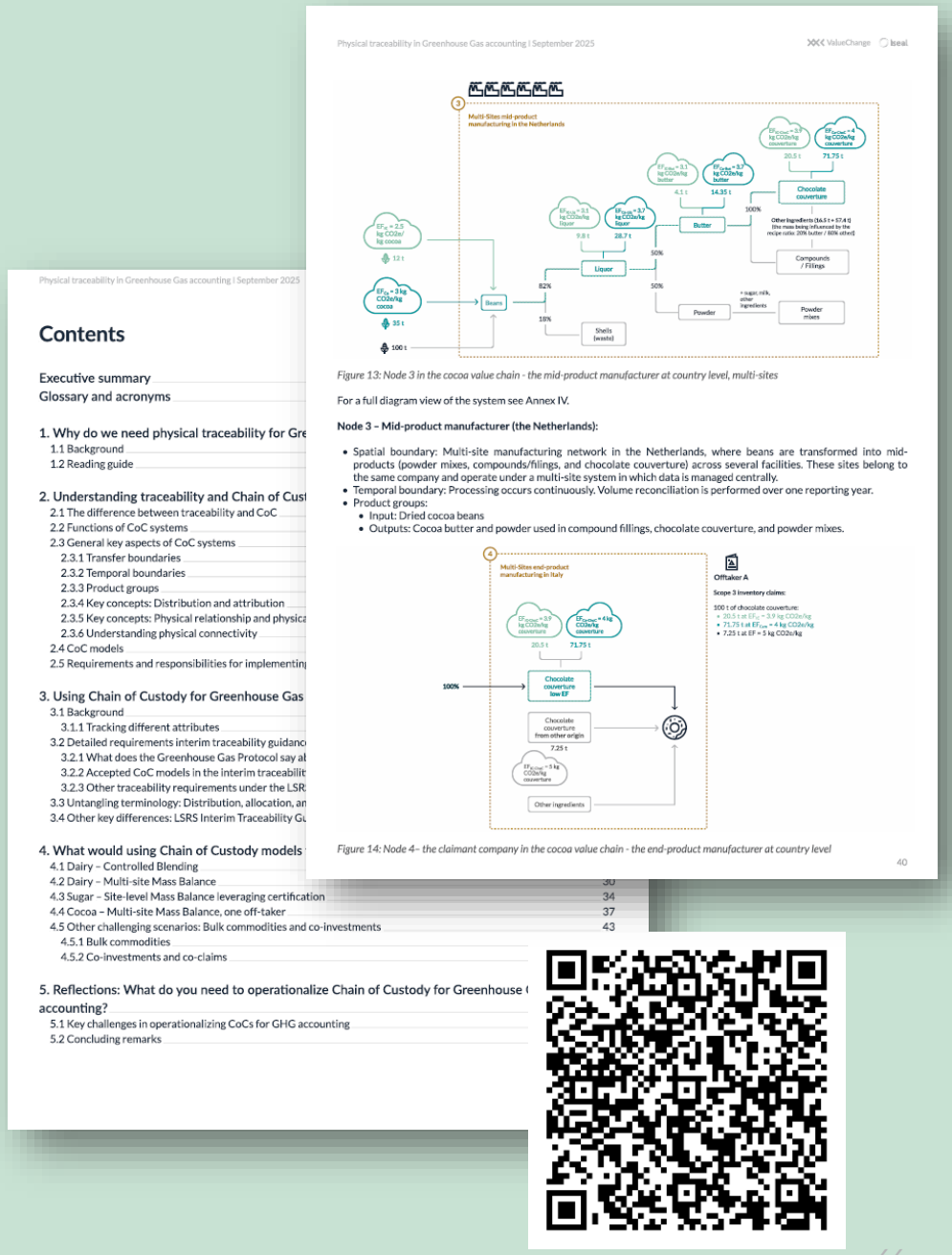
Figure 3. Simplified process flow of the distribution, allocation, and attribution steps in a CoC system in which EFs are tracked, p.24

Today we are presenting the outcomes of the VCI/ ISEAL collaboration on physical traceability in GHG accounting

Companies must prepare for the forthcoming Interim Traceability Requirements, which requires **physical traceability using Chain of Custody (CoC)** when reporting at granular spatial scales.

What these requirements are and how these can be implemented in F&Ag value chains remained unclear.

- Provides clear guidance on the current rules for physical traceability and CoC based on ISEAL and GHG Protocol- **so companies can understand what compliant traceability systems for Scope 3 reporting entails.**
- Goes deeper into the implementation of the GHG Protocol requirements using extensive examples – **so practitioners can understand what implementing CoCs means in practice**.

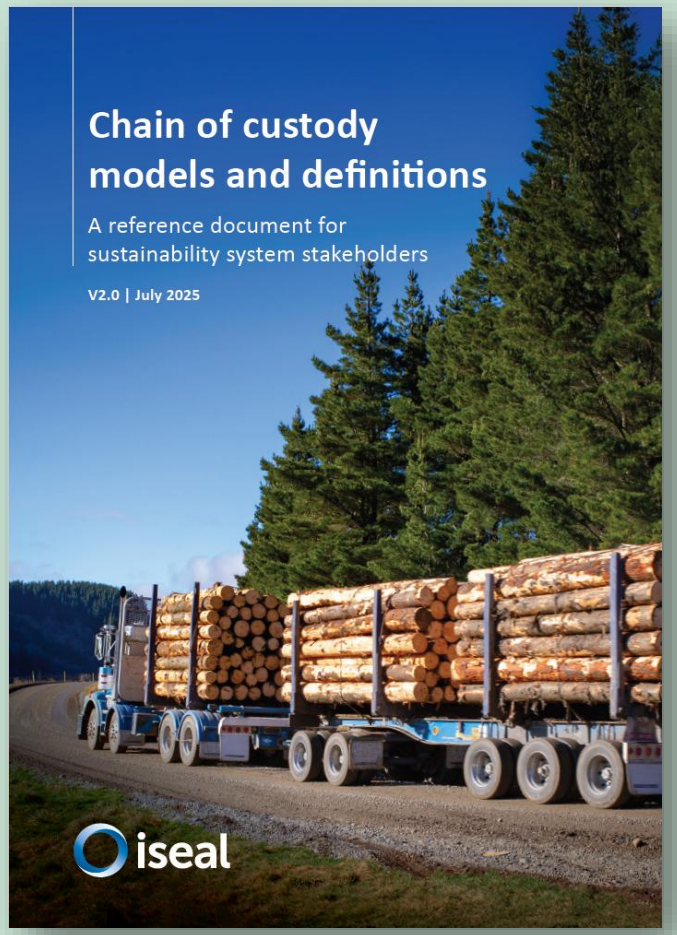


ISEAL Chain of Custody models and definitions v2

First published in 2016, updated in 2025

- Provides a reference for discussions about CoC and sustainability systems using a shared language
- Presents definitions and descriptions of different CoC models used in sustainability systems
- Identifies conditions under which each CoC model is appropriate for different supply chains
- Compliments ISO 22095:2020 'Chain of custody – general terminology and models'

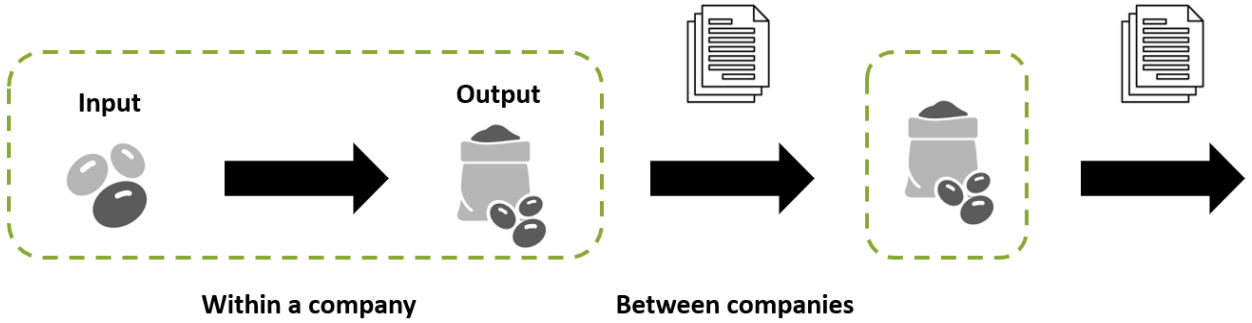
A support document for the revised ISEAL Code of Good Practice and ISEAL Claims Good Practice Guidance



Chain of Custody – a key feature of certified supply chains

Chain of custody: a means by which inputs, outputs, and associated attributes are transferred, monitored and controlled as they move forward through each step in the supply chain. (adapted from ISO 22095)

- Enables the transfer and validation of information associated with products, processes, businesses or services covered by a sustainability system.
- Controls the movement, handling and processing of materials within and between approved or certified business entities.
- Forms the basis for any claims that can be made about an approved or certified product.



In the document, you can find what is needed to use CoCs for GHG accounting

In addition to GHG Protocol rules, such as on maximum spatial boundaries for your CoC system, companies should also consider the general rules for the management of CoC as set by the ISO 22095:2020 and the guidance from ISEAL 2025.

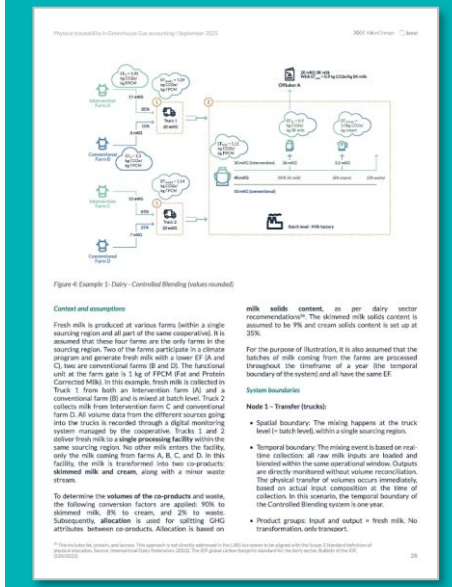
Checklist for CoC management systems

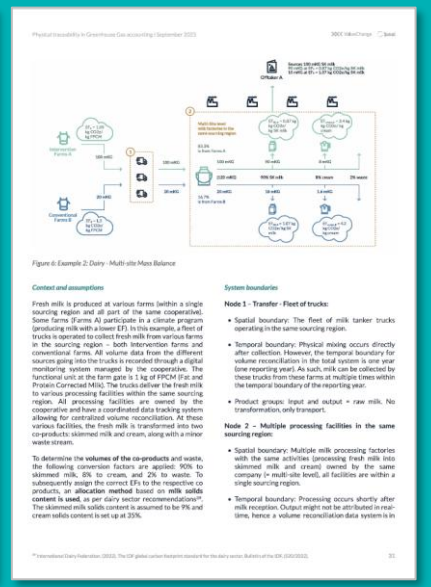
- ❑ **Set up an effective CoC management system**
  - ✓ Identify who is in charge of your organization's CoC system
  - ✓ Ensure clear coordination among all participants of the value chain
- ❑ **Define system rules and requirements**
  - ✓ Establish the requirements all system participants must follow, considering your sector, materials, and actors, and the GHG Protocol requirements
  - ✓ Determine the claims allowed under the chosen CoC system
  - ✓ Set up additional rules for volume reconciliation, information transfer, conversion factors, and data integrity
- ❑ **Consider specific GHG accounting rules**
  - ✓ Volume reconciliation recommended <12 months
  - ✓ Transfer boundaries per node within one country/ one sourcing region
  - ✓ Use GHG Protocol compliant allocation key
- ❑ **Design compliance verification approaches**
  - ✓ Decide conformity assessment method: self-, second-party (e.g. buyer-led), or third-party independent verification
- ❑ **Manage data**
  - ✓ Set up record-keeping procedures
  - ✓ Set up processes for volume reconciliation
  - ✓ Maintain necessary physical or administrative separation (depending on the CoC model chosen)

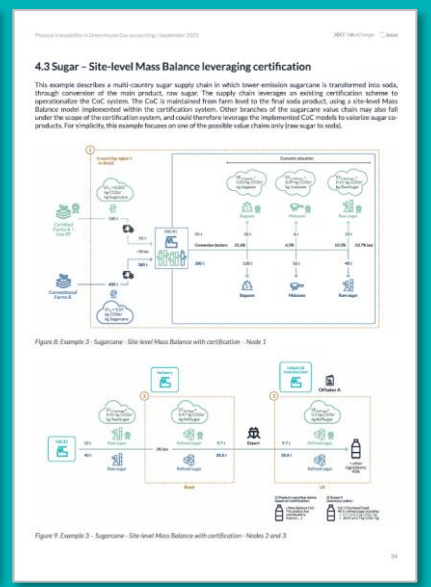
We explore in depth what it would look like to implement CoCs in ag value chains

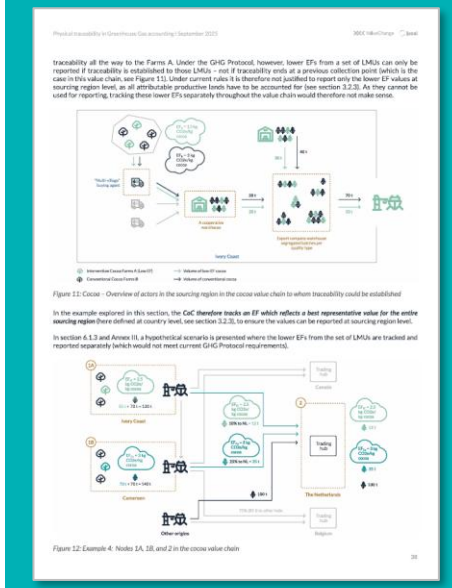
The report includes four examples:

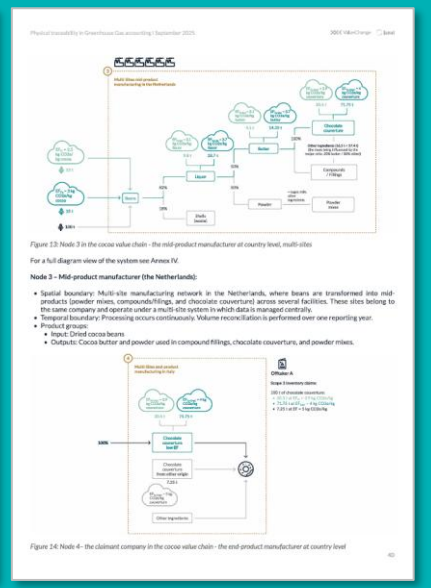
1. **Controlled Blending in dairy** (short, two node value chain)
2. **Multi-site Mass Balance in dairy** (short, two node value chain)
3. **Multi-site Mass Balance in sugar, leveraging certification schemes** (complex value chain, multiple nodes, using existing certification infrastructure)
4. **Multi-site Mass Balance in cocoa** (complex value chain with multiple nodes, one offtaker)

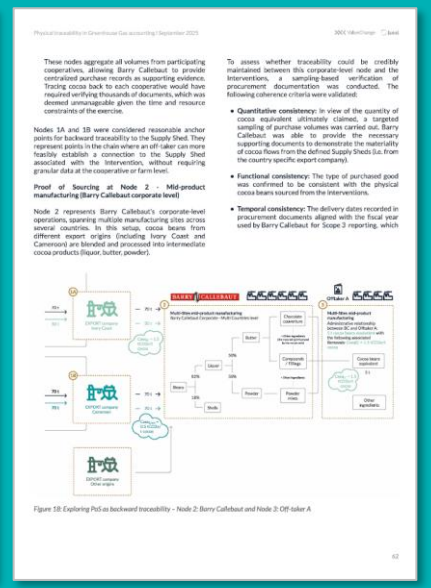












CoCs are effective tools for GHG traceability where value chains are integrated and/ or can leverage existing infrastructure

CoCs will be easier to implement where value chains are short, integrated, or premium-based;

- Given the need for coordination, collaboration, and integrated or aligned data systems to track volumes.
- Static value chains in which supply chain partners are fixed are also apt to use CoC systems.
- The level of integration and data system governance will depend per market. From a F&Ag perspective, these VCs are niche.

OR

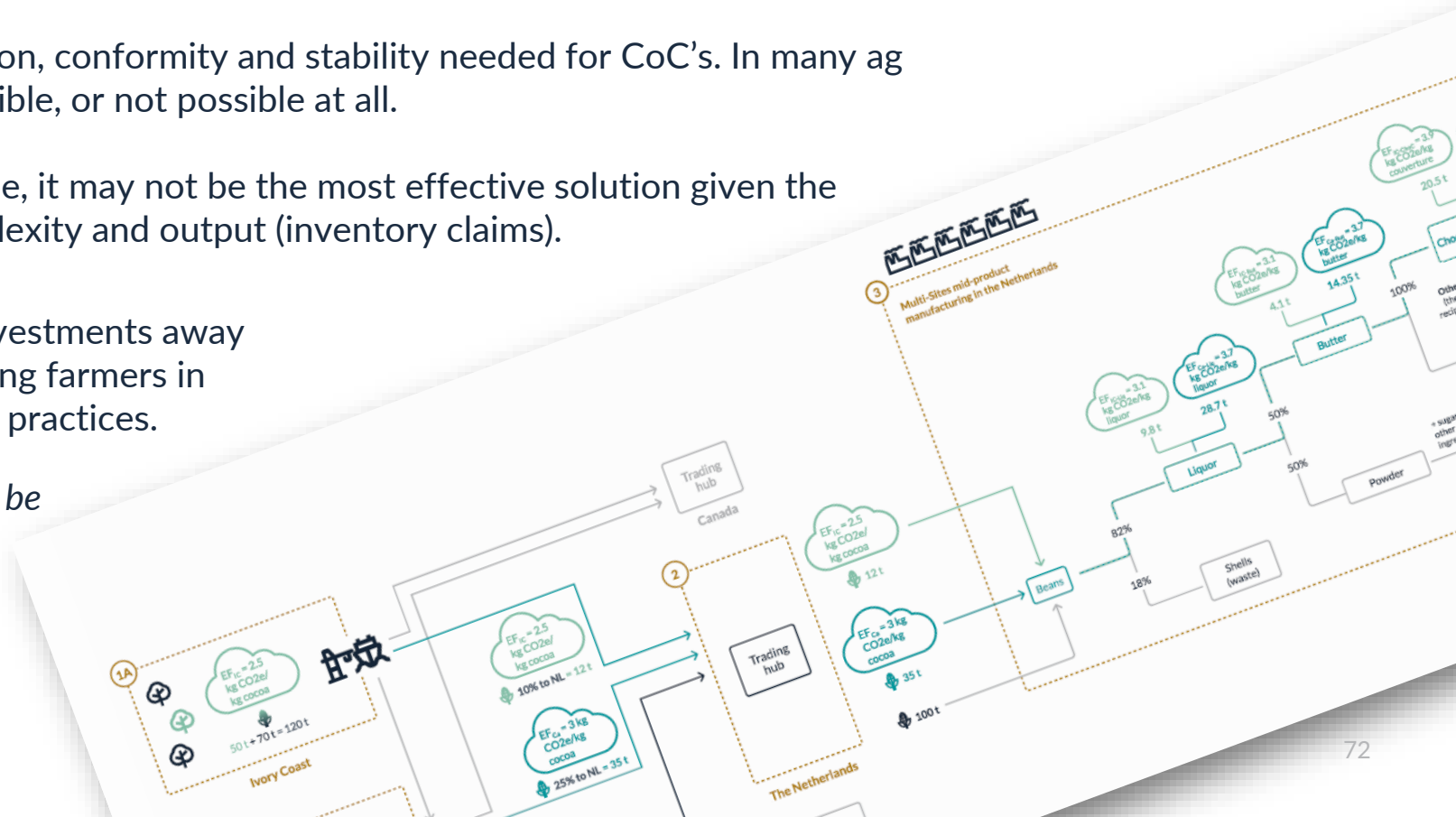
...where certified value chains can integrate GHG attribute tracking

- The infrastructure to track certifications could very well be used to also track GHG attributes.
- Several voluntary schemes are exploring including GHG attributes - further expansion would be needed.
- Important to align system with GHG Protocol requirements, to not only enable tracking of GHG attributes, but also reporting in the inventory.

CoCs are expected to be harder to implement in ag value chains that are dynamic, fragmented and long

In many ag value chains, using CoCs to establish physical traceability will not be optimal.

- The challenges lies in the level of coordination, conformity and stability needed for CoC's. In many ag value chains, this is often only partially possible, or not possible at all.
- Even if implementing CoCs would be feasible, it may not be the most effective solution given the disbalance between system costs and complexity and output (inventory claims).
- Solely using CoCs could potentially draw investments away from where they are most needed: supporting farmers in adopting and maintaining climate-beneficial practices.
- *Research has focused on Food and Ag – might be more potential for operationalization in other sectors.*



Topic Breakouts – Report Back

Wednesday, November 12th

2:15 – 2:45 pm

- Residual emission factors
- Traceability

GREENHOUSE GAS PROTOCOL

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

Report Back Format

- A representative from each group will be given 5 minutes to summarize the conversation, with 10 minutes for questions and further conversation

Reporting Statement Options - Plenary

Wednesday, November 12th

3:00 – 3:30 pm

- Statements 2 and 3
- Decision-making criteria

GREENHOUSE GAS PROTOCOL

Section 8: Reporting statement options under consideration

Objective: Discuss statement options (combination of statements) outlined in section 8. In particular, to discuss statement 2 vs statement 3.

Possible statements (all elements in red dashes are TBD)

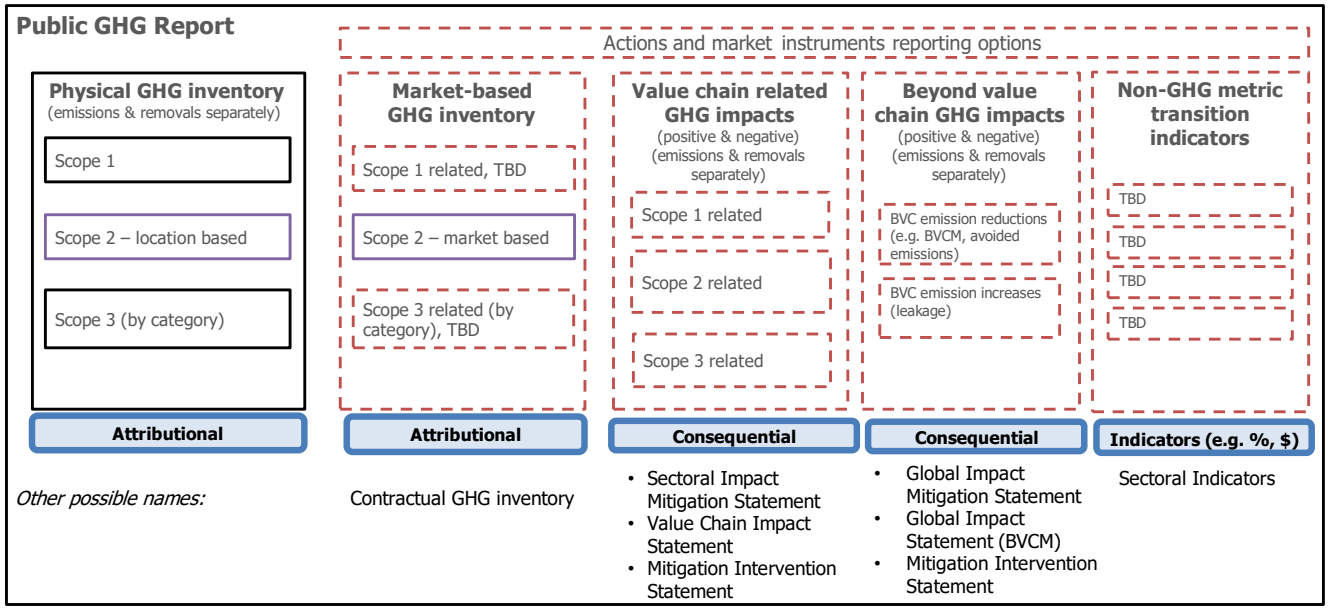


Figure 5. Possible options under consideration for combinations of statements within a GHG report

Options for combinations (number of statements)	Physical GHG inventory	Market-based GHG inventory	Value chain related GHG impacts	Beyond value chain GHG impacts	Non-GHG metric transition indicators
A (5)					
B (4)					
C (4)					
D (3)					
E (3)			One combined GHG impact or mitigation intervention statement		
F (2)			One combined GHG impact or mitigation intervention statement		
G (3)			One combined GHG impact or mitigation intervention statement		
H: Other?					

Note: In Options C, D, E, F, scope 2 market-based method retained as part of scope 2 inventory.

TWG Feedback – Q15, Possible Statements

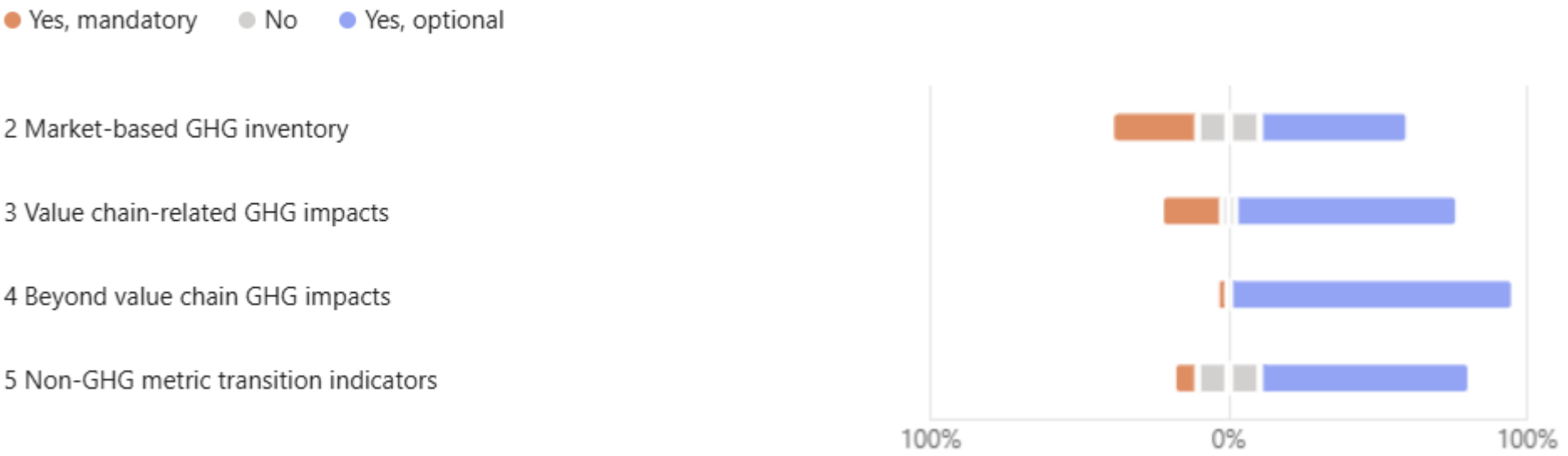
"Are all of the possible statements (outlined in sections 8 and 9) necessary or can fewer statements achieve the same objectives with less complexity?"

TWG feedback:

- Mixed views on specific statements
  - Some want to eliminate market-based GHG inventory
  - Some want to eliminate non-GHG metric transition indicators
  - Some want to merge statements 3 and 4
  - Some respondents believe all statements are necessary
- On whether statements should be required or optional, most lean to keeping making most statements optional (other than physical GHG inventory)
- Some favor having a "physical GHG inventory report" (different opinions on whether this includes statement 2) and an "impact GHG report"

TWG Feedback – Q16, Possible Statements

"Which of the possible statements beyond the Physical GHG Inventory should be included in a GHG report?"



Breakout Group: Statement 2 vs Statement 3

1. **Question:** Which of the possible statements (outlined in section 8 and 9) should be included in a GHG report? Specifically, are both statement 2 and statement 3 needed or do they serve the same purpose? Can they be combined/merged?
2. **Options:**
   A. Statement 2 only (without statement 3)
   B. Statement 3 only (without statement 2)
   C. Both statement 2 and statement 3
      - If so, should the statements be mutually exclusive and avoid double counting between them?
3. **Considering:**
   A. GHG Protocol decision-making criteria
   B. Intended/supported claims
   C. Practical examples
   D. TWG feedback on Part 3 survey (Q15-16)
4. **Follow up question:** Should reporting be required or optional?

Decision-making criteria

Decision-making criteria and hierarchy	Description
1A. Scientific integrity	• First, approaches should ensure scientific integrity and validity, adhere to the best applicable science and evidence (including academic literature, modeling or other research) and align with the latest climate science
1B. GHG accounting and reporting principles	• Second, approaches should meet the GHG Protocol accounting and reporting principles of accuracy, completeness, consistency, relevance, and transparency. • Additional principles should be considered where relevant: conservativeness (for GHG reductions and removals), permanence (for removals), and comparability (TBD, subject to TWG and ISB discussions). Options may present tradeoffs among principles which should be evaluated. Refer to section A.3 for further details.

Decision-making criteria

Decision-making criteria and hierarchy	Description
2A. Support decision making that drives ambitious global climate action	• Third, approaches should advance the public interest by informing and supporting decision making that drives ambitious actions by private and public sector actors to reduce GHG emissions and increase removals in line with global climate goals. • GHG Protocol accounting frameworks should accurately and completely measure emissions such that the resulting GHG data informs effective individual and systemwide GHG mitigation action in line with global climate goals. Accounting approaches should not support or incentivize actions that are contrary to global climate goals. • Approaches should provide the necessary information to support sector-specific decarbonization in line with climate goals.
2B. Support programs based on GHG Protocol and uses of GHG data	• Fourth, approaches should promote interoperability with key mandatory and voluntary climate disclosure and target setting programs that are based on GHG Protocol standards, where appropriate, while ensuring policy neutrality. Refer to section A.4 for further details. • Approaches should support appropriate uses of the resulting GHG data and associated information by various audiences, including GHG programs, reporting companies, stakeholders and other users of the resulting GHG information.
3. Feasibility to implement	• Fifth, approaches which meet the above criteria should be feasible to implement, meaning that they are accessible, adoptable, and equitable. • GHG Protocol accounting approaches should support broad adoption of GHG Protocol standards, including in voluntary and regulatory settings, and consider different users (level of capacity, resources, geography, regulatory environments, etc.). • For aspects of accounting approaches that meet the above criteria but are difficult to implement, the GHG Protocol should aim to improve feasibility, for example, by providing guidance and tools to support implementation.

Breakout Group: Additional question (depending on outcome of previous question)

1. If statement 2 and statement 3 are needed, should the statements be mutually exclusive and avoid double counting between them?
    - **Option 1:** Include a requirement to avoid double counting between statements, such that a corporate GHG report for a single company contains no double counting of emissions, reductions, removals, or other impacts within it. All accounting and reporting elements and categories should be mutually exclusive for the reporting company.
        - Consequential impacts (e.g. avoided/reduced emissions relative to baseline scenario) of a given action (taken within the company's operations or value chain) can be reported in statement 3 if the impacts of that action are not captured in statement 1.
    - **Option 2:** Statements are overlapping and not mutually exclusive. They represent different quantities and are valuable for different purposes, but shall not be aggregated due to double counting between them. Companies, stakeholders, and target setting programs should exercise caution in not using more than one statement toward a single target or for other purposes due to double counting.

Reporting Statement Options - Breakout

Wednesday, November 12th

3:30 – 5:15 pm

- Statements 2 and 3
- Decision-making criteria

GREENHOUSE GAS PROTOCOL

Breakout group 1 (statement 2 vs 3)

Time: 3:30-5:15

Task / key questions

1. **Question:** Which of the possible statements (outlined in section 8 and 9) should be included in a GHG report? Specifically, are both statement 2 and statement 3 needed or do they serve the same purpose? Can they be combined/merged?
2. **Options:**
   A. Statement 2 only (without statement 3)
   B. Statement 3 only (without statement 2)
   C. Both statement 2 and statement 3
      - If so, should the statements be mutually exclusive and avoid double counting between them?

Note taker:

Participants

Ana Avzaradel Szklo
Giulia Camparsi
Kim Carnahan
Andres Casallas
Chris Davis
Christopher Duck
Grant Ivison-Lane
Timothy Juliani
John Kazer
Aditya Mishra
Hans Näsman
Inken Ohlsen
Patric Puetz
Steven Rosenzweig

Facilitators

Cynthia

Ralf

Breakout group 2 (Statement 2 vs 3)

Time: 1:00-2:15

Task / key questions

1. **Question:** Which of the possible statements (outlined in section 8 and 9) should be included in a GHG report? Specifically, are both statement 2 and statement 3 needed or do they serve the same purpose? Can they be combined/merged?
2. **Options:**
   A. Statement 2 only (without statement 3)
   B. Statement 3 only (without statement 2)
   C. Both statement 2 and statement 3
      - If so, should the statements be mutually exclusive and avoid double counting between them?

Note taker:

Participants

Jonathan	Crook
Gilles	Dufrasne
Autumn	Fox
Michael	Gillenwater
Tim	Hamers
Hiromi	Kawamata
Kristin	Komives
Hans	Näsmann
Silvana	Paniagua
Thuy	Phung
Jason	Pierce
Kai Nino	Streicher
Josh	Taylor
William	Tyndall

Facilitators

David

Kevin

Breakout Group: Statement 2 vs Statement 3

1. **Question:** Which of the possible statements (outlined in section 8 and 9) should be included in a GHG report? Specifically, are both statement 2 and statement 3 needed or do they serve the same purpose? Can they be combined/merged?
2. **Options:**
   A. Statement 2 only (without statement 3)
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   C. Both statement 2 and statement 3
      - If so, should the statements be mutually exclusive and avoid double counting between them?
3. **Considering:**
   A. GHG Protocol decision-making criteria
   B. Intended/supported claims
   C. Practical examples
   D. TWG feedback on Part 3 survey (Q15-16)
4. **Follow up question:** Should reporting be required or optional?

Breakout Group: Additional question (depending on outcome of previous question)

1. If statement 2 and statement 3 are needed, should the statements be mutually exclusive and avoid double counting between them?
    - **Option 1:** Include a requirement to avoid double counting between statements, such that a corporate GHG report for a single company contains no double counting of emissions, reductions, removals, or other impacts within it. All accounting and reporting elements and categories should be mutually exclusive for the reporting company.
        - Consequential impacts (e.g. avoided/reduced emissions relative to baseline scenario) of a given action (taken within the company's operations or value chain) can be reported in statement 3 if the impacts of that action are not captured in statement 1.
    - **Option 2:** Statements are overlapping and not mutually exclusive. They represent different quantities and are valuable for different purposes, but shall not be aggregated due to double counting between them. Companies, stakeholders, and target setting programs should exercise caution in not using more than one statement toward a single target or for other purposes due to double counting.

Reporting Statement Options – Report Back

Wednesday, November 12th

5:15 – 6:00 pm

- Statements 2 and 3
- Decision-making criteria

GREENHOUSE GAS PROTOCOL

Report back format

- A representative from each group will be given 10 minutes to summarize the conversation, with 10 minutes for questions and further conversation

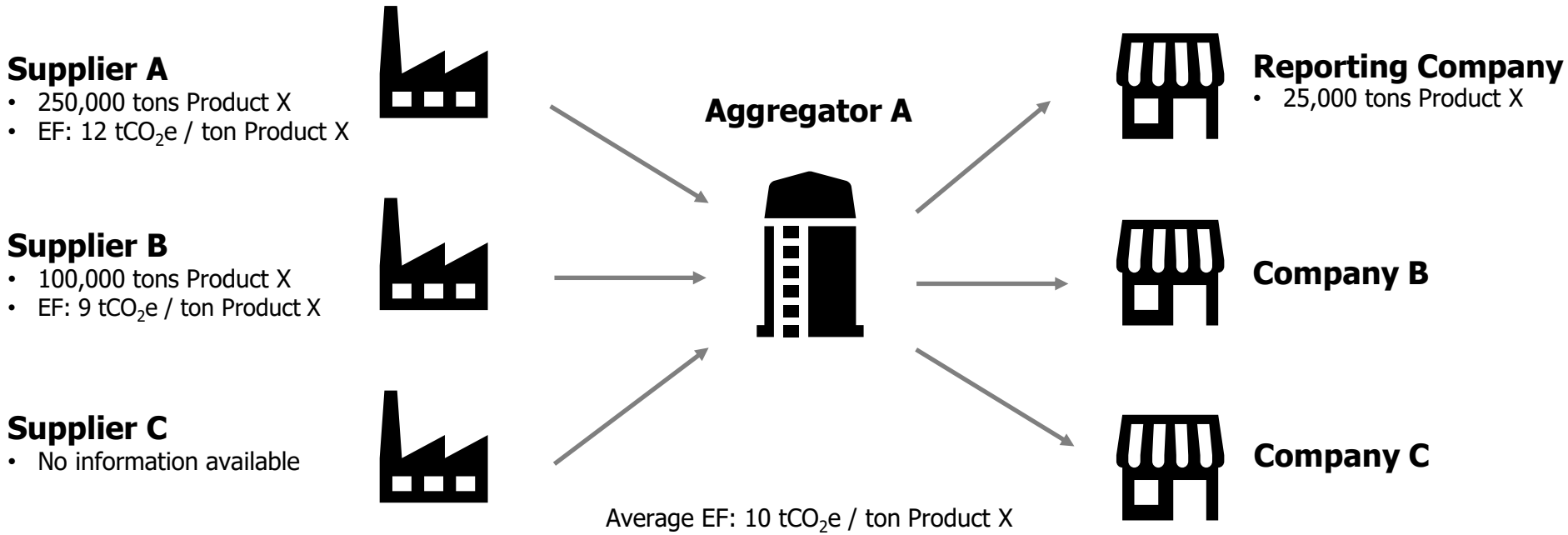
- The Secretariat will combine feedback

Appendix

GREENHOUSE GAS PROTOCOL

Example 1 - Baseline

The reporting company purchases 25,000 tons of Product X from a regional aggregator. Assume that the aggregator is a mixing point only (i.e. no additional processing) with no segregation or product tracing mechanisms.



Example 1 - aggregate

	GHG Activity	Reporting Element	Statement 1	Statement 2	Statement 3	Statement 4
Framework A			Physical emissions (tCO_2e)	Contractual emissions (tCO_2e)	Project emissions (tCO_2e)	Reported separately (tCO_2e)
		Scope 3 category X	250,000	120,000	(10,000)	
		Other				(1,350,000)
Framework B			Physical Inventory (tCO_2e)	Market-Based Inventory (tCO_2e)	Impact Mitigation (tCO_2e impact)	
	Product X Supplier A	Scope 3 category 1, year 1	240,000			
	Product X Supplier B	Scope 3 category 1, year 1	45,000			
	Product X Supplier A	Scope 3 category 1, year 2	120,000		X - unknown	
	Product X Supplier B	Scope 3 category 1, year 2	X - unknown			
	Crediting				10,000	
Framework C			Value Chain Analysis (tCO_2e)		Contribution Report (tCO_2e avoided)	
	Project Investment		250,000		1,500,000*	
	Crediting				10,000*	

*assuming intervention is recognized as "ambitious" and "quantifiable"

Example 2 – SAF

The Reporting Company purchases SAF certificates to fully match volume of fuel use associated with business travel. The SAF certificates are centralized in a book and claim registry.

Relevant details: (see example certificate)

SAFc REGISTRY

Block ID 05648597-0db3-4e86-b612-06806d3b817c

Retirement date 2025-02-06

Registry Retirement Statement

This retirement statement confirms the following SAF certificate has been retired from the SAFc Registry:

Unit count (metric tonnes of SAF)	Metric tonnes of CO2e abated	Unit type code
489	1678.248	SAFcA-B3-VAL

Beneficiaries and Holdings History

Air Transport Provider Beneficiary	United Airlines, Inc.	Unique companies that have held the unit	2
Accounts that held unit	FPHA → GHA → ATPHA	Issuing SAFcA unit ID	4d00d0c7

Dates

Year of SAF production	2024	Issuance date	2025-01-09
Expiry date	2027-01-09	Retirement claim year	2024

Sustainability

% of emission reduction compared to baseline	82.979	Carbon intensity score (g CO2eq/MJ)	16
Fuel Certification Scheme	isccEu	Conventional jet fuel baseline carbon intensity (well to wake) (g CO2e/MJ)	94
Regulatory schemes applicable to the production of the SAF	California LCFS, US IRA tax credits, US RFS RINs		

Fuel production and use

Fuel producing company name	Phillips 66	Fuel provider company name	SkyNRG B.V.
Feedstock	Used cooking oil and/or waste cooking oil	Feedstock country of origin	KR, South Korea
Airport where SAF is delivered	LAX	Fuel producing facility name	Phillips 66
SAF conversion process	hefa	Country of SAF Production	United States of America
Emissions claim location	domestic	Country of SAF blending	US, United States of America

Example 2 - aggregate

	Reporting Element	Statement 1	Statement 2	Statement 3	Statement 4
Framework A		Physical emissions (tCO_2e)	Contractual emissions (tCO_2e)	Project emissions (tCO_2e)	Reported separately (tCO_2e)
	Scope 3 category 6	1,545	344		
Framework B		Physical Inventory (tCO_2e)	Market-Based Inventory (tCO_2e)	Impact Mitigation (tCO_2e impact)	
	Scope 3 category 6	1,927	328		
Framework C		Value Chain Analysis (tCO_2e)		Contribution Report (tCO_2e avoided)	
		Estimates unchanged		Total avoided emissions caused by of SAF certificate market estimated ex post. Reporting company claims avoided emissions equal to their fraction of total certificate market impact based on retirement of that the reporting year vintage certificates	

Example 3 – Biomethane

The Reporting Company purchases biomethane certificates to match half of its volume of grid-sourced gas use at an owned and controlled facility. The biomethane supplier is injecting into the same grid from which the reporting company is sourcing.

Relevant details:

- Total natural gas combustion = 30,000 GJ
- Avoided emissions associated with lagoon methane venting = 0.250 tCO_2e/GJ

Example 3 - aggregate

	Reporting Element	Statement 1	Statement 2	Statement 3	Statement 4
Framework A		Physical emissions (tCO_2e)	Contractual emissions (tCO_2e)	Project emissions (tCO_2e)	Reported separately (tCO_2e)
	Scope 1	1,683	842	(3,750)	
	Scope 3 category 3	900	900		
	Biogenic CO_2				842
Framework B		Physical Inventory (tCO_2e)	Market-Based Inventory (tCO_2e)	Impact Mitigation (tCO_2e impact)	
		1,500			
		750	0	(7,500)	
Framework C		Value Chain Analysis (tCO_2)		Contribution Report (tCO_2e avoided)	
		1,683		7,500 tCO2e from avoided lagoon methane + ex post estimated displaced fossil natural gas combustion, assuming certificate market intervention is deemed "ambitious" and "quantifiable"	