GREENHOUSE GAS PROTOCOL

Scope 3 Technical Working Group Meeting

Working draft, do not cite

Full TWG
Phase 2, Meeting 9

Processing and use of sold products minimum boundary consideration

February 26th, 2026

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

(Draft; for discussion)

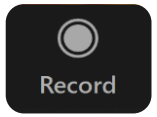
Agenda

- Housekeeping and timeline
- Data disaggregation ‘package’ - survey results and next steps
- Optionality rules ‘package’ – survey results and next steps
- Update ahead of ISB meeting and Phase 1 publication
- Category 10 and 11 considerations:
  - Direct use-phase and indirect use-phase proposals
  - Boundary for processing of sold products
  - Allocation rules for components
  - Digital / non-physical services
  - Quantification methods
- Next steps

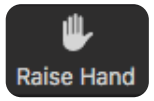
(Draft; for discussion)

Housekeeping and decision-making criteria

Welcome and Meeting information

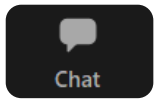


This meeting is recorded.



Please mute yourself by default and unmute when speaking

Please use the Raise Hand function to speak during the call.



You can also use the chat function in the main control.

Recording, slides, and meeting minutes will be shared after the call.

Housekeeping

- TWG members should **not disclose any confidential information** of their employers, related to products, contracts, strategy, financials, compliance, etc.

- In TWG meetings, **Chatham House Rule** applies:
  - "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."

- **Compliance and integrity** are key to maintaining the credibility of the GHG Protocol
  - Specifically, all participants need to follow the **conflict-of-interest policy**
  - **Anti-trust rules** have to be followed; please avoid any discussion of competitively sensitive topics*

- Maintain a respectful approach to communicating by:
  - Assuming positive intent; making space for different perspectives; and defaulting to curiosity

* Such as pricing, discounts, resale, price maintenance or costs; bid strategies including bid rigging; group boycotts; allocation of customers or markets; output decisions; and future capacity additions or reductions

Decision-Making Criteria

- Evaluating options: Describe pros and cons of each option relative to each criterion. Qualitatively assess the degree to which an option is aligned with each criterion through a green (most aligned), yellow (mixed alignment), orange (least aligned) ranking system. Some criteria may be not applicable for a given topic; if so, mark N/A.
- Comparing options: The aim is to advance approaches that ideally meet all decision criteria (i.e. maximize pros and minimize cons against all criteria). If options present tradeoffs between criteria, the hierarchy should be generally followed, such that, for example, scientific integrity is not compromised at the expense of other criteria, while aiming to find solutions that meet all criteria.

Illustrative example	**Option A: Name**	**Option B: Name**	**Option C: Name**
1A. Scientific integrity	• Pros • Cons	• Pros • Cons	• Pros • Cons
1B. GHG accounting and reporting principles	• Pros • Cons	• Pros • Cons	• Pros • Cons
2A. Support decision making that drives ambitious global climate action	• Pros • Cons	• Pros • Cons	• Pros • Cons
2B. Support programs based on GHG Protocol and uses of GHG data	• Pros • Cons	• Pros • Cons	• Pros • Cons
3. Feasibility to implement	• Pros • Cons	• Pros • Cons	• Pros • Cons

Note: This is a summary version. For further details, refer to the full decision-making criteria included in the annex to the Governance Overview, available at https://ghgprotocol.org/our-governance.

(Draft; for discussion)

2026 workplan

Full Scope 3 TWG Meetings - 2026

Meeting #	Date	Time	Topic
7	Jan 15	9-11 AM ET	• EOY Survey review & Phase 2 (2026) SoW and Timeline review
8	Feb 5	9-11 AM ET	• Phase 1 review, Category 10/11 considerations
9	**Feb 26**	**9-11 AM ET**	• **Phase 1 survey review, Category 10/11 considerations**
ISB Meeting	*Mar 12*	*n/a*	• *Approval of Phase 1 Revisions to-date and Progress Update for public disclosure*
10	Mar 19	9-11 AM ET	• Category 10/11 (continued)
11	Apr 9	9-11 AM ET	• Category 10/11 (continued)
12	Apr 30	9-11 AM ET	• **Circularity, recycling, second-hand, and waste incineration**
13	May 21	9-11 AM ET	• Circularity (continued)
14	Jun 11	9-11 AM ET	• Circularity (continued)
ISB Meeting	*Jun 29*	*n/a*	• *Review and Approval of Phase 2 Revisions*
15	Jul 2	9-11 AM ET	• **Review Draft text and/or ISB comments**
16	July 23	9-11 AM ET	• Review Draft text and/or ISB comments (continued)

Target deadline for public consultation: **October 20th, 2025** *

** This is the target deadline for public consultation is being reviewed by the Secretariat and may change in the coming months.*

(Draft; for discussion)

Data disaggregation – survey results

Revision A1 – Survey results PLACEHOLDER

- This slide is a placeholder – awaiting responses from the TWG Membership on the survey.

- **Please complete the survey by Monday 23rd February to give us sufficient time to integrate the results into the presentation and prepare outputs for the ISB meeting**

(Draft; for discussion)

Minimum boundary requirements – survey results

Series D – Survey results PLACEHOLDER

- This slide is a placeholder – awaiting responses from the TWG Membership on the survey.

- **Please complete the survey by Monday 23rd February to give us sufficient time to integrate the results into the presentation and prepare outputs for the ISB meeting**

(Draft; for discussion)

E1. Minimum boundary requirements for categories 10 and 11

Items for consideration under E1

Reference	
E1.1	Consider definitions of direct use-phase and indirect use-phase (Cat 11)
E1.2	Consider definitions of processing vs use of products
E1.3	Optionality of indirect use-phase emissions in required scope (Cat 11)
E1.4	Inclusion of cradle-to-gate (well-to-tank) emissions for fuels/energy
E1.5	Explicit inclusion of cradle-to-gate emissions for capital goods
E1.6	Accounting for indirect energy loss in systems
E1.7	Accounting for non-physical products and services
E1.8	Boundary treatment for product with multiple uses, or diverse customer bases

(Draft; for discussion)

E1.1 - Definitions of direct and indirect use-phase emissions (Cat 11 only)

E1.1 | Existing guidance

- The current definitions are based on the type of product, rather than offering actual definitions of 'direct use-phase' and 'indirect use-phase'. The definition is left for interpretation by users.

- **Table 5.11 *Scope 3 Standard***
  - For final products, "the direct use-phase emissions of sold ***final*** products by the end user. […] Companies may optionally include the indirect use-phase emissions of sold final products".
  - For intermediate products, "the direct use-phase emissions of sold ***intermediate*** products by the end user. […] Companies may optionally include the indirect use-phase emissions of sold intermediate products

- Note that the **CDP Oil & Gas Guidance*** outlines further guidance for oil and gas companies, including ensuring that intermediaries have methods to calculate emissions from throughput fuels (including those that don't necessarily sell oil/gas, but just work on distribution as a service)
  - Note that this is covered in Category 16 in the current revisions

Table [5.8] Emissions from use of sold products

Type of emissions	*Product type*
Direct use-phase emissions (*Required*)	Products that directly consume energy (fuels or electricity) during use
	Fuels and feedstocks
	Greenhouse gases and products that contain or form greenhouse gases that are emitted during use
Indirect use-phase emissions (*Optional*)	Products that indirectly consume energy (fuels or electricity) during use

* https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/000/469/original/CDP-Scope-3-Category11-Guidance-Oil-Gas.pdf

E1.1 | Summary of discussions in TWG (5th Feb)

- Current definitions make sense definitionally, but are **more difficult to understand when applied in real-world scenarios**
- **There are gaps in the coverage of the current definitions** (e.g., for fugitive emissions and for many digital products*) due to the definitions being tied implicitly to energy use or the intentional release of GHGs
- The **concept of control of influence would shift interpretations towards functional causality**. This approach would ensure relevant emission sources are accounted for but could represent over-inclusion, the continuation of subjective boundaries, and inconsistent application.
- Strong signal that **component-level allocation* needs to be addressed**. Current definitions don't adequately account for components to energy-consuming systems.
- Suggestion that **it may not be possible for the GHGP to create a single universal definition**, and sector-specific examples would be needed. Could also call on sector-specific guidance to provide more bespoke interpretation.
- **Appetite for a deeper conceptual reconsideration of the definitions** (also moving away from the repeated use of 'direct' and 'indirect' terminology may be advisable). Separate subgroup set to discuss what alternative approaches could be developed, such as qualifying decision trees like:
  - Does the product directly use energy
  - Does the product enable energy consumption but does not use energy itself
  - Is the product integral to the product function

* Note we will be trying to address digital products and allocation in E1.7 and E1.6 respectively, should they not be sufficiently addressed by the resolution of E1.1

E1.1 | Potential options*

1. **Maintain existing definitions** with minor tweaks:
   - Improve application with some box examples + guidance
   - Targeted refinements to address known gaps (fugitive emissions)
   - Explicitly state that sector-specific guidance [shall/should] be used, where available and applicable
   - *Note that guidance/examples for the following will be included, if the related discussions in topics E1.6 and E1.7 suggest this as a path of action:*
     - Allocation rules for components to complex systems
     - Non-physical products (e.g., software)

2. **Introduce functional causality** into definitions (using [influence/control])
   - Shift from definitions that are based on product type, and build definitions on causality
   - Determine whether the GHGP should create rules for what qualifies as sufficient / significant enough causality for inclusion
   - Could be shaped like:
     - **Direct-use phase emissions** (required) – as now
     - **Indirectly [influenced/controlled] emissions** (required if significant**) where [influence/control] means the product [materially influences / controls] the energy demand of another product, system, or process during its use phase through its design, performance, or operational characteristics
     - **Other indirect-use phase emissions** (optional) – where a product requires energy to be used, but has no [influence/control] over the energy demand of another product, system, or process

3. **Introduce alternative 'buckets' (to be named)**
   1. Products that directly use energy (or release GHGs, or a fuels/feedstocks) – as today's definition of direct use
   2. Products that require energy consumption or the release of GHGs to use them, but do not themselves use energy (e.g., pots and pans)
   3. **Intermediate products that form a functional part of an energy consuming/converting system (e.g., components to engines)**
   4. Other emissions associated with the product's use phase (e.g., clothes -> the washing phase)

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

** Significance measures may be defined, or left to reporting companies to determine a materiality threshold

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For discussion

E1.1 Decision-making criteria

Criteria	Option 1: Maintain existing definitions with targeted improvements	Option 2: Move to a causality basis (control or influence)	Options 3: New 'bucketing' system
1A. Scientific integrity	**Pros:** Maintains established framework. Targeted fixes addresses known gaps **Cons:** Doesn't fully align with lifecycle science. Doesn't resolve conceptual limitations	**Pros:** Better aligned with lifecycle science thinking. Conceptually grounded in responsibility and influence. **Cons:** Difficult to avoid subjectivity and inconsistent interpretation of [influence/control].	**Pros:** Better reflects causality within engineered systems. Reduces artificial attribution of all use-phase emission to final assembler **Cons:** Requires robust allocation methodologies for components.
1B. GHG accounting and reporting principles	**Pros:** Maintains consistency and comparability **Cons:** Known completeness/relevance issues remain unresolved.	**Pros:** Improves relevance of reporting. **Cons:** May reduce consistency and comparability. Harder to ensure accuracy if definitions are subjective	**Pros:** Improves relevance and transparency by making implicit assumptions explicit **Cons:** Attribution / allocation rules may be inconsistently or inaccurately applied
2A. Support decision making that drives ambitious global climate action	**Pros:** Preserves continuity for target-setting and transition planning. **Cons:** Doesn't reflect causal relationship with emissions	**Pros:** Aligns accounting with actors who can influence reductions; May better incentivize system-wide mitigation actions **Cons:** Weak definitions of [influence/control] or ambiguous may exclude significant emissions	**Pros:** Creates incentives for component manufacturers to improve energy efficiency **Cons:** ROI will be limited for many, given modelling burden and level of influence
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Strong interoperability **Cons:** Locks in non-optimal reporting structure for category 11	**Pros:** Could provide more decision-useful data **Cons:** May require redesign of targets, disclosure rules, and tools	Pros: Enables downstream policy or target-setting frameworks to treat components more consistently Cons: May require redesign of targets, disclosure rules, and tools
3. Feasibility to implement	**Pros:** highly feasible. Targeted fixes will be consistent with definitional intent and affect few.	**Pros:** Could create a more flexible framework adaptable by sector-specific guidance **Cons:** Implementation burden for expanded scope may be significant.	**Pros:** Conceptually intuitive for engineers, builds on system-based allocation models **Cons:** Increased modelling burden, component end-uses are often varied.

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(Draft; for discussion)

E1.3 Optionality of indirect use-phase emissions (Cat 11 only)

E1.3 | Dependency on E1.1

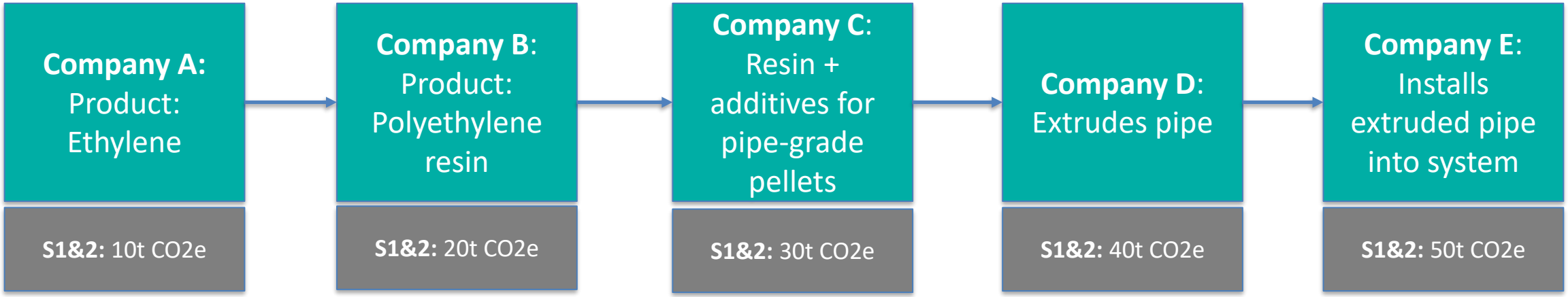
Note that if the definitions of direct-use phase and indirect-use phase are changed substantially then the information prepared to support E1.3 will need to be revised.

Discussion on optionality of indirect use-phase emissions (or other categorization) will be reviewed once E1.1 has been completed.

(Draft; for discussion)

E1.2 – Minimum extent of processing of sold product

E1.2 | Reminder of topic



- **For company A's ethylene product, where should the processing end, and use-phase begin?**
  - After installation at company E is in a final, complex product?
  - After company D as at that point is it is a product in its own right?
  - After company C, as the output product already has its desired properties at that point (i.e., its mechanical properties, durability, chemical resistance)
  - After company B, as the intention of the ethylene feedstock is for it to be polymerized
  - *The Scope 3 Standard is missing a definition of "use" at the moment.*

E1.2 | Summary of discussions in TWG (5th Feb)

- Broad agreement that there is **ambiguity in the boundary between processing and use of sold products** that ought to be resolved.
- The definition of processing is very broad and currently **strictly implies every manufacturing stage until end user**. An option that could be considered is the removal of 'inclusion' in the definition of intermediate products*
- Suggestion that it **may not be possible for the GHGP to create a single universal definition**, and sector-specific examples would be needed. Could also call on sector-specific guidance to provide more bespoke interpretation.
- Question marks remain over the **usefulness of estimating emissions for this category**, for the majority of users, in identifying decarbonization levers.
  - Examples do include encouraging the adoption of chemical formulations that don't release GHGs during processing, encouraging intermediate products that require less energy, and promoting co-development of processes with customers that reduce emissions
- **Limiting modelling requirements could mean results better reflect the level of influence** a reporting company can have (e.g., limitation to emissions from counterparties only, or known downstream use)

* Intermediate products are products that require **further processing, transformation, or inclusion** in another product before use […] and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer

E1.2 | Potential options*

1. **Maintain existing definitions**, and provide more guidance to improve interpretation:
   - Sector-specific box examples for known 'edge-cases' (e.g., chemicals, pharmaceuticals, retail sector)

2. **Redefine intermediate products (remove 'inclusion')** to remove cases where intermediate products are no longer chemically or physically transformed.
   - Intermediate products are products that require further processing, transformation, or ~~inclusion~~ in another product before use […] and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer.

3. **Define clear minimum required boundaries**:
   a) Required scope to include ***downstream use that is known or reasonably estimable only***
   b) Required scope to include ***only counterpart value chain partners***
   - With (a) and (b), provision for inclusion of other processing emissions can be added as optional emissions (reported separately)

4. **Do not require reporting for category 10 for any reporting company**, with sector-specific exceptions:
   - Exceptions may include where the intermediate product sold is a fossil fuel or a fossil-based feedstock (to cover oil and gas and associated petrochemicals)

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing. They are also not mutually exclusive – more than one option may be chosen and combined

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For discussion

E1.2 | Decision-making criteria

Criteria	Option 1: Maintain existing + guidance	Option 2: Remove 'inclusion' from processing	Option 3a: Require known downstream only	Option 3b: Require counterparts only	Option 4: Do not require (with exceptions)
1A. Scientific integrity	**Pros:** Builds on established definitions **Cons:** Does not resolve conceptual ambiguity of when processing ends	**Pros:** May clarify what should be included as processing **Cons:** May require further research to validate definition is fair and emissions not captured are not significant.	**Pros:** Focusses on verifiable emissions only **Cons:** Excludes some emissions from untracked processing	**Pros:** Emissions clearly attributable to responsible actors **Cons:** Ignoring emissions outside of counterparty chain may be significant	**Pros:** Reduces risks of reporting in sectors with unclear boundaries **Cons:** Ignores significant emissions in many sectors
1B. GHG accounting and reporting principles	**Pros:** Preserves reporting structures (comparability) **Cons:** Doesn't resolve potential for inconsistent interpretation	**Pros:** Potentially improves consistency of interpretation **Cons:** Narrowing of definition may reduce completeness	**Pros:** Potentially improves relevance; reduces need for uncertain assumptions **Cons:** Completeness is reduced, may disincentivize value chain engagement; comparability also reduced	**Pros:** Improves transparency and accountability **Cons:** Completeness and relevance may suffer	**Pros**: Simplifies reporting. May improve relevance of reporting for some **Cons:** Completeness and comparability compromised
2A. Support decision making that drives ambitious global climate action	**Pros:** Maintains continuity for targets/emissions tracking **Cons:** Emissions may not reflect relevance and influence for a company	**Pros:** Emissions are more likely to be wholly relevant **Cons:** Narrowing of definition may miss some emissions	**Pros**: Ensures emissions reported can inform decision making **Cons:** Could understate total emissions, limiting mitigation signals	Pros: Incentivizes and focusses actions on actors where influence is highest Cons: Mitigation opportunities may be missed	**Pros:** Reflects limited ROI for the compilation of emissions figures from this category, where typically the amount of influence is quite low. **Cons:** Limited ability or incentive to drive mitigation or design products that require less processing
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Remains compatible with other programs **Cons:**	**Pros:** Provide more transparent boundaries **Cons:** May require updates to downstream programs	**Pros:** Provide more transparent boundaries **Cons:** May require updates to downstream programs	**Pros:** Data more readily verifiable **Cons**: Reduces interoperability but most standards rely on GHGP definitions	**Pros**: Minimal burden **Cons**: Reduces interoperability but most standards rely on GHGP definitions
3. Feasibility to implement	**Pros:** Easy to implement	**Pros:** Low effort for most	**Pros:** Easier for long-term implementation **Cons**: May need additional guidance for borderline cases	**Pros**: Straightforward to track and report	**Pros**: Very easy to implement for most

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(Draft; for discussion)

E1.4 Inclusion of cradle-to-gate (well-to-tank) emissions for fuels/energy

E1.4 Inclusion of cradle-to-gate (well-to-tank) emissions for fuels/energy

- Same consideration as has been made throughout Series D. **In the recent survey, TWG members voted that cradle-to-gate emissions for fuels/energy shall be included in the minimum boundary for category 10 and category 11**

Total Shall	Total Optional		Category name	Cumulative opinion % shall	Cumulative opinion % optional
30	9	Category 1	Purchased goods and services	77%	23%
29	10	Category 2	Capital goods	74%	26%
30	9	Category 3	Fuel- and energy-related activities (not in scope 1 or 2)	77%	23%
31	8	Category 4	Upstream transportation and distribution	79%	21%
24	15	Category 5	Waste generated in operations	62%	38%
29	10	Category 6	Business travel	74%	26%
24	15	Category 7	Employee commuting	62%	38%
24	15	Category 8	Upstream leased assets	62%	38%
31	8	Category 9	Downstream transportation and distribution	79%	21%
24	15	Category 10	Processing of sold products	62%	38%
27	12	Category 11	Use of sold products	69%	31%
23	16	Category 12	End-of-life treatment of sold products	59%	41%
22	17	Category 13	Downstream leased assets	56%	44%

E1.4 | Potential options

1. **Require the inclusion** of cradle-to-gate (well-to-tank) emissions from fuels/energy used
    1. In category 10 (Processing of sold products)
    2. In category 11 (Use of sold products)
    3. Both
    4. Neither

2. **Recommend [should/may] the inclusion** of cradle-to-gate (well-to-tank) emission from fuels/energy used
    1. In category 10 (Processing of sold products)
    2. In category 11 (Use of sold products)
    3. Both
    4. Neither

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For discussion

E1.4 | Decision-making criteria

Criteria	Option 1: Maintain existing	Option 2: Explicitly require C2G (or WTT) emissions for energy/fuel are included
1A. Scientific integrity	**Pros:** **Cons:** Potential for emissions to be unaccounted for, misaligning with best practices in LCAs	**Pros:** Reflects lifecycle logic commonly used in LCA practices **Cons:**
1B. GHG accounting and reporting principles	**Pros:** **Cons:** Inconsistent interpretation will reduce consistency. Won't be an accurate representation of emissions	**Pros:** Improved accuracy in reporting, improved consistency and comparability
2A. Support decision making that drives ambitious global climate action	**Pros:** Emissions are outside the control of reporting companies with limited influence to change. **Cons:** Decarbonization informed without a full picture may lead to unintended consequences	**Pros:** Provides clearer interpretation for decarbonization planning **Cons:** Emissions will be of limited influence for reporting companies, and often with small relevancy
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros**: No change means that reporting frameworks can remain unchanged. **Cons**: Leaves unresolved potential inconsistencies in reporting, and potential	**Pros:** Likely to improve alignment across reporters by clarifying intention **Cons:**
3. Feasibility to implement	**Pros**: No implementation burden	**Pros**: Already a recommendation (pg 70 of *Scope 3 Standard*) so most reporting companies will have no implementation burden **Cons**: Modelling well-to-tank emissions for energy/fuels in global jurisdictions for downstream customers can be challenging, as WTT Efs aren't readily available in many domains

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(Draft; for discussion)

E1.5 Inclusion of capital good embodied (cradle-to-gate) emissions

E1.5 Inclusion of capital good emissions

- Same consideration as has been made throughout Series D. **In the recent survey, TWG members voted that embodied (cradle-to-gate) emissions of capital goods used by value chain partners should be optional across categories**.
  - Note that no stakeholder feedback suggested the inclusion of cradle-to-*grave* emissions from capital goods. This is not suggested by the Secretariat to avoid turning category 10 and 11 into system-wide LCA buckets.

Total Shall	Total Optional		Cumulative opinion	
		Category name	% shall	% optional
14	25	Category 1	Purchased goods and services	36%	64%
15	24	Category 2	Capital goods	38%	62%
16	23	Category 3	Fuel- and energy-related activities (not in scope 1 or 2)	41%	59%
12	27	Category 4	Upstream transportation and distribution	31%	69%
11	28	Category 5	Waste generated in operations	28%	72%
10	29	Category 6	Business travel	26%	74%
15	24	Category 8	Upstream leased assets	38%	62%
12	27	Category 9	Downstream transportation and distribution	31%	69%
12	27	Category 12	End-of-life treatment of sold products	31%	69%
10	29	Category 14	Franchises	26%	74%
10	29	Category 15	Investments	26%	74%

E1.5 | Potential options*

Modality of reporting

1. **Require** [shall] the inclusion of embodied emissions of capital goods
2. **Recommend** [should/may] the inclusion of embodied emissions of capital goods

Discussion point – given the optional reporting of other categories, are there are distinct reasons for category 10 and/or 11 that weren't relevant for other categories that the TWG should consider?

* All upstream (cradle-to-gate) emissions associated with manufacturing or constructing capital goods (including the production of machines, facilities, and dedicated infrastructure), required to use the sold product be included

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For discussion

E1.5 | Decision-making criteria on modality/optionality

Criteria	Option 1: Required reporting	Option 2: Optional reporting
1A. Scientific integrity	**Pros:** Captures a more complete lifecycle of emissions; Scientifically consistent with LCA conventions **Cons:** Requires careful methodologies to allocate emissions appropriately.	**Pros:** Provides flexibility and avoids forcing poor-quality data into scope 3 **Cons:** Less completeness and so results don't represent the genuine lifecycle impact of a company's products
1B. GHG accounting and reporting principles	**Pros**: Completeness is improved. Relevance may also be improved **Cons**: Accuracy maybe challenging for many; assumptions required may introduce uncertainties; Comparability may be hampered	**Pros**: Transparency improves with optional reporting labelling **Cons**: Completeness and comparability may be reduced as optional reporting will create gaps
2A. Support decision making that drives ambitious global climate action	**Pros:** Provides data that can guide mitigation for upstream suppliers who use a reporting company's data. Encourages consideration of full impact of products **Cons:** Many reporting companies will struggle to act on data	**Pros:** Companies without capacity to influence capital good emissions are able to more readily identify realistic mitigation levers **Cons:** Overall mitigation signals may be weaker when capital goods are significant
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Aligns with programs/methods that require full upstream accounting **Cons:**	**Pros:** Aligns with the current interpretation for most companies **Cons:** Doesn't align with programs/methods that require full upstream accounting
3. Feasibility to implement	**Pros**: Methods established in LCA databases **Cons**: Data collection and analytical burden; access to reputable LCA database sources	**Pros:** Lower burden for companies, particularly those with limited resources

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(Draft; for discussion)

E1.6 Inclusion of emissions from mechanical energy loss

E1.6 | Existing guidance

- The Scope 3 Standard and Technical Guidance do not explicitly explain how to account for energy losses

- Instead, energy losses are **implicitly included** for products that have category 10 or 11 emissions. It is assumed that activity data includes energy losses within a broader system.
  - e.g., the energy of the fuel required for a vehicle's engine over its lifetime includes energy that is harnessed and then lost
  - *Cat 10: Technical Guidance (pg. 107): Companies may use either of two methods: Site-specific method, which involves determining the amount of fuel and electricity used […] by the third-party; Average-data method, which involves estimating emissions […] based on average secondary data, such as average emissions per process or per product*

- The Secretariat notes that physical allocation methods are advised (*pg. 93 Scope 3 Standard*), which implies that energy consumption (which would include energy losses) would be allocated to individual components in a manner that is proportional to physical properties, should allocation be unavoidable.

E1.6 | Examples of energy loss

1. Electric motor bearings:

- Component manufacturer produces bearings used in electric motors
- The downstream system is an industrial electric motor driving a pump
- Friction in bearings contributes to energy losses
  - Current guidance suggests 1) no direct use-phase emissions and 2) no indirect use-phase emissions (as the bearing does not indirectly require energy during use)
- **Should the bearing manufacturer account for a portion of use-phase energy loss?**

2. Insulation materials:

- Manufacturer produces insulation used industrial equipment
- The downstream system is industrial equipment
- Inefficiencies in the insulation increases the energy demand for that equipment
  - As with #1, there are no direct- and no indirect use-phase emissions in current guidance
- **Should the insulation manufacturer account for a portion of use-phase energy loss?**

E1.6 | Summary of discussions in TWG (5th Feb)

- In the development of the SBTi Automotive Net Zero Standard, the working group defined four categories of impact, including mass-based impacts, direct electrical consumers, and powertrain components. Varying operating conditions for components gives major complexity in estimating emissions.
  - The SBTi working group spent substantial time on this issue without clear resolution
  - Current thinking is to limit the inclusion of emissions in target-setting to the manufacturer of the whole parts (e.g., drivetrain)

- The discussions on energy loss tends and allocation components can drift into avoided emissions discussions, which should be considered separately as a part of the AMI workstream

- **The issue is inherently tied to the outcomes of E1.1** (the definitions of direct-use and indirect-use phase, or any alternative system). Definitional clarity in that revision could resolve this issue

* Intermediate products are products that require **further processing, transformation, or inclusion** in another product before use […] and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer

E1.6 | Two separate issues to resolve

a) **What should the rules be for components that are responsible for energy loss but are not components that directly or indirectly consume energy**?
   i. The energy losses in a system are usually not easily estimable. Energy is usually measured holistically and isn't broken down between useful energy and energy that is wasted due to individual components
   ii. Potentially encourages more energy efficient components, but introduces risks of inaccurate modelling, inconsistency, and incomparability between reporting companies.

b) **What should the allocation rules be for components to systems that directly or indirectly consume energy?**
   i. In the development of the SBTi automotive net-zero standard, approaches were considered but rolled back to only incorporate allocation amongst components to a vehicle's drivetrain[?].
      - Keeping the scope to be physically based allows for the continued recommendation of physical allocation in system like this
   ii. Should the GHGP Scope 3 Standard do something similar: limit allocation and emissions accounting for components which are part of the energy consuming part of a system? Does this work in all cases?

E1.6a | Potential options* *for mechanical energy losses*

- **1) Maintain existing approach**
  - Accept implicit treatment is not causing material differences in inventory results and doesn't go against the principles of the GHG Protocol

- **2) Clarifying energy losses are included and shall not be separately quantified**
  - Similar to do nothing, but acknowledge the data that is used includes energy losses.
  - Explicitly allow exclusion for component manufacturers that wouldn't otherwise have processing or use emissions.
  - Require that the final product producer accounts for this energy lost

- **3) Clarifying energy losses are included, and may also be reported separated in reporting**
  - Recognize that activity data and emission factors already tend to implicitly include this
  - Suggest that component manufacturers should include emissions if deemed significant

- **4) New requirement**
  - Explicit required inclusion rules for all components in a system where energy loss occurs.

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing. Note the current options are designed around the existing definitions in E1.1 (direct use-phase and indirect use-phase). The options may need to be reconsidered if this changes.

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For discussion

Decision-making criteria for E1.6a

Criteria	Option 1: Do nothing	Option 2: Included, no separate quantification	Option 3: Included, may be separated in reporting	Option 4: New requirement (broaden scope to all components)
1A. Scientific integrity	**Pros:** Activity data and emission factors implicitly include this information; Avoids artificial separation **Cons:** Does not address cases where components are responsible for energy losses	**Pros:** Reflects physical reality that losses are embedded in energy consumptions; avoids artificial separation **Cons:** Does not address cases where components are responsible for energy losses	**Pros:** Acknowledges losses can be material and component specific **Cons:** Encourages widespread adoption of allocation methods; risk of inconsistent accounting choices	**Pros:** Treats energy losses as an explicit causal outcome **Cons:** Risks overstating precision, without any improvement in accuracy; requires significant allocation and assumptions
1B. GHG accounting and reporting principles	**Pros:** Preserves consistency, avoids risks of double counting **Cons:** Leaves ambiguity unaddressed, potentially impacting transparency; Potential incomplete accounting for some	**Pros**: Preserves consistency, avoids risks of double counting. Addresses ambiguity **Cons:** Potential incomplete accounting for some	**Pros:** Preserves consistency of required scope. Addresses ambiguity. Improves relevance for some **Cons:** Increased risk of double counting	**Pros:** Maximizes completeness; addresses ambiguity, improves relevance **Cons:** Increased risk of double counting or inaccurate reporting
2A. Support decision making that drives ambitious global climate action	**Pros:** Focusses attention on system-wide emissions **Cons:** May under-communicate role of loss-reducing actions	**Pros:** Retains focus on system-wide emissions **Cons:** Provides limited signal for efficiency-improving measures	**Pros:** Provides more granular insight into decarb opportunities **Cons:** May incentivize modelling with limited actual materiality	**Pros:** Provides clearer signal to improve energy efficiency in parts **Cons:** Risks incentivizing modelling burden over action for most
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Remains fully interoperable **Cons:**	**Pros:** Remains fully interoperable **Cons:**	**Pros:** Flexible approach allows for interoperability to be retained **Cons:** Harder for downstream programs to standardize treatment	**Pros**: **Cons:** Diverges with existing calculation frameworks, harder for downstream programs to standardize
3. Feasibility to implement	**Pros:** No burden; no transition impact; Accessible for all reporters	**Pros:** Low burden, no new data requirements	**Pros:** Optional reporting means that this infeasibility can be navigated **Cons:** High modelling and data burden, requires judgement on materiality and attribution.	**Cons:** High burden for modelling and data collection

For discussion

E1.6b | Potential options* *allocation to components of complex products*

1. **Maintain existing approach**
   - Accept implicit treatment is not causing material differences in inventory results and doesn't go against the principles of the GHG Protocol. Could provide examples and consider examples that are in the current *Technical Standard* to improve consistency of interpretation

2. **Allocate emissions to functional parts** to energy consuming/converting systems within complex products
   - *e.g., "Manufacturers of intermediate products that are processed into complex products with multiple energy consuming/converting systems **shall** determine direct use emissions when the component forms a functional part of any relevant energy converting/consuming system" [related to options #2 and #3 in E1.1]*
   - If allocation is unavoidable, any intermediate products covered by this clause **should** be allocated using a physical allocation approach, where the system boundary is the relevant energy consuming/converting system.

3. **Neither of these options** (please provide comments in the survey explaining why these options are unsuited, as necessary)
   - If this is the case, the Secretariat will call on proposals from the TWG

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

For discussion

Decision-making criteria for E1.6b

Criteria	Option 1: Maintain existing	Option 2: Require reporting for functional components to energy consuming/converting systems
1A. Scientific integrity	**Pros:** Maintains established framework. Targeted fixes addresses known gaps **Cons:** Doesn't fully align with lifecycle science. Doesn't resolve conceptual limitations	**Pros:** Better reflects causality within engineered systems. Reduces artificial attribution of all use-phase emission to final assembler **Cons:** Requires robust allocation methodologies for components.
1B. GHG accounting and reporting principles	**Pros:** Maintains consistency and comparability **Cons:** Known completeness/relevance issues remain unresolved.	**Pros:** Improves relevance and transparency by making implicit assumptions explicit **Cons:** Attribution / allocation rules may be inconsistently or inaccurately applied
2A. Support decision making that drives ambitious global climate action	**Pros:** Preserves continuity for target-setting and transition planning. **Cons:** Doesn't reflect causal relationship with emissions	**Pros:** Creates incentives for component manufacturers to improve energy efficiency **Cons:** ROI will be limited for many, given modelling burden and level of influence
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Strong interoperability **Cons:** Locks in non-optimal reporting structure for category 11	Pros: Enables downstream policy or target-setting frameworks to treat components more consistently Cons: May require redesign of targets, disclosure rules, and tools
3. Feasibility to implement	**Pros:** highly feasible. Targeted fixes will be consistent with definitional intent and affect few.	**Pros:** Conceptually intuitive for engineers, builds on system-based allocation models **Cons:** Increased modelling burden, component end-uses are often varied.

(Draft; for discussion)

E1.7 Accounting for non-physical products or services

E1.7 | Original feedback under consideration

- Category 11 definitions lend themselves to physical products more cleanly than non-physical products

- Since publication in 2011, there has been a major shift in the amount of software products available and their uses in intermediate and final user applications

- **Key feedback themes:**
  - Ambiguity regarding how downstream emissions attributable to powering consumer devices that operate software services should be allocated
  - Some noted that whilst "web-based software" imply inclusion, it is not given clear methodological direction
  - Unclear attribution when software components contribute to a complex systems can be allocated based on a physical allocation basis (or if they should be)

E1.7 | Existing guidance

- A product is defined as "any good or service" (*Scope 3 Standard, pg. 140)*

- Both category 10 and 11, therefore, both implicitly includes any good or service sold by a reporting company:
  - Table 5.4 *Scope 3 Standard* category descriptions:
    - **Processing of sold products:** Processing of intermediate products sold in the reporting year by downstream companies
    - **Use of sold products:** End use of goods and services sold by the reporting company in the reporting year

- Current rules lean towards physical goods, however. E.g., for cat 11:
  - **Direct use-phase emissions** are defined as emissions from products that directly consume energy (fuels or electricity) during use; Fuels and feedstocks; Greenhouse gases and products that contain or form greenhouse gases that are emitted during use *(pg. 155 Technical Guidance)*
  - **Indirect use-phase emissions** includes emissions from products that indirectly consume energy (fuels or electricity) during use *(Table 5.8 Scope 3 Standard)*

- **Importantly, "web-based software" is provided as an example of a product with direct use-phase emissions** *(Table 5.8 Scope 3 Standard)*

E1.7 | Examples of non-physical products

1. Web-based software

- Reporting company: Software provider (web application)
- Energy consumption occurs in:
  - Use of user devices (phones and laptops); Data centers; Network infrastructure (storage, network, compute)
- **Observed ambiguities:**
  - The software itself does not consume energy. Energy is only consumed indirectly.
  - Existing guidance does not present allocation rules, or indicate if incremental and background energy use should be distinguished

2. Catering services providing ingredients for customer cooking

- Reporting company: catering service provider
- Energy consumption occurs in:
  - Fuels used to cook the food that has been provided by the catering service (if outside of the control of the company)
  - Quite a clear definition for these services (i.e., neatly fit as indirect use-phase emissions or facilitated activities in category 16)

E1.7 | Emissions accounting in software

- There is **no standardized approach for quantifying the environmental impact of digital products**. Several standards exist, but aren't consistent in approach and aren't well suited for AI systems.

- Energy accounting in software in the current standard implies only the direct use-phase emissions should be included.
- This may not include energy being consumed (and other emissions) associated with:
  - **Data storage** (e.g., storing data in cooled server rooms will require continuous energy input). *May be fully accounted for in category 1 (Purchased goods and services)*
  - **Transfers of data over networks** (the utilization of data networks requires energy – the amount of energy can vary depending on the network utilization at a point in time) *May be fully accounted for in category 1 (Purchased goods and services)*
  - **Computation** (e.g., the CPU/GPU operations on an end-users computer for downloadable software, or energy consumed per AI token, or per FLOP, to actually perform the calculations necessary). AI workloads dramatically increase computation energy and may require separate more detailed methods.

- Which, if any, are included in our current definitions of direct use-phase and indirect use-phase emissions [after E1.1 considerations]

E1.7 | Discussion points

- **Does the definition of direct use-phase and/or indirect-use phase need to adjusted to better accommodate digital products?**
  - If so, how? Separate definitions?
  - Are practitioners interpreting 'web-based software' (*Table 5.4 Scope 3 Standard)* as an example of a product with direct use-phase emissions correctly?

- **How should the Scope 3 Standard integrate emission sources for digital products?** Should there be guidance in the Scope 3 Standard or only the accompanying Technical Guidance?

- **What constitutes required 'use-phase' emissions of software or other services?**
  - Which elements of the digital system should emissions accounting include?
    - All of storage, network transfers, and compute?
    - Or some combination of the above (if not already included in a reporting company's category 1)?
  - To what extent do we anticipate double-counting with purchased goods/services. How can this be avoided?

- **Is the direct and indirect-use phase distinction fit for non-physical products?**

- **Should this revision resolve or constrain the issue, or defer the issue to sector-specific guidance?**

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For discussion

E1.7 | Potential options*

1. **Maintain (with minor edits) existing definitions and provide more sector-specific guidance**
   - Address emissions accounting through example boxes + guidance only. Encourage the use of sector-specific guidance instead
   - Creates a call-to-action for sector-specific guidance to establish robust rules for digital accounting

2. **Refer digital users explicitly to third-party guidance, with recommendations to use those methodologies**
   - Recognizing that the GHG Protocol Secretariat doesn't necessarily have the resources to develop sector guidance for digital products, and reduces operational burden to ensure the Scope 3 Standard remains up-to-date with a quickly evolving sector
   - Examples may include referring to ICT Sector Guidance (GESI); Greenpixie cloud methodology, ITU-T L.1410 (11/2024)

3. **Create separate reporting structure for digital products and treat it as a subcategory** *(In the same way that employee commuting distinguishes between physical commuting and telecommuting).* Rules would then:
   - Define emission source types (likely storage, network, and compute)
   - Define the modality [should/shall/may] for emissions to be included for each of these types
   - Define the types of products that are subject to these rules, and any exceptions
   - Consider alternative quantification methods (e.g., annualized reporting) in parallel later on (as a part of E.2 which considers category-wide quantification methods)
   - Refer other non-physical products to category 16 (as many would be facilitated activities)

4. **Neither of these options** (please provide comments explaining why these options are unsuited in the survey)
   - If this is the favored case in the survey results, the Secretariat will call on proposals from the TWG

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

E1.7 | Decision-making criteria

Illustrative example	Option 1: Existing definitions	Option 2: Alternative and separate reporting structure for digital products
1A. Scientific integrity	**Pros:** Maintains established framework. **Cons:** Doesn't establish robust accounting principles for digital solutions	**Pros:** Builds accounting principles that are more in line with the way digital products are developed and the sources of emissions from their use **Cons:**
1B. GHG accounting and reporting principles	**Pros:** Maintains reporting structures **Cons:** Interpretability of rules may lead to issues with consistency in reporting	**Pros:** Creates easier interpretation and distinction for digital products (accuracy, relevance, completeness, transparency all improved) **Cons:**
2A. Support decision making that drives ambitious global climate action	**Pros:** **Cons:** Provides clearer framework for building and showing the impact of actions	**Pros:** Provides clearer framework for building and showing the impact of actions **Cons:** Creates reporting structures that may require data that is difficult to influence
2B. Support programs based on GHG Protocol and uses of GHG data	**Pros:** Strong interoperability **Cons:** Creates new structures that are untested at a widespread corporate level	**Pros:** **Cons:** New structure within category 11 would need integrating into other standards and calculation frameworks
3. Feasibility to implement	**Pros:** Highly feasible, but doesn't resolve difficulties in interpretation for digital products.	**Pros:** Aligns better with the way digital products are developed **Cons:** Modelling may be complex and availability of data to create numbers (e.g., emission factors) are not widely available from secondary database sources

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

(Draft; for discussion)

E2. Quantification methodologies for durable products

Stakeholder Feedback

- Several stakeholders reported that depreciating, amortizing, and/or annualizing emissions from products (particularly more durable products) would make reporting more comparable year-to-year, help establish sensible baselines, and create more meaningful key performance indicators.

- Aggregating forward- and previous-year emissions are noted to limit the efficacy of net zero targets that rely on absolute, aggregate inventories to inform decarbonization. A distortionary effect may also have implications for assessing potential emission reductions associated with other activities, including those related to circularity.

- A straight-line stock-based amortization approach was suggested, although the Secretariat notes that more complex approaches may be possible (e.g., those that account for changes in product use through time). Such a method would require estimate the number of sold products current in circulation (prior to end-of-life) in each reporting year.

- Others suggested that some products (such as software) would be better assessed through a usage-data method, as an alternative annualization approach. In this case, real-time measurements of product use can be used to generate reporting year data, and also update base year and previous year calculations.

Current requirements on lifetime vs. amortized emissions

- **Capital goods**:
  - "[…] companies **should not depreciate, discount, or amortize** the emissions from the production of capital goods over time. Instead companies should account for the total cradle-to-gate emissions of purchased capital goods in the year of acquisition, the same way the company accounts for emissions from other purchased products in category 1." (Box 5.4, p. 39)
- **Sold products**:
  - "Because the scope 3 inventory accounts for total lifetime emissions of sold products, companies that produce more durable products with longer lifetimes could appear to be penalized because, as product lifetimes increase, scope 3 emissions increase, assuming all else is constant. **To reduce the potential for emissions data to be misinterpreted, companies should also report relevant information such as product lifetimes and emissions intensity metrics to demonstrate product performance over time. Relevant emissions intensity metrics may include annual emissions per product, energy efficiency per product, emissions per hour of use, emissions per kilometer driven, emissions per functional unit, etc.**" (Box 5.8, p. 49)

Current guidance on reporting of historic and future scope 3 emissions

- **11.2 Optional information (p. 122)**
  - "Historic scope 3 emissions that have previously occurred, reported separately from future scope 3 emissions expected to occur as a result of the reporting company's activities in the reporting year (e.g., from Waste generated in operations, Use of sold products, End-of-life treatment of sold products)"
- **11.3 Reporting guidance (p. 124)**
  - "Optional reporting: Historic scope 3 emissions that have previously occurred, reported separately from future scope 3 emissions expected to occur as a result of the reporting company's activities in the reporting year
    - Emissions reported for category 5 (Waste generated in operations), category 11 (Use of sold products), and category 12 (End-of-life treatment of sold products) should not be interpreted to mean that emissions have already occurred, but rather that the reported emissions are expected to occur as a result of activities that occurred in the reporting year.
    - Companies may separately report historic emissions (that have already occurred) from future emissions (that have not yet occurred) in order to avoid misinterpretation by stakeholders"

(Draft; for discussion)

E2.1 and E2.2 Consider the inclusion of stock-based and usage-based approaches

E2.1 and E2.2 | Category 11 (current standard) – sales-based approach

- Account for and report:
  - All downstream ("total expected lifetime" emissions in the year that a product is sold)
  - Effectively, the gate-to-grave emissions of **goods and services sold** by a company

- The above mirrors Category 1
  - All upstream (cradle-to-gate) emissions of **goods and services purchased** by a company

- Combining Category 11 and Category 1
  - This yields the full life cycle (cradle-to-grave) emissions of the company's sales (or activity) in the reporting period

E2.1 and E2.2 | Alternative approaches

- **Stock-based**
  - All 'in-year' emissions from the use of all products in circulation (i.e., stock-based approach)
- **Usage-based:**
  - A type of stock-based approach, where the use of products (e.g., through software traffic statistics, telemetry information, tracking through the internet-of-things)
- This may *not* mirror Category 1
  - All upstream (cradle-to-gate) emissions of goods and services purchased by company
- Combining Category 11 and Category 1 (and Category 12)
  - Possibly results in a *proxy* for the full life cycle (cradle-to-grave) emissions of the company's activities This is partially a company-perspective (Category 1); and partially a product-perspective (Category 11 and 12)

E2.1 and E2.2 | Comparison of current vs. alternative approach

- In the simplest case, both approaches will yield the same or very similar results

- More complex approaches will cause differences in outputs:
  - **Linear stock-based approaches** are simplest to implement but require tracking sold volume and
  - **Non-linear stock-based approaches** require sophisticated modelling requires parameters such as usage rate changes over time; scrappage/retirement rates of existing stock; energy efficiency changes over time. Parameters may be uncertain for many sectors. Such modelling is quite common in some sectors already (e.g., road transport stock modelling)

- There are positives and trade-offs to both approaches:
  - A **sales-based approach** is less tied to physical emissions, and doesn't "reward" retrofitting or actions that extend the useful lifetime of a product, but is simpler and more sensitive to emissions reducing mitigation actions
  - A **stock-based approach** is more tied to physical emissions, but many mitigation actions do not 'show up' / trends are less sensitive

- Regardless of the method:
  - Only per unit (i.e., per sold product) metrics effectively show potential efficiency gains (e.g., from durable products), for example, the GHG-intensity or unit product use (a metric)

E2.1 and E2.2 | Potential options*

Option	Description
#1	**Shall** use sales-based approach; **Shall** use stock-based approach* -> parallel reporting - Note that parallel reporting may create problems for downstream programs such as target setting or disclosure frameworks
#2	**Shall** use sales-based approach; [**Shall/should/may**] use stock-based approach for performance metric - Keeps consistent approach with current standard. Recognizes the potential benefits of a stock-based approach
#3	**Shall** use stock-based approach; [**Shall/should/may**] use sales-based approach for performance metric - Uses the method that is more physically grounded, causes some initial turbulence with downstream programs - Recognizes the benefits of improving environmental lifetime performance through metrics
#4	Allow either approach – only one shall be used for reporting - Maximizes flexibility - Hampers comparability and potential consistency

* In these options, we consider a usage-based approach as a type of stock-based approach

E2.1 and E2.2 | Decision-making criteria for Category 11

Illustrative example	Option 1: Sales-based approach	Option 2: Stock-based approach
1A. Scientific integrity	• Cons: Somewhat less scientific as emissions are not accounted in the year they are emitted • Cons: Doesn't easily allow the use of usage statistics	• Pros: More scientific as emissions are accounted in the year they are emitted; allows usage-based
1B. GHG accounting and reporting principles	• Pros: Transparent, complete, consistent, accurate, relevant	• Pros: Similarly transparent, complete, transparent, accurate, relevant
2A. Support decision making that drives ambitious global climate action	• Pros: Shifting product portfolio is reflected immediately • Cons: Durable products disincentivized • Pros: Re-baselining would be easier	• Cons: Companies would not see the benefit of changing their products design. • Durable products disincentivized • Re-baselining would be challenging
2B. Support programs based on GHG Protocol and uses of GHG data	• Pros: Harmonizes with other standards and with the *Product Standard*	• Cons: Would not harmonize with other standards not with the *Product Standard*
3. Feasibility to implement	• Pros: No hassle maintaining records • Cons: Sometimes difficult to estimate	• Cons: More complicated to collect emissions data and maintain records

- The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.
- Product sales in the reporting year / Emissions in the reporting yea

Next Steps

Next steps

- GHG Protocol Secretariat:
  - Distribute the Recording
  - Distribute Meeting Minutes and the Feedback Form
  - Distribute a survey on the options and considerations for 3.10 and 3.11 so far

- Next meeting:
  - **March 19th Meeting #9 at 9 - 11 AM ET**

GREENHOUSE GAS PROTOCOL

Thank you!

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Appendix A.
Category 10 and 11 issues

E3. Future-year emission factor restrictions

E3 | Problem statement

- Modelling of lifetime emissions that extend into future years uses emission factors which are not yet based on actual measurements

- For example, modelling the direct use-phase emissions of a product that consumes electricity can require the collection of predicted grid emission factors, which reflect the intended shift away from fossil fuels and towards low-carbon and renewable energy generating alternatives.

- Equally, fuels available via networks (e.g., gasoline, diesel, natural gas) may have an increasing about of biogenic carbon mixed, and this would be expected to change over time.

- The *Scope 3 Standard* remains silent on whether "future-year emission factors" [shall/should/may] be used for the calculations. This revision seeks to define what rules (if any) should exist in the updated Scope 3 Standard

(Draft; for discussion)

E4. Best practice guidance for forecast modeling

E4 | Problem statement

- Modelling of lifetime emissions that extend into future years uses often lacks guidance and allows the use of untested or low quality assumptions, which brings the potential for inaccurate, inconsistent, and incomparable reporting.

- Examples include having to estimate the usage of products through time, the expected lifetime of the product, patterns in user behavior etc.

- Should the GHGP provide specific guidance on the best practices for modelling future emissions (for the modelling of the use phase of products and any other projection modelling that is needed).

(Draft; for discussion)

E5. Additional guidance for allocating emissions to components of complex products (see also E1.6)

For discussion

E5 | Problem statement

- Should this not be addressed in the E1 suite, this is a placeholder to ensure the allocation for components to wider systems is considered.

- Consideration, if not already covered, will focus on:
  - What allocation rules to require or recommend.
  - Whether the recommended rules change depending on the type of component considered

E6. Category 11 metrics

E6 | Problem statement

- The use phase of products can bring a number of options for additional reporting of performance metrics, that do not otherwise get expressed in the reporting of Scope 3.
- Such as:
  - Emissions intensity per unit of product sold
  - Rates of refurbishment/recycling for products
  - Emissions for a stock-based approach, per unit of product in circulation

- This revision considers whether any metrics need to be explicitly required or recommended as additional reporting metrics

Should the Scope 3 Standard require metrics?

- To support effective category 11 emissions disclosure:
  - Consider **requiring** current and/or **adding further** sold product metrics for disclosure

- Current Scope 3 Standard metrics language:

  - Box 5.7 (Scope 3 Standard, p. 50)
    - Lifetime emissions per product, corporate average emissions (kg CO2e/km)
    - *Non-emissions metrics: fuel economy (e.g., km per liter)*

  - Box 5.8 (Scope 3 Standard, p. 50)
    - Annual emissions per product, emissions per kilometer driven, emissions per functional unit)
    - *Non-emissions metrics: energy efficiency per product*

Should the Scope 3 Standard require metrics? (continued)

Scope 3 Standard (p. 122)

Section: "Optional reporting: Information on product performance"

"To provide appropriate context related to category 11 (Use of sold products), a public GHG emissions report should include, when applicable, the following additional information:

- Product performance indicators and intensity metrics (e.g., average GHG intensity of sold products, average energy efficiency of sold products, average emissions per hour of use, average fuel efficiency of sold vehicles, average emissions per kilometer driven, GHG intensity of sold fuels, average emissions per functional unit, etc.)
- Annual emissions from the use of sold products (i.e., emissions that occur in a single year from products sold in the reporting year)
- Average lifetime/durability of sold products
- The methodologies and assumptions used to calculate product performance indicators and intensity metrics
- The percentage of sold products that are compliant with standards, regulations, and certifications, where applicable
- A statement explaining why emissions from category 11 (Use of sold products) have increased or decreased over time
- Any sold products not included in the inventory, with justification for their exclusion
- Other relevant information"

Should the Scope 3 Standard require metrics? (continued)

- Questions:
  1. Should any of the metrics (currently defined in the Standard) be required
  2. Should any additional metrics be added (required or optional)
  3. Optionality: Should the disclosure of metrics be required or optional?

- Note: Metrics for a company's entire (Scope 1, 2, and 3, and/or multiple scope 3 categories) will be discussed next year when discussing performance tracking

Potential outcomes

- Consider adding a per unit (sold product) metric as a part of disclosure:
  - This would add an **additional metric** (rather than a change to the corporate inventory)
  - Require such metric to be reported
  - First proxy metric calculation method:
    - Total Company(Scope 1, Scope 2, and Scope 3: Category 1 tCO2e + Amortized Category 2 tCO2e + Category 3 + 4 + 5 + 6 + 7 + 8 (using amortized leased asset construction tCO2e) + 9 + 10 + 11 + 12)
      - Divided by [Total unit product sold]
        - » = tCO2e/Total unit product sold
    - Exclude Category 14, 15, 17
      - Franchisors can and should report the weighted-average # of their franchisees
  - Second proxy metric calculation method:
    - Sub-total (using product allocation rules) Company(Scope 1, Scope 2, and Scope 3 Category 1 through 12) divided [Sub-total unit product sold]

- Consider adding a metric as a part of disclosure on the proportion of emissions that are believed to occur in the reporting year
  - This would be an additional metric (rather than a change to the corporate inventory)
  - Recommend such metric be reported
  - Allows the expression of annualized data alongside cumulative data, ensuring recalculation of existing scope 3 baselines isn't necessary

(Draft; for discussion)

Appendix B:
Upcoming system allocation / circularity

Items for consideration for system allocation / circularity

- Several respondents suggested that the GHGP needs new or updated rules for emissions attributable to activities associated with circular production and consumption.
- The GHGP **currently recommends the recycled content method** (*Technical Standard p78-79*). Feedback suggests that this rule does not sufficiently encourage circularity
- Topics to be discussed in this package of work will include (exact topics to be refined by Secretariat):

Reference	
TBD	Consider whether the existing Scope 3 Standard (and GHGP) should revise its current guidance on system allocation
TBD	Consider whether recommended/required methods should apply to different cases
TBD	Consider which methods to recommend/require including: - Recycled content, polluter pays, 50/50, variable proportion, double count, others
TBD	Consider whether the GHGP should require the methods agreed upon, or provide guidance to identify the appropriate method for a reporting company
TBD	Consider additional reporting metrics to require/recommend to further encourage circularity