



Scope 3 Technical Working Group Meeting

Working draft, do not cite

**Full TWG
Phase 2, Meeting 5
Category-specific boundaries & optionality
(continued)**



November 20th, 2025



Agenda

- Housekeeping (5 min)
- Timeline for Phase 2 (5 min)
- Phase 1 Deliverable (5 min)
- Series D, Category-specific boundaries (30 min)
- Reporting disaggregated emissions (15 min)
- Category 15/16 reclassifications and language (15 min)
 - Commodities
 - Undrawn commitments
- Category 16 optionality (30 min)
 - Distributors of fuel/energy
 - Insurance
 - Underwriting
- Sub-categories (15 min)
- Next steps (5 min)

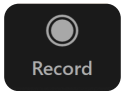
(Draft; for discussion)

Housekeeping and decision-making criteria

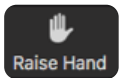
(Draft; for discussion)



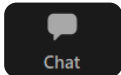
Welcome and Meeting information



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*

* 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.

<i>Illustrative example</i>	Option A: Name	Option B: Name	Option C: Name
1A. Scientific integrity	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons
3. Feasibility to implement	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • Pros • Cons 	<ul style="list-style-type: none"> • 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>.

Timeline for Phase 2

(Draft; for discussion)



Full Scope 3 TWG Meetings

Meeting #	Date	Time	Topic
1	Aug 28		<ul style="list-style-type: none"> Category-specific boundaries & optionality
2	Sep 18		<ul style="list-style-type: none"> Category-specific boundaries & optionality (continued)
3	Oct 9		<ul style="list-style-type: none"> A1. Disaggregation (cross-harmonization with CS TWG and other editorial revisions) Category-specific boundaries & optionality (continued) NEW: Category 10/11 boundaries, justified exclusions, and emission factor guidance
4	Oct 30	9-11 AM ET	<ul style="list-style-type: none"> Cross-cutting boundary for capital goods and WTW of fuels used for category activities Category-specific boundaries/optionality and Category 10/11 boundaries (continued)
5	Nov 20	9-11 AM ET	<ul style="list-style-type: none"> Category-specific optional boundaries (Phase 2, Year 2025) Disaggregation (Group A, Phase 1) Commodities, undrawn commitments, and insurance/underwriting (Group C, Phase 1)
6	Dec 11	9-11 AM ET	<ul style="list-style-type: none"> Complete aforementioned items to draw Phase 1 and category-specific boundary requirements to close EOY Category 10/11 boundaries, including circularity/recycling, will be considered in 2026

Full Scope 3 TWG Meetings (Year 2026)

Meeting #	Date	Time TBC	Topic
7	Jan 15	9-11 AM ET	<ul style="list-style-type: none"> Category-specific quantification requirements and guidance (Cat. 2, 15, etc.) Category-specific EF requirements and guidance (Cat. 4/9, 6, 7, and 5/12) Category-specific classification and emission factors (Cat. 1, 2, 3, 8/13)
8	Feb 5	9-11 AM ET	TBD
9	Feb 26	4-6 PM ET	TBD
10	Mar 16	9-11 AM ET	TBD
11	Apr 9	9-11 AM ET	TBD
12	Apr 30	4-6 PM ET	TBD
13	May 21	9-11 AM ET	TBD
14	Jun 11	9-11 AM ET	TBD

Phase 1 Deliverable

(Draft; for discussion)



Phase 1 Deliverable

- Summarizes the provisional outcomes from Phase 1, as agreed upon by our TWG and the ISB
- Will be provided to the public for informational purposes, to give stakeholders and indication of the direction of travel for Scope 3 revisions
- The Secretariat will not be soliciting public comments until the public consultation in mid-2026
- A **confidential** draft is available for TWG members [here](#)
- Please submit comments, thoughts, or concerns via [this survey](#) by November 30th
- We now plan to release the document in Q1 2026, which allows more time to resolve pending Phase 1 items which were excluded from the draft deliverable linked above:
 - Specific disaggregation requirements (accounting rules, including a/the “measured” tier)
 - Specific language for category 16 sub-categories (language for insurance, underwriting/issuance by arrangers, commodities, undrawn commitments, O&G/energy distributors, and other sub-categories)
 - Including reference to PCAF using “should” language

Series D, Category-specific boundary topics

(Draft; for discussion)



Background: Optional activities

Category	Optional activities	Source
1. Purchased goods and services	For franchisees: upstream scope 3 emissions associated with the franchisor's operations	Technical guidance, p. 51
4. Upstream transportation and distribution	Upstream emissions of fuels (in fuel-based method)	Technical guidance, Appendix D, p. 167
	The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure	Scope 3 Standard, Table 5.4
	Unladen backhaul	Technical guidance, p. 52, 55
5. Waste generated in operations	Emissions from transportation of waste	Scope 3 Standard, Table 5.4
6. Business travel	The life cycle emissions associated with manufacturing vehicles or infrastructure	Scope 3 Standard, Table 5.4
	Hotel stays of business travelers	Scope 3 Standard, p. 46
7. Employee commuting	Emissions from employee teleworking	Scope 3 Standard, Table 5.4
	Commuting for workers that are not employees: interns, franchises, outsourced operations, etc. Commuting of individuals who are not employees of the company, but commute to facilities owned and operated by the company (consultants, contractors, etc.)	Scope 3 Standard, p. 57
8. Upstream leased assets	The life cycle emissions associated with manufacturing or constructing leased assets	Scope 3 Standard, Table 5.4

Background: Optional activities (continued)

Category	Optional activities	Source
9. Downstream transportation and distribution	The life cycle emissions associated with manufacturing vehicles, facilities, or infrastructure	Scope 3 Standard, Table 5.4
	Downstream transportation of customers	Scope 3 Standard, p. 47
	Upstream emissions of fuels (in fuel-based method)	Technical guidance, Appendix D, p. 174
11. Use of sold products	The indirect use-phase emissions of sold products over their expected lifetime (i.e., emissions from the use of products that indirectly consume energy (fuels or electricity) during use)	Scope 3 Standard, Table 5.4
	Maintenance of sold products during use	Scope 3 Standard, p. 48
13. Downstream leased assets	The life cycle emissions associated with manufacturing or constructing leased assets	Scope 3 Standard, Table 5.4
14. Franchises	The life cycle emissions associated with manufacturing or constructing franchises	Scope 3 Standard, Table 5.4
	Scope 3 emissions of franchisees	Technical guidance, p. 131
15. Investments	Debt investments (without known use of proceeds), managed investments and client services, other investments or financial services	Scope 3 Standard, Table 5.4
	Where relevant, companies should also account for the scope 3 emissions of the investee or project	Scope 3 Standard, Table 5.4

"In certain cases, assets controlled by the reporting company that are excluded from its organizational boundary may not be captured by the list of scope 3 categories. In such a case, emissions from these assets should be reported separately as an "other" scope 3 activity." (Standard, p. 57, 120)

Background: Optional activities (continued)

From the Scope 3 Standard, p. 31:

*"Table 5.4 identifies the minimum boundaries of each scope 3 category in order to standardize the boundaries of each category and help companies understand which activities should be accounted for. **The minimum boundaries are intended to ensure that major activities are included in the scope 3 inventory, while clarifying that companies need not account for the value chain emissions of each entity in its value chain, ad infinitum.** Companies **may** include emissions from optional activities within each category."*

- Optionality of activities in many instances was based on their expected low contribution, referring to the "no ad infinitum" argument. That might not be the case, at least, for category 11 (indirect use phase emissions) and 15 (optional investments types).
- Following the accounting principles, however, companies still should quantify and report these optional activities if they are relevant.

Stakeholder feedback: Optional activities

1. Several respondents expressed concern that differences in the optionality of activities and accounting boundaries can give rise to year-over-year GHG inventory fluctuations, including regarding inclusion or exclusion when assets are owned, leased, outsourced, or franchised.
2. Several asserted that this compromises the principles of consistency and relevance.
3. Some stakeholders noted potential inconsistencies regarding the optionality of some scope 3 activities between different frameworks.

SBTi: “Well-to-Wheel/Wake” boundary in transport activities is not optional.

PCAF: differences in classification, and optionality of emissions related to cat. 15.

Series D: Optional boundaries

(Draft; for discussion)



Documents shared

Please find Series D (boundary) revisions to **Table 5.4** (shared October 9th) in this **editable file**:

- [D Revision - Index and Live comments.docx](#) – editable for you to provide live comments.

The following documents were provided **for reference**:

- [D Revisions - TWG member feedback.pdf](#) – this file summarizes proposed revisions, poll results of members, and feedback from members.
- [D Revision - Table 5.4.pdf](#) – proposed revisions displayed in Table 5.4 (revisions here as identical to revisions itemized in file 1 (Index and Live comments) above).

Summary of ***proposed*** category-specific boundary **changes** and **non-changes**

Category	WTW of fuels used	Non-attributable capital goods	Other category-specific boundary considerations and proposed revisions
1	Require	Applicable	Requiring the transportation and accommodation of paid non-employees as a purchased service
2	Require	Applicable	<i>n/a</i>
3	Require	Applicable	<i>n/a</i>
4	Require	Applicable	Requiring inclusion of empty trips (e.g., backhaul)
5	Require	Applicable	Requiring inclusion of transportation of waste
6	Require	Applicable	Requiring inclusion of accommodation (e.g., hotel stays) of employees (strictly defined)
7	Require	Applicable	Requiring inclusion of the operation of remote worksites ^ used by employees in Category 7 ^^
8	Require	Applicable (annualized)	<i>n/a</i>
9	Require	Applicable	Requiring the inclusion of empty trips (e.g., backhaul) Optional inclusion of customers traveling to and from retail stores (no change)
10	Require	Applicable	<i>n/a</i>
11	Require	Applicable	Optional inclusion of indirect use-phase emissions (no change; possible review next year**)
12	Require	Applicable	Requiring inclusion of transportation of waste
13	Require	<i>n/a (Category 2)</i>	Optional inclusion of emissions associated with constructing improvements by ground lessee
14/15	<i>n/a (carried over)*</i>	<i>n/a (carried over)*</i>	Requiring the scope 3 emissions of franchisee/investee
16	<i>n/a (implied)</i>	<i>n/a (implied)</i>	Optional inclusion of licensing in category 16 (proposed) (and other activities excl. O&G distributors)

* The cradle-to-gate (well-to-wheel) emissions of fuels used for value chain activities of investees or franchisees would be assumed (carried over) by an investor or franchisor by them including an investee's/franchisee's scope 3 emissions. ** This may be reconsidered in year 2026. ^ Worksites includes third-party worksites used by employees.

^^ If not included in category 1 as a purchased service.

Cross-cutting boundary considerations

I. Cradle-to-grave emissions of fuels/energy (used by value chain partners)

- Proposed revision (general approach, not actual language)
- Refer to [Appendix A](#)

II. Non-attributable emissions of capital goods (owned and used by value chain partners)

- Current standard/guidance and issue
- A calculation method for categories 2, 8, and 13 was proposed
 - Refer to [Appendix B.2](#) (Category 2) and Refer to [Appendix B.1](#) (Category 8)
- No calculation method for other categories 1, 3, 4, 5, 6, 7, 9, 12 has been presented
 - Refer to [Appendix B.1](#) (Category 1, 3, 4, 5, 6, 7, 9, 12)
- **Other language (refer to [Appendix B.1](#))**
 - Prudence requirement for boundary interpretation (Rev. D20.1) – Support: 87%
 - Exception to disaggregation rule for required/optional emissions (Rev. D20.2) – Support: 93%

I. Cradle-to-grave emissions of fuels/energy

- **Proposed revision** – high-level, for actual language revised Table 5.4 (available [here](#)):
 - **Fuels** combusted by value chain partners:
 - Companies **shall** account for the combustion-related and cradle-to-gate (combined, A.K.A. well-to-wheel) emissions of fuels used by a value chain partner(s) in any scope 3 category
 - Combustion-related (A.K.A. tank-to-wheel) emissions (*the vendor's scope 1 emissions*)
 - Cradle-to-gate (A.K.A. well-to-tank) emissions (*the vendor's scope 3 category 3 emissions*)
 - **Energy** used by value chain partners:
 - Companies **shall** account for the combustion-related and cradle-to-gate (combined, A.K.A. well-to-wheel) emissions of fuels used to generate energy (including electricity, steam, heat, and cooling) used by value chain partner(s) in any scope 3 category
 - Combustion-related (A.K.A. tank-to-wheel) emissions of of fuels (*the vendor's scope 2 emissions*)
 - Cradle-to-gate (A.K.A. well-to-tank) emissions of fuels, (*the vendor's scope 3 category 3 emissions*)
- **Notes:**
 - Refer to **Appendix A** for more
 - This boundary requirement would apply to all scope 3 category activities

II. Inclusion of non-attributable emissions of capital goods

- **Current GHG Protocol standard/guidance:**
 - **Scope 3 Standard (2011)**
 - Only the owner of a capital good is **required** (shall) to account for the emissions (category 2)
 - Companies that buy products/services relying on a capital good do **not** have to report said emissions:
 - The inclusion of the “life cycle emissions associated with manufacturing or constructing” assets, capital goods, infrastructure, etc. used by categories is **optional** (Scope 3 Standard, Table 5.4)
 - **Product Standard (2011)**
 - The inclusion of “non-attributable processes” (e.g., capital goods and infrastructure) is “not required” (i.e., **optional**) but “... **may be relevant** to some studied products...” (Product Standard, p. 42-44)
 - For example, “... renewable energy generation... require capital infrastructure that may have a large GHG impact relative to the rest of the inventory.” (Product Standard, p. 42-44)
- **Issue:**
 - Some stakeholders believe that these (non-attributable) emissions should be **required**
 - The emissions of non-attributable capital goods **may be significant** (e.g., renewable energy)
 - This allocation is commonly done for product carbon footprints (product-level assessments)

II. Inclusion of non-attributable emissions of capital goods (continued)

Regarding the inclusion of non-attributable emissions of leased assets used by lessees (in categories 8):

A coordinated calculation method for categories 2, 8, and 13 was proposed.

- Refer to **Appendix B.2 (Category 8)**
 - This proposed calculation methodology could enable **lessees** to account for the non-attributable emissions associated with their used of a leased assets (category 8) on an annualized basis
- Refer to **Appendix B.3 (Category 2)**
 - This proposed calculation methodology could enable **buyers** of capital goods to account for the emissions of both **new** and **used/second-hand** capital goods purchased (category 2)
- Both methods and the **revised Table 5.4** (available [here](#)) lets companies define the **useful lifespan** of assets; like it is for category 11 (i.e., the “total lifespan expected use of product”)*
 - More restrictive requirements (beyond guidance) needs to be weighted against the fact that the useful lifespan of an asset is (a) a well-established, widely used, and widely understood concept across accounting, tax, asset management, procurement, and sustainability functions and (b) routinely known and/or available inside companies, including because it’s required for multiple legally mandated processes.

* Refer to the *Technical Guidance*, Appendix D, p. 178

II. Inclusion of non-attributable emissions of capital goods (continued)

Regarding the inclusion of non-attributable emissions of capital goods for other scope 3 categories:

No calculation method for other categories 1, 2*, 3, 4, 5, 6, 7, 9, 12 has been proposed.

- Non-attributable emissions of capital goods *could* be **allocated** to products and/or services manufactured and/or provided by value chain partners using said capital goods
- Like for category 2, 8, and 13, the expected lifespan of use would be determined by a reporting company
- Refer to [Appendix B.1](#) for 2 **calculation examples**
- In general, proposed calculations would rely on (and mirror) the following **narrative examples**:
 - For purchased products (e.g., one unit product) (**Category 1**), the supplier and value chain partner (e.g., **manufacturer**) could allocate the emissions associated with constructing a machine (tCO₂e) used to produce said products over the expected number of products manufactured over its lifespan of use **
 - For purchased transport and distribution services (e.g., unit tonne-km) (**Category 4**), the value chain partner (i.e., **T&D provider**) could allocate emissions associated with manufacturing the vehicle (tCO₂e) used over the (expected) total tonne-km transported over the expected lifespan of use of the vehicle
 - For waste generated in operations or EOL treatment (e.g., 1 kg material) (**Category 5**), the value chain partner (i.e., **waste handler**) could allocate emissions associated with manufacturing the vehicle (tCO₂e) over the (expected) total kg of waste transported over the expected lifespan of use of the vehicle

* I.e., allocating non-attributable emissions of capital goods used to manufacture purchased capital goods. ** This would commonly (though not always) utilize three figures: 11/20/25 | 26
(a) Total emissions associated with manufacturing the capital good (tCO₂e); (b) Expected lifespan of use (months, years); (c) Expected number of products produced therefrom per year (unit number)

TWG member survey results*

- **Require the inclusion of capital goods used to perform category activities**
 - **Support: 81%**
 - Opposition: 19%
 - Abstentions: 0%
- **Qualitative feedback**
 - Provide details on all cradle to gate emissions for fuel/energy to include (e.g., WTT T&D)
 - Need for regionally-representative emission factors, based on location-average (or market-based) feedstock and supply situation, technology level of extraction/product and distribution. To drive data availability and transparency from both fuel/energy suppliers, and background EF/LCA databases.
 - Phase-in guidance (in particular for companies using EEIO based EF) and time to implement is needed.
 - More time need to deep dive into calculation and phase-in guidance, unclear how allocation issues relating to renewables vs. long-held energy systems would be mitigated
 - Any phase-ins or justified exclusions should be clearly communicated to ensure downstream users of the information can account/adjust for this to enable more accurate comparisons
 - SBTi already mandates use of WTW EFs for transport categories, thus extremely supportive of GHGP adopting WTW EFs as a requirement for transport-related categories. For non-transport related categories, it is more of a 'nice to have' as other sources of emissions tend to be more material in those categories

Estimates and justified exclusions?

- Companies **may** estimate the emissions associated with non-attributable emissions from capital goods
 - This is in line with all scope 3 categories which provide a range of methods (spend-based, LCA emission factors (secondary), supplier-provided, etc.)
 - This is in line with category 11 which in most cases necessitates that companies approximate the useful lifespan of sold products (e.g., using customer “use profile[s]”)
 - This is in line with category 12 which in most cases necessitates that companies approximate the EOL handling of sold products (e.g., using “end-of-life profiles”)
- Should a **justified exclusion** be permitted if/when companies (a) have zero visibility into the equipment used to manufacture purchased products nor (b) any reasonable estimates or secondary emissions data?
 - Note that requiring these non-attributable emissions means that the 95% inclusion threshold (and 5% exclusion threshold) would apply; such that a company *could* either:
 - Reasonably expect these non-attributable emissions to fall within the 5% exclusion threshold (e.g., if capital goods and associated non-attributable emissions could reasonably be expected to account for ~1-5% of the cradle-to-gate emissions of purchased products/service emissions); OR
 - Rely on the de minimis clause (possibly).

A1. Disaggregation by specificity

(Draft; for discussion)



Reporting requirement(s) for disaggregated scope 3 emissions

- The following outstanding items remain:
 - 1. Proposal:** Disaggregate **all scope 3 categories** *
 - Support, oppose, abstain
 - 2. Proposal:** Disaggregate **all sub-categories** *
 - Support, oppose, abstain
 - 3. Proposal:** Disaggregate **all optional boundary emissions** *
 - Support, oppose, abstain
- Requiring disaggregation across all scope 3 categories could support consistency, readability, prescriptiveness, and requirement (language) simplicity for interpretability and clarity.

Final reporting requirement(s) for disaggregated scope 3 emissions (II)

- Outstanding items (continued):

4. Consideration: Format of disclosure

- Disaggregation (for each category, sub-category, both required and optional) shall be reported via:
 - (i) tonne (t) CO₂e
 - (ii) percentages (%); **OR**
 - (iii) either (tonne or %)

5. Consideration: Shall companies report total scope 3 inventory disaggregated figures? **

- Support, oppose, abstain

* The Secretariat recommends requiring disaggregation across all scope 3 categories for consistency, readability, prescriptiveness, and requirement simplicity (in terms of standard language and interpretability). ** I.e., 10% specific, 10% partially specific, 50% EEIO/spend-based, and 30% unclassified for the entire scope 3 inventory

Final reporting requirement(s) for disaggregated scope 3 emissions (II)

- Outstanding items (continued):

6. **Consideration:** Specify that disaggregated figures can be provided in an Annex (see next slide)

- “A reporting company may disclose *disaggregated* scope 3 category emissions data via a supplementary annex.”
- “A reporting company may report *non-disaggregated* scope 3 category emissions sub-totals if and only if the company discloses *disaggregated* scope 3 category emissions data via a supplementary annex”

– Support, oppose, abstain

* The Secretariat recommends requiring disaggregation across all scope 3 categories for consistency, readability, prescriptiveness, and requirement simplicity (in terms of standard language and interpretability). ** I.e., 10% specific, 10% partially specific, 50% EEIO/spend-based, and 30% unclassified for the entire scope 3 inventory

Draft disaggregation table for consideration (see full sample [here](#))

Scope 3 GHG Inventory	Required	Optional	Measured	Specific	Partially specific	EEIO/spend	Unclassified
95% inclusion threshold	9,500	n/a	540	988	1,901	3,288	2,784
5% exclusion threshold (excludes 500 tCO ₂ e from EEIO/spend Cat. 1)	500	n/a	-	-	-	500	-
Total Scope 3 Inventory (required scope 3 emissions)	10,000	n/a	540	988	1,901	3,788	2,784
Category 1	5,000	-	500	500	1,000	1,415	1,585
Category 2	200	-	-	20	40	120	20
Category 3	200	-	-	20	40	64	76
Category 4	200	-	20	20	40	101	19
Category 5	200	-	-	20	40	120	20
Category 6	200	-	-	20	40	37	103
Category 7	200	-	20	8	3	120	49
Category 8	200	-	-	20	18	37	125
Category 9 (required)	200	-	-	20	40	120	20
Category 9 (optional)	-	50	-	5	10	30	5
Category 10	200	-	-	20	40	105	35
Category 11 (required)	1,900	-	-	190	380	1,140	190
Category 11 (optional)	-	50	-	5	4	30	11
Category 12	200	-	-	20	40	37	103
Category 13	200	-	-	20	40	17	123
Category 14	200	-	-	20	4	11	165
Category 15	700	-	-	70	136	345	149
Category 16 (required)	-	-	-	-	-	-	-
Category 16 (optional)	-	1,895	-	177	318	804	596

Disaggregation rules (detailed)

- Detailed disaggregation rules (v2) have been shared with the group earlier this year
- A third draft of these rules (v3) is being reviewed and will be shared next week
- These rules need be to reviewed once again by TWG members for technical consistency, clarity, interpretability, and readability – ahead of public release in the Phase 1 Deliverable
- Expect these rules Thursday, **November 27th**

Category 15 / 16 Items

(Draft; for discussion)



Commodities as investments

Proposal: Commodities as investments (formerly Category 15) to be moved to Category 16

- Implications:
 - Commodities purchased and used in operations remain in Category 1
 - Commodities purchased as investments (incl. energy intermediaries) in Category 16 (optional)
- Reasoning:
 - Many commodities are purchased and sold in a way akin to wholesaling (not investing)
 - Some commodities (e.g., electricity) are traded multiple times before being sold to final end users; including them in Cat. 15 may balloon scope 3 inventories and minimize visibility of other categories
 - Accounting for all commodities purchased and sold throughout the year (and which are off-balance sheet EOY) is not compatible with the % carrying value reporting requirement (Revision C9)
 - The calculation method for commodities would differ from all other proportional ownership-based calculation methods in category 15 (and resemble category 1 cradle-to-gate calculations)
- Challenges:
 - Category 16 defines facilitated activities as being activities a company never owns; this is not true of commodities—which are owned by a commodities trader—thus challenging its placement in Category 16
 - Explicitly specifying that the inclusion of commodities is optional in Category 16 could open a non-disclosure loophole for O&G traders or other intermediary companies that purchase and sell fossil products

• "A company **shall** disclose the percentage of the carrying value of its total investments and other financial assets (that satisfy category 15 investments and financial instruments classification detailed in Table 6.9), as reported on its balance sheet, that are accounted for and reported in its scope 3 category 15 inventory."

Decision-making criteria analysis for Commodities

Decision-making criteria	Option 1: Keep in Category 15	Option 2: Move to Category 16
1A. Scientific integrity	• n/a	• n/a
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> Pros: Requiring them could be more complete and more transparent Cons: n/a 	<ul style="list-style-type: none"> Pros: n/a Cons: Optionality could be less complete and less transparent
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> Pros: Including commodities could drive more visibility and management of commodities Cons: Some commodities traders may have limited influence over traded commodities 	<ul style="list-style-type: none"> Pros: Some commodities traders may have the ability to influence traded commodities Cons: Optionality for commodities traders could limit visibility and management
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> Pros: Some commodities (e.g., water, grains, fuels) are subject to financial climate-risk which is material and should be disclosed (requiring it in category 15 supports this) Cons: May not satisfy 'asset' definition 	<ul style="list-style-type: none"> Pros: Some commodities (e.g., water, grains, fuels) are subject to financial climate-risk which is material and should be disclosed (optionality in category 16 could support this) Cons: May not satisfy 'facilitated' definition
3. Feasibility to implement	<ul style="list-style-type: none"> Pros: Secondary LCA emission factors for commodities are widely available Cons: n/a 	<ul style="list-style-type: none"> Pros: Secondary LCA emission factors for commodities are widely available Cons: XX

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

Undrawn commitments

Proposal: Undrawn commitments (formerly Category 15) to be moved to Category 16

- Implications:
 - A reporting company **may** account for the prospective emissions that undrawn commitments could (but do not currently or at a point in time) finance, in Category 16
- Reasoning:
 - Undrawn commitments are **not** investments (they are **not** financed emissions)
 - *Lexis: "Refers to the loans that the Lender has agreed to be made available to the Borrower under a Revolving Credit Facility or a Delayed Draw Term Facility that the Borrower has either not drawn, or has drawn and repaid."*
 - Undrawn commitments are obligations made to a Borrower (**prospective investments**)
 - Meaning that, once drawn, these amounts would become (are) investments proper (Category 15)
 - Undrawn commitments could not be used in the % carrying value reporting requirement
 - Given that they are off-balance sheet, footnote amounts because no cash has been disbursed
 - No calculation method exists (options are currently being developed/considered by PCAF with IFRS)

Decision-making criteria analysis for Undrawn commitments

Decision-making criteria	Option 1: Keep in Category 15	Option 2: Move to Category 16
1A. Scientific integrity	<ul style="list-style-type: none"> Cons: These are not financed emissions; no emission have occurred yet 	<ul style="list-style-type: none"> Pros: Companies may quantify how undrawn commitments facilitate activity
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> Cons: Keeping in category 15 is not consistent with financed emissions definition; commodities are inventory items, even though many commodities are purchased and sold like investments 	<ul style="list-style-type: none"> Pros: Maintains consistency of category 15 definition as financed emissions; appears to satisfy definition of facilitated activity Cons: n/a
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> Pros: Cons: Mixing investments & non-investments in category 15 may confuse readers/users 	<ul style="list-style-type: none"> Pros: Placing undrawn commitments in category 16 acknowledges their potential impact and lets lenders decide to disclose Cons: n/a
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> Pros: IFRS requires disclosure of undrawn loan commitments; PCAF is requiring inclusion of undrawn commitments as per an exposure draft Cons: No other standards/frameworks 	<ul style="list-style-type: none"> Pros: IFRS/PCAF requires disclosure of undrawn loan commitments; this disclosure requirement would work in Category 16 Cons: n/a
3. Feasibility to implement	<ul style="list-style-type: none"> Pros: n/a Cons: No methodology currently exists so requiring this in Category 15 may be challenging 	<ul style="list-style-type: none"> Pros: Optionality in Category 16 gives companies time to adopt new calculation methods (PCAF) Cons: n/a

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

Justified exclusions in Category 15

- Category 15, justified exclusion clause should include absence of a widely used or publicly available calculation method as a valid justification for exclusions.
- **Current revision text:** “Justifying the inability to reasonably estimate any category 15 emissions requires that a reporting company represent and disclose: (a) that effort was made or taken by the reporting company to estimate the emissions, (b) an explanation articulating the constraint(s) which make the effort unreasonable (e.g., lack of data, ~~legal constraints~~, or timing issues), and (c) that the reporting company will make a commitment to reconsider this justified exclusion in future years (either annually, semi-annually, or every five years in the least).”
- **Proposed modified revision text:** “Justifying the inability to reasonably estimate any category 15 emissions requires that a reporting company represent and disclose: (a) that effort was made or taken by the reporting company to estimate the emissions, (b) an explanation articulating the constraint(s) which make the effort unreasonable (e.g., lack of data, **lack of a calculation method(s)**, or timing issues), and (c) that the reporting company will make a commitment to reconsider this justified exclusion in future years (either annually, semi-annually, or every five years in the least).”

Category 16 optionality

(Draft; for discussion)



Category 16: distributors of fuel/energy

- Currently, the only proposed required item in Category 16 is: Distribution of fuel and/or energy
 - Discuss which other if any items should be required
- **Discuss proposal to:** Require O&G distributors – as the *only* item in Category 16 that is required (using “shall” language)
 - Support, oppose, abstain
- Reference:
 - **Description:** “Distributors of fuel and energy are entities whose primary role is to transport, transmit, or deliver fuels and energy on behalf of other parties, without purchasing or taking ownership of the commodity itself. These companies provide logistical or infrastructural services that enable the movement of fuels and energy from extractors, refiners, generators, or utilities to downstream customers. This category explicitly excludes companies that purchase or sell fuel or energy—including commodity traders, resellers, and wholesalers—since those activities involve a transfer of ownership and fall under Category 15: Investments/Franchises/Licensing (proposed revision for commodity sales).”
 - **Requirement:** “Companies **shall** account for the upstream (cradle-to-gate) and downstream (combustion-related and/or gate-to-grave) emissions of distributed fuel and energy (excluding emissions consumed or lost in the T&D system).”
 - For the avoidance of doubt, fuel and energy lost during distribution by a distributor in the T&D system (i.e., from the point that the distributor is in possession of and controls the fuel and energy, effectively, customer to customer or gate-to-gate) **shall** be accounted for as scope 3 category 3 emissions.

Category 16: insurance

- Should insurance-associated emissions (Category 15) be recommended?
- **Discuss proposal to:** Recommend (using “should” language) rather than require (“shall”) that insurers account for insurance-associated emissions.
 - Support, oppose, abstain
- Reference:
 - “Insurers **should** account for (16.1.1) insurance-associated emissions.”
 - “Insurers **should** rely on PCAF Part C to quantify (16.1.1) insurance-associated emissions.”

Category 16: underwriting and issuance

- Should underwriting and issuance emissions (Category 15) be recommended?
- **Discuss proposal to:** Recommend (using “should” language) rather than require (“shall”) that insurers account for insurance-associated emissions.
 - Support, oppose, abstain
- Reference:
 - “Companies **should** account for the scope 1, scope 2, and scope 3 emissions from underwriting and issuance in accordance with *The Global Accounting and Reporting Standard, Part B, Facilitated Emissions* by Partnership for Carbon Accounting Financials (PCAF), First Version, December 2023.”

Sub-categories (for each scope 3 category)

(Draft; for discussion)



Revision D30: Sub-categories

- Consider whether and which categories should have sub-categories (beyond Category 15 and 16)
- Refer to [Category sub-classification](#) for notes
- Should scope 3 sub-categories be defined?
 - Yes, reporting companies should itemize their scope 3 category emission by sub-category
 - No, reporting companies should not be required to itemize their scope 3 emissions by sub-category (beyond category 15 and category 16 sub-category classifications)
 - Other
 - Abstain

Category sub-categories?

The following decision-making criteria (DMC) analysis is provided for members to consider the option to require that reporting companies itemize category emissions by **sub-category**:

<i>DMC analysis</i> (source)	Option 1: Status quo (only Cat. 15 & 16)	Option 2: Specify required sub-categories	Option 3: Specify optional sub-categories
1A. Scientific integrity	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons:
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons:
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons:
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons:
3. Feasibility to implement	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons: 	<ul style="list-style-type: none"> Pros: Cons:

Using the GHG Protocol *Product Standard* terminology: "Processes and services, materials and energy flows [that] are not directly connected to the studied product because they do not become the product, make the product, or directly carry the product through its life cycle." The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

Next Steps

(Draft; for discussion)



Next steps

- GHG Protocol Secretariat:
 - Distribute the Recording
 - Distribute Meeting Minutes and the Feedback Form
 - Documents:
 - Written Summary of stakeholder feedback summarizing boundary issues raised by stakeholders
 - Latest Table 5.4 Revisions document
 - Latest Facilitated Activities (Category 16) document
 - Latest Investments (Category 15) document
 - Sub-classification of scope 3 categories document (subject to need)
- Next meeting:
 - **December 11th Meeting #6 at 9 - 11 AM ET**
 - This will be the last TWG meeting of 2025, we will reconvene on January 15th 2026



Thank you!

Alexander Frantzen
Scope 3 Manager, WRI
alexander.frantzen@wri.org

Claire Hegemann
Scope 3 Associate, WRI
claire.hegemann@wri.org



(Draft; for discussion)

Appendix A

I. Requiring cradle-to-grave
emission factors for fuels and/or
energy (across all categories)

I. **Require** cradle-to-grave EFs for fuels and/or energy (across all categories)

- **76%** believe that full life cycle emissions of fuels/energy across all scope 3 categories should be **required** *
- Estimated or actual **fuel** used by value chain partners in any scope 3 category reported by a reporting company **shall** include both the:
 - Cradle-to-gate (or well-to-tank) emissions **and**
 - *(the vendor's scope 3 category 3 emissions)*
 - Combustion-related (or tank-to-wheel) emissions
 - *(the vendor's scope 1 emissions)*
- Estimated or actual **energy** (including electricity, steam, heat, and cooling) used by value chain partners in any scope 3 category reported by a reporting company **shall** include both the:
 - Cradle-to-gate (or well-to-tank) emissions of fuels, if any, used to generate said energy
 - *(the vendor's scope 3 category 3 emissions)*
 - Combustion-related (or tank-to-wheel) emissions of of fuels, if any, used to generate said energy
 - *(the vendor's scope 2 emissions)*

* Based on member feedback from the post-Meeting 01 indicative survey ([D Revisions - TWG member feedback.pdf](#))

I. **Require** cradle-to-grave EFs for fuels and/or energy (continued)

- As presented in Meeting 03; see next slide for additional proposed text for Category 1 and Category 2

Category	REQUIRED	Notes
Category 1, 2, and 3	n/a	Should it be stated here as well?
Category 4, 9 Category 5, 12 Category 6 Category 7 Category 8 Category 10 Category 11 Category 13	<p>"All upstream (cradle-to-gate) emissions of fuels and/or energy used by..."</p> <ul style="list-style-type: none"> [D4.3][D9.3] "... transportation and distribution providers." [D5.2][D12.2] "... waste handlers." [D6.5] "... transportation carries" [D7.3] "... during employee commuting or remote work (the latter, if not included in category 1)." [D8.3] "... leased assets." [D10.3] "... customers." [D11.3] "... end users." [D13.3] "... lessees in leased assets." 	
Category 14 and 15	n/a	Implied as it's required for investees

I. **Require** cradle-to-grave EFs for fuels and/or energy (continued)

- The following revisions were added to clarify the inclusion of cradle-to-gate (i.e., well-to-wheel) emissions of fuels used by value chain partners to perform activities reported by a reporting company its scope 3

Category	REQUIRED	Notes
Category 1	[D1.7] “All upstream (cradle-to-gate) emissions of fuels and/or energy used by value chain partners to manufacture, distribute, and/or provide goods and/or services purchased by a reporting company.”	Should [D1.7] and [D2.7] be specified for Category 1 and 2, respectively, to ensure cross-category consistency with the boundary extension introduced for other categories (previous slide)?
Category 2	[D2.7] “All upstream (cradle-to-gate) emissions of fuels and/or energy used by value chain partners to manufacture, distribute, and/or provide capital goods purchased by a reporting company.”	
Category 3	No change.	Category 3 is defined as the upstream (cradle-to-gate) emissions associated with purchased fuel and/or energy.

TWG member survey results

- ***Placeholder, to be updated ahead of meeting. Complete the survey [here](#)***
- Require cradle to gate emission factors for fuel/energy across all scope 3 categories (i.e. shall language)
 - Support: %
 - Opposition: %
 - Abstentions: %
- Qualitative feedback:

Rev. D20.4 – Justified exclusion of cradle-to-gate emissions

- **Proposed language:**
 - “If a reporting company is unable to source cradle-to-gate emission factors for fuels/energy or is unable to determine whether an emissions factor for a scope 3 category activity (including purchased goods and services) includes the cradle-to-gate emissions (in addition to the combustion-related emissions) of fuels/energy used for said activity, then said company may use the emission factors subject to disclosure the it either may not or does not include cradle-to-gate emissions of fuels/energy used for activities in said category.”
- Purpose:
 - In some instances:
 - Reporting companies that use secondary emission factors or supplier-specific emissions data (primary or secondary) may not be able to determine whether fuel/energy use is accounted for using cradle-to-gate *and* combustion or exclusively combustion-related emission factors; or
 - Reporting companies may be unable to find cradle-to-gate emission factors (data availability)
 - In such cases, the above justified exclusion of cradle-to-gate emissions is designed to permit that companies report scope 3 emissions that lack cradle-to-gate emissions (subject to disclosure)

I. **Require** cradle-to-grave EFs for fuels and/or energy (continued)

- *A complete cradle-to-grave emission factor for fuel **does not** necessitate the inclusion of capital goods used to extract, process, or transport the fuel*
- *A complete cradle-to-grave emission factor for energy **does not** necessitate the inclusion of capital goods used to generate the energy (e.g., solar facilities)*
- *Both (inclusion of capital goods) are considered in the Section II herein ("Required/optional inclusion of capital goods used to perform category activities")*

Appendix B (B.1, B.2, B.3)

(Draft; for discussion)



Appendix B.1

All categories (excluding 2, 8, 13)

Non-attributable emissions of capital goods

(Draft; for discussion)



Product Standard: 7.3.5 Non-attributable processes (p. 42-44)

- “Companies are **not required to include** non-attributable processes (processes that are not directly connected to the studied product) in the boundary. However, **companies should include** non-attributable processes in the inventory if they cannot be separated from attributable process data, or if the company determines that the process is **relevant** to the studied product. Relevance is determined by the company and may be based on many different factors including business goals and reduction potentials, product rules or sector guidance, and relative impact in relation to the rest of the inventory.”
- “**Non-attributable process that may be relevant to some products are capital goods and infrastructure.** For example, renewable energy generation such as hydroelectric and wind power require capital infrastructure that may have a large GHG impact relative to the rest of the inventory. This can be determined using the same basis and threshold defined when determining insignificance. Additionally, a company may see corporate activities, a non-attributable process, as a key area of reduction potential and therefore determine they are relevant to include in the product inventory.”

Literature for pre-read (refer to Appendix C for citations)

- **(Frischknecht, et al., 2007):** ([Sharepoint](#))
 - “Capital goods must be included in the assessment of climate change impacts of non-fossil electricity, agricultural products and processes, transport services and waste management services.”
 - “... capital goods may be excluded when analysing fossil-fueled electricity, and metals...”
 - “The mixing of datasets including and excluding capital goods is no problem as long as their share on total impacts is low and partial omissions do not lead to a significant imbalance in comparative assertions.”
- **(Liang, et al., 2022):** ([Sharepoint](#))
 - For a sample of collected cases: “... the operational process accounts for the largest share of building LCCs, averaging 67%, followed by the production and construction phase, averaging 31%.”
- **(Wang, et al., 2018):** ([Sharepoint](#))
 - “The discrepancy in the results [for medium-density fiberboard or MDF] can be attributed to different methodological issues... [including] the... inclusion or exclusion of capital goods, and other boundary issues...”
- **(Nugent and Sovacool, 2024):** ([Sharepoint](#))
 - This study* “... finds a range of emissions intensities... from a low of 0.4 g CO₂-eq/kWh to a high of 364.8 g CO₂-eq/kWh for wind energy, with a mean value of 34.11 g CO₂-eq/kWh. For solar energy, it finds a range of 1 g CO₂-eq/kWh to 218 g CO₂-eq/kWh, where the mean value is 49.91 g CO₂-eq/kWh.”
- **(Mahlan, et al., 2025):** ([Sharepoint](#))
 - “Data uncertainty and complexity remain major concerns regarding capital goods inclusion in LCAs. This study suggests the optimal approach to accessing reliable capital goods data entails a multifaceted process: a process encouraging rigorous primary data collection through implementing advanced technologies and uncertainty analyses techniques alongside continuous existing database upgradation to minimise uncertainty and enhance reliability and comprehensiveness of LCA outcomes.”

* “This study has screened 153 lifecycle studies of greenhouse gas equivalent emissions for wind turbines and solar panels to identify a subset of the 41 most relevant, current, peer-reviewed, original, and complete assessments” (p. 12, section 7. Conclusions)

Inclusion of non-attributable (embodied) emissions of capital goods

- “All upstream (cradle-to-gate) emissions associated with manufacturing or constructing capital goods used in...”

Category	REQUIRED OR OPTIONAL
Cat. 1; 2	[D1.2] “... production of goods and services...”; [D2.3] “... capital goods...”
Cat. 3	(a) [D3.4] “... purchased fuels” (b) [D3.4] “... fuels consumed in the generation of purchased energy” and/or [D3.5] “... to generate purchased electricity or other forms of purchased energy” (c) [D3.4] “... fuels lost or consumed in a T&D system” and/or [D3.5] “... to generate electricity or other forms of energy lost or consumed in a T&D system” (d) [D3.5] “... to generate electricity or other forms of energy sold to end users”
Cat. 4 and 9	[D4.4] “... transportation and distribution”
Cat. 5; 12	[D5.3] “... waste handling”; [D12.2] “... waste handling”
Cat. 6	[D6.6] “... business travel”
Cat. 7	[D7.4] “... employees for commuting”
Cat. 10, 11	Not considered
Cat. 14, 15	n/a

Inclusion of non-attributable (embodied) emissions of capital goods

- Scope 3 TWG indicative polling (post-Meeting 01) may be inconsistent *
 - Regarding requiring the inclusion of “non-attributable” ** emissions associated with manufacturing or constructing the capital goods used to perform a category-specific activity or activities:
 - **77%** of members believe Category 3 should **require** inclusion for purchased fuels
 - **82%** of members believe Category 3 should **require** inclusion for purchased energy
 - **92%** of members believe Category 4 and 9 should **maintain optional** inclusion for T&D
 - **90%** of members believe Category 5 should **maintain optional** inclusion for waste handling
 - **85%** of members believed Category 6 should **maintain optional** inclusion for business travel
 - **77%** of members believe Category 13 should **require** inclusion for leased assets (by lessee)
 - However, regarding the inclusion of “non-attributable” ** emissions associated with manufacturing or constructing capital equipment used to perform any scope 3 activity, i.e., **cross-cutting**: *
 - **50%** of members believe the Standard should **require** inclusion for all scope 3 categories
 - **50%** of members believe the Standard should **maintain optional** inclusion for all scope 3 categories

* Based on member feedback from the post-Meeting 01 indicative survey (which did not achieve quorum) ([D Revisions - TWG member feedback.pdf](#)).

** Using the GHG Protocol *Product Standard* terminology: “Processes and services, materials and energy flows [that] are not directly connected to the studied product because they do not become the product, make the product, or directly carry the product through its life cycle.”

Inclusion of non-attributable (embodied) emissions of capital goods

A decision-making criteria (DMC) analysis regarding the inclusion of non-attributable (embodied) emission of capital goods used to perform activities across all scope 3 categories (excluding category 2).

<i>DMC analysis</i> (source)	Option 1: Require for <u>all</u>	Option 2: Optional for <u>all</u>	Option 3: Require for <u>some</u>
1A. Scientific integrity	<ul style="list-style-type: none"> Most scientific as some category emissions are significant (by magnitude) 	<ul style="list-style-type: none"> Least scientific as some companies may exclude significant (by magnitude) emissions 	<ul style="list-style-type: none"> More scientific if categories for which these emissions are significant (by magnitude) are included (required)
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> Most complete, consistent, relevant, and transparent 	<ul style="list-style-type: none"> Not complete Less transparent May be inconsistent; exclude relevant 	<ul style="list-style-type: none"> May be complete Improves consistency, relevance, and transparency
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> Value chain activities that are capital-intensive and/or GHG-intensive capital goods would be identified/acted upon 	<ul style="list-style-type: none"> Value chain activities that are capital-intensive and/or GHG-intensive capital goods would/could be ignored 	<ul style="list-style-type: none"> Some (not all) capital-intensive and/or GHG-intensive capital goods used for value chain activities would be identified
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> The 5% exclusion threshold and de minimis provision could support harmonization 	<ul style="list-style-type: none"> Harmonizes with ISO 14064-1/14067 (materiality-based) & EU PEF/PEFCRs (if "relevant & significant") * 	<ul style="list-style-type: none"> Could harmonize with ISO 14064-1/14067 and EU PEF/ PEFCRs in many cases, though not entirely
3. Feasibility to implement	<ul style="list-style-type: none"> Data uncertainty, complexity, and limited availability of both primary & estimated data 	<ul style="list-style-type: none"> Least challenging; companies with primary data or capacity to estimate may include; otherwise excluded 	<ul style="list-style-type: none"> May still be challenging for some (all) of the required categories; less for the optional categories

Using the GHG Protocol *Product Standard* terminology: "Processes and services, materials and energy flows [that] are not directly connected to the studied product because they do not become the product, make the product, or directly carry the product through its life cycle." The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing.

Meeting 04 polling was inconclusive

Regarding cross-cutting inclusion of non-attributable emissions of capital goods used by value chain partners (in categories 1, 3, 4, 5, 6, 7, 9, 12):

- **Considerations in Meeting 04 using the decision-making criteria were inconclusive**
 - A decision-making criteria (DMC) analysis by the Secretariat (refer to **Appendix XXX**) did not yield conclusive guidance regarding making the inclusion of non-attributable emission of capital goods
 - Option 1: Required across all categories
 - Option 2: Optional (no change) for all categories
 - Option 3: Required for some categories
 - Refer to **Appendix B.1** for more
- **Indicative polls of TWG members were inconclusive**
 - On a category-specific basis, many members recommend *requiring* inclusion
 - However, on a cross-category basis, feedback was split 50/50 between *required/optional* inclusion

New Option 4: Recommend inclusion of non-attributable emissions, when significant

- **New Option 4 (an adaptation of Option 2 and Option 3) ***
 - “If a reporting company reasonably expects the non-attributable emissions associated with manufacturing or constructing capital goods (used by a value chain partner to manufacture a product, deliver a service, or perform an activity) to account for more than **twenty percent (20%)** of the cradle-to-gate emissions of said activity (on an amortized or allocated basis), then they **should** account for said emissions.”
- Significance threshold options:
 - 5%
 - 10%
 - 20% - *this option was proposed for pareto optimality*
 - Other

* Refer to [Appendix B.1](#) for Options 1, 2, and 3 decision-making criteria (DMC) analysis

Post-Meeting 04 TWG member survey results *

- **Require the inclusion of capital goods used to perform category activities**
 - **Support: 81%**
 - Opposition: 19%
 - Abstentions: 0%
- **Qualitative feedback**
 - Provide details on all cradle to gate emissions for fuel/energy to include (e.g., WTT T&D)
 - Need for regionally-representative emission factors, based on location-average (or market-based) feedstock and supply situation, technology level of extraction/product and distribution. To drive data availability and transparency from both fuel/energy suppliers, and background EF/LCA databases.
 - Phase-in guidance (in particular for companies using EEIO based EF) and time to implement is needed.
 - More time need to deep dive into calculation and phase-in guidance, unclear how allocation issues relating to renewables vs. long-held energy systems would be mitigated
 - Any phase-ins or justified exclusions should be clearly communicated to ensure downstream users of the information can account/adjust for this to enable more accurate comparisons
 - SBTi already mandates use of WTW EFs for transport categories, thus extremely supportive of GHGP adopting WTW EFs as a requirement for transport-related categories. For non-transport related categories, it is more of a 'nice to have' as other sources of emissions tend to be more material in those categories

Example 1: Requiring non-attributable emissions of capital goods by electricity buyer

- Reporting company (Company A) buys 100% of solar electricity generated by Company B
- Generator and Distributor/Utility (Company B) generates solar electricity (sells electricity to Company A)
- Company D manufactures PV (sells to Company C), Company C develops facility (sells to Company B)

				W/out capital goods	W/ capital goods
	Supplier	Supplier	Vendor	Reporting company	Reporting company
	Company D	Company C	Company B	Company A	Company A
	Manufacturer	Developer	Utility	Electricity buyer	Electricity buyer
Total	1,000	1,500	1,500	0	75
Scope 1	500	500	0	0	0
Scope 2	0	0	0	0	0
Scope 3	500	1,000	1,500	0	75
Category 1	500	1,000	0	0	0
Category 2	0	0	1,500	0	0
Category 2	0	0	0	0	75
MW			1		
Lifespan of solar (years)			20		
Efficiency			20%		
Lifetime MWh			35,040		
MWh/year			1,752		
Effective GHG emissions per unit energy (kgCO ₂ e/MWh)			42.81	= 1,500 tCO ₂ e / 35,040 MWh * (1,000/1)	

Example. 2: Non-attributable emissions of capital goods by the buyer of a product

- Reporting company (Company A) buys t-shirts from Company B
- Company B manufactures t-shirts using cut & sew machine (cat. 2) which runs on electricity (scope 2)
- Company D manufactures parts (sells to Company C), Company C manuf. machine (sells to Company B)

	Supplier	Supplier	Vendor	W/out capital goods Reporting company	W/ capital goods Reporting company	
	Company D	Company C	Company B	Company A	Company A	
	Parts manufacture	Machine manufacturer	Machine buyer	T-shirt buyer	T-shirt buyer*	
Total	1,000	1,250	1,750	250	292	
Scope 1	500	250	0	0	0	
Scope 2	0	0	500	0	0	
Scope 3	500	1,000	1,250	250	292	
Category 1 **	500	1,000	0	250	292	
Category 2	0	0	1,250	0	0	
* 5,000 t-shirts bought by Company A. ** Company A category 1 includes both 500 tCO ₂ e and 1,250 tCO ₂ e allocated.					5,000	[x]
Average t-shirts per year			10,000			
Scope 2 emissions per t-shirt (kgCO ₂ e/t-shirt)			50		50.00	
Lifespan of cut/sew machine (expected) (years)			15			
Effective GHG emissions per year of capex (tCO ₂ e/year)			83.33			
Effective GHG emissions from capex per t-shirt (kgCO ₂ e/t-shirt)			8.33		8.33	
Combined effective GHG emissions per t-shirt (kgCO ₂ e/t-shirt)					58.33	[y]
Company A, full category 1 emissions (including capital goods, allocated)					292	[x] * [y] / 1,000

Rec. D20.3 - Dedicated infrastructure

- **Proposed definition:**
 - “Any and all infrastructure, the manufacture/construction and use of which, is solely for (dedicated to) the category-specific activity(ies). For the avoidance of doubt, infrastructure that is owned by a value chain partner is considered a capital good(s), the use of which shall be allocated, if included.” *
- Issue:
 - Infrastructure is a capital good in economic terms (i.e., a long-lived, man-made assets, e.g., roads, bridges, power grids, railways, pipelines, data centers, water systems)
 - These assets enable production, transport, and communication (etc.) by value chain partners
 - However, many if not most infrastructure is *not* owned nor controlled by value chain partners
 - In financial accounting, a company can only capitalize assets they own or control
- Solution:
 - Set the boundary for including infrastructure that is *not* owned by value chain partners as: infrastructure that is solely for (dedicated to) a value-chain partner’s category-specific activities
 - A company that owns or operates (controls) infrastructure *would* treat is as capital goods **

* If including capital goods used for some or all scope 3 category activities is required (or optionally included), then companies would be required to allocate the emissions methodologically. ** Given that the company would capitalize said infrastructure as capital good. 11/20/25 | 70

Rev. D20.1 – Prudence requirement for boundary interpretation

- **Proposed language:**
 - “In any instance where an activity could reasonably be interpreted as falling within both a required *and* optional boundary (within a category or between categories), the reporting company **shall** classify and report the activity within a required boundary thereof. If there remains ambiguity after reasonable evaluation, the company shall document the rationale for its classification and disclose the basis for its decision, prioritizing completeness and alignment with required boundaries.”
- Purpose:
 - This rule is designed to support classification in instances where an activity could fall in both a required and optional boundary of one or more categories

TWG member survey results*

- **Prudence requirement for boundary interpretation**
 - **Support: 87%**
 - Opposition: 13%
 - Abstentions: 6%
- **Qualitative feedback**
 - This sort of ambiguity crops up quite a lot and some additional clarification would be useful. Examples as guidance would help to support implementation.
 - If emission factors are only available as CO2e per declared unit, then it might be reasonable (and maybe already required?) to report the full amount of emission under "required information"
 - Value-chain visibility in practice is limited and complex. Assuming **all** activities shall bias for inclusion, even ones that have a materially questionable associations with required boundary requirements, feels too strong here. More discussion on how to establish 'reasonability' is needed.
 - Sector specific guidance could help.
 - SBTi requires optional emissions targets to be set separately from targets over minimum boundary emissions, this is best from both a transparency and comparability standpoint to draw clear delineations between the two, in terms of reporting and in terms of target setting. Is there a concrete example of an instance where an activity could fall into both buckets?

**Based on feedback submitted through the post-meeting #4 survey by 2pm November 19th. 16 members participated.*

11/20/25 | 72

Rev. D20.2 – Exception to disaggregation rule for required/optional emissions

- **Proposed language:**
 - “If a reporting company uses emission factors or emissions data and is unable to distinguish or disaggregate required vs. optional scope 3 boundary emissions therein, then the company may report the optional boundary scope 3 emissions in the required boundary scope 3 emissions.”
- Purpose:
 - This rule is designed to support classification and reporting in instances where a reporting company is unable to disaggregate optional vs. required boundary emissions
 - It is expected that these instances won’t be common OR (if they are) that the optional emissions included in the required emissions boundary will most commonly be small in magnitude
 - In instances where optional emissions are expected to or do account for a large fraction of required vs. optional boundary emissions – it is expected that a reporting company should be able to disaggregate said optional emissions (given their relative magnitude)

TWG member survey results

- **Exception to the disaggregation rule for required/optional emissions**
 - **Support: 93%**
 - Opposition: 7%
 - Abstentions: 6%
- **Qualitative feedback**
 - Uncertainty over what EFs are composed of is more frequent than you might think, so flexibility is useful
 - Having the optionality for inclusion will make report substantiation easier and less costly, and biases for inclusion
 - Proposal: add a maximum % of optional emissions included in the required scope 3 emission values, e.g. 95% or more of reported emissions should be from the required categories
 - Strong opposition to any aggregation of minimum and outside minimum boundary emissions. Companies need to be able to distinguish between optional and minimum boundary emissions sources to effectively set targets and demonstrate alignment with GHGP, this clause gives license to aggregate emission sources that should otherwise be clearly delineated. “Inability to disaggregate” could easily be used as an excuse by companies that lack the will to do so.

Appendix B.2

Category 2

Amortization of remaining unamortized
emissions of capital goods

(Draft; for discussion)



Proposal summary

- Category 2 would always report a cumulative* emissions figures
 - This cumulative figure will *net* out cumulative amortized emissions to-date
 - Total (cumulative) cradle-to-gate emissions less total (cumulative) amortized cradle-to-gate emissions = net, i.e., remaining, unamortized emissions

** For clarity: The following proposed revision is **not** proposing that Category 2 emissions be reported on an annualized basis*

- Only Category 8 would report an *annualized* emissions figure

Summary of proposed amortization rules

- **Category 2 (total and amortized)**
 - [D2.4][D2.5]
 - Reporting companies **shall** report **total** remaining unamortized upstream (cradle-to-gate) emissions of capital goods
 - Reporting companies **may** report **amortized** emissions (as a metric alongside their inventory) *
- **Category 8 (only amortized)**
 - [D8.5] Lessees **shall** report the upstream (cradle-to-gate) emissions associated with manufacturing or constructing a leased asset(s) **amortized**, in proportion to the lessees' use of the leased asset
 - *This corresponds with Option 1 of Appendix A*
- **Category 13 (n/a)**
 - [D13.4] n/a (see Category 2 below)
- **Other scope 3 \categories:**
 - The inclusion of capital goods used in the various other scope 3 categories activities (see section II herein, slides 18-25*) directly or indirectly necessitates the use of allocated and therefore (in most if not all cases) amortized upstream (cradle-to-gate) emissions from manufacturing/constructing capital goods used to perform said activities, per expected unit of output over the lifespan of use of the capital good**

* D1.2] "... production of goods and services...", [D2.3] "... manufacture or construction of capital goods...", [D3.4] "... purchased fuels...", [D3.5] "... to generate purchased electricity or other forms of energy...", [D4.4] "... transportation and distribution...", [D5.3][D12.2] "... waste handling...", [D6.6] "... business travel", [D7.4] "... employees for commuting..." ** E.g., the emissions from constructing a solar PV array is allocated per *projected* kWh generated (unit output) over the lifespan of operation of the asset

Category 2) Remaining unamortized emissions of capital goods

- **Proposed revision [D2.4]:**

- “The (1) total remaining unamortized emissions of purchased second-hand (or used) capital goods **shall** be accounted for in the year that the capital good is purchased; and (2) amortized and accounted for on a pro-rata (straight-line) basis, reflecting both (a) the expected useful life of the capital good and (b) the years of use prior to purchase. *
- Companies **shall** determine the expected useful life of a capital good using recognized accounting standards (e.g., GAAP, IFRS, or jurisdictional equivalents) or their own best estimate, provided it is reasonable, supportable, and consistent with internal depreciation practices used for financial reporting. Useful life assumptions **shall not** be shorter than those applied in the reporting company’s audited financial accounts for the same or similar assets.
- If a capital good remains in use beyond its expected useful life and its embodied emissions have been fully amortized, the annual allocation (amortization) **shall** be zero for those years.”

* “For example, if (a) the upstream (cradle-to-gate) emissions associated with manufacturing a vehicle is 10 tCO₂e, (b) the expected lifespan of the vehicle is ten (10) years, and (c) the vehicle was purchased second-hand after three (3) years of use by the original purchaser—then the reporting company (as the second-hand purchaser) would account for 7 tCO₂e emissions in scope 3 category 2 for said purchased second-hand vehicle. For example, if (a) the upstream (cradle-to-gate) emissions associated with constructing a building is 10,000 tCO₂e, (b) the expected lifespan of the building is fifty (50) years, and (c) the building was purchased from the original owner after ten (10) years of use by the original owner—then the reporting company (as the second-hand purchaser) shall account for 8,000 tCO₂e emissions in scope 3 category 2 for said purchased second-hand building.”

* <https://www.mordorintelligence.com/industry-reports/used-construction-equipment-market>

Category 2) Includes second-hand (used) capital goods

- **Proposed definitions [D2.4]:**
 - **Remaining unamortized emissions:** The portion of embodied emissions (refer to definition below) associated with a capital good or long-lived asset that has not yet been allocated (through amortization) over its expected useful life (as defined by the reporting company); in other words, the remaining balance of embodied emissions to be recognized in future reporting periods.
 - **Embodied emissions:** All upstream (cradle-to-gate) GHG emissions from raw material extraction, manufacturing, transport, installation, and capitalized repair and maintenance of capital goods, as well as waste handling of associated upstream activities. These emissions may occur at any point over the lifespan of a capital good. For the avoidance of doubt, non-capitalized activities and operational activities (e.g., use-phase energy consumption) are excluded from embodied emissions.

Category 2) Includes second-hand (used) capital goods (continued)

- See previous slide regarding justification for including embodied emissions of leased asset (Cat. 8)
- Regarding second-hand (used) capital goods and turnover rates:
 - Data on turn-over rates of commercial/industrial buildings is not widely available
 - However, it is the case that buildings are often constructed by a developer, sold to a property owner, and often resold to another property owner(s)
 - Used construction equipment is a \$125BN+ market growing rapidly *
 - Many companies lease equipment/vehicles and the lessors may and do sell said equipment/vehicles second-hand at the end of the lease period(s)

* https://www.mordorintelligence.com/industry-reports/used-construction-equipment-market?utm_source=chatgpt.com

Relisted: Literature for pre-read (refer to Appendix C for citations)

- **(Frischknecht, et al., 2007):** ([Sharepoint](#))
 - “Capital goods must be included in the assessment of climate change impacts of non-fossil electricity, agricultural products and processes, transport services and waste management services.”
 - “... capital goods may be excluded when analysing fossil-fueled electricity, and metals...”
 - “The mixing of datasets including and excluding capital goods is no problem as long as their share on total impacts is low and partial omissions do not lead to a significant imbalance in comparative assertions.”
- **(Liang, et al., 2022):** ([Sharepoint](#))
 - For a sample of collected cases: “... the operational process accounts for the largest share of building LCCs, averaging 67%, followed by the production and construction phase, averaging 31%.”
- **(Wang, et al., 2018):** ([Sharepoint](#))
 - “The discrepancy in the results [for medium-density fiberboard or MDF] can be attributed to different methodological issues... [including] the... inclusion or exclusion of capital goods, and other boundary issues...”
- **(Nugent and Sovacool, 2024):** ([Sharepoint](#))
 - This study* “... finds a range of emissions intensities... from a low of 0.4 g CO₂-eq/kWh to a high of 364.8 g CO₂-eq/kWh for wind energy, with a mean value of 34.11 g CO₂-eq/kWh. For solar energy, it finds a range of 1 g CO₂-eq/kWh to 218 g CO₂-eq/kWh, where the mean value is 49.91 g CO₂-eq/kWh.”
- **(Mahlan, et al., 2025):** ([Sharepoint](#))
 - “Data uncertainty and complexity remain major concerns regarding capital goods inclusion in LCAs. This study suggests the optimal approach to accessing reliable capital goods data entails a multifaceted process: a process encouraging rigorous primary data collection through implementing advanced technologies and uncertainty analyses techniques alongside continuous existing database upgradation to minimise uncertainty and enhance reliability and comprehensiveness of LCA outcomes.”

* “This study has screened 153 lifecycle studies of greenhouse gas equivalent emissions for wind turbines and solar panels to identify a subset of the 41 most relevant, current, peer-reviewed, original, and complete assessments” (p. 12, section 7. Conclusions)

Decision-making criteria for Category 2 (capital goods)*

- **Option 1: Current standard** – Box 5.4 says that “companies **should not** depreciate, discount, or amortize the emissions from the production of capital goods over time” (including of ‘virgin’ or second-hand/used capital goods)
- **Option 2: Amortization** – Embodied emissions of capital goods **shall** be amortized (including second-hand/used)

<i>Illustrative example</i>	Option 1: Total emissions	Option 2: Unamortized emissions
1A. Scientific integrity	• n/a	• n/a
1B. GHG accounting and reporting principles	<ul style="list-style-type: none"> • Pros: Accuracy, completeness, transparency are satisfied • Pro/Con: Relevance may be challenged • Cons: Consistency (meaningful tracking over time) is challenged 	<ul style="list-style-type: none"> • Pros: Accuracy, completeness, transparency, completeness are satisfied • Pro/Con: Relevance may be improved • Pros: Consistency is improved to enable meaningful performance tracking over time
2A. Support decision making that drives ambitious global climate action	<ul style="list-style-type: none"> • Cons: Excluding used capital goods may not support the accounting and reporting of capital goods with extended lifespans 	<ul style="list-style-type: none"> • Pros: Including used capital goods may not support the accounting and reporting of capital goods with extended lifespans
2B. Support programs based on GHG Protocol and uses of GHG data	<ul style="list-style-type: none"> • Pros: Harmonizes with SBTi and current drafts of other standards 	<ul style="list-style-type: none"> • Cons: May not harmonize with SBTi and other construction-specific standards
3. Feasibility to implement	<ul style="list-style-type: none"> • Pros: Easier to quantify emissions from newly constructed/manufactured capital goods 	<ul style="list-style-type: none"> • Cons: May be challenging to quantify emissions from second-hand capital goods; data availability is an issue

* The options and preliminary comparisons herein are not designed to be final, complete, or all-encompassing. ** Every buyer in year 1, 10, 25, 50, ..., n therefore shall account for 100% of the cradle-to-gate emissions of a purchased capital good (irrespective of the year or second-hand/used nature of the capital good)

Appendix B.3

Category 8

Method by which to amortize the embodied emissions of leased assets
(Category 8)

(Draft; for discussion)



II. Required/optional inclusion of to capital goods used for category activities (continued)

- Requiring that lessees include emissions from constructing/manufacturing leased assets will be surveyed

Category	REQUIRED	OPTIONAL	Notes
Cat. 8	[D8.5] “Lessees shall report the upstream (cradle-to-gate) emissions* associated with manufacturing or constructing a leased asset(s) on an amortized basis, in proportion to the lessees’ use of the leased asset (e.g., 100% if the lessee has full use, or a fraction if the lessee has partial use, e.g., in the case of multi-tenant leases).”	n/a	Lessees shall account for the leased asset manufacture or construction (amortized basis)
Cat. 13	[D13.4] “All emissions associated with manufacturing or constructing the leased assets (including vehicles, facilities, machinery, and other dedicated infrastructure), if not already included in category 2.”	[D13.4] Footnote: “For ground leases (of land), the lessor should account for the life cycle emissions associated with construction or improvements financed by the lessee (in the year that said emissions occur).” **	Lessors will already have accounted for the leased asset manufacture or construction in category 2

* As defined in proposed revision D2.3 for Category 2. ** Because the lessor does not construct nor own the asset, therefore it may not be possible to require the inclusion; however, the lessor’s income from the lessee is often tied to said lessee’s construction of assets on the land.

Justification for including embodied emissions of leased assets (Cat. 8)

- The embodied emissions of leased assets (including buildings, vehicles, and other equipment) is well understood to account for a sizeable fraction of the lifetime emissions of the leased asset
- Examples
 - Buildings (especially high-rise):
 - “While the average share of embodied GHG emissions from buildings... is approximately 20–25% of life cycle GHG emissions, this figure escalates to 45–50% for highly energy-efficient buildings and surpasses 90% in extreme cases.” *
 - Embodied emissions increases significantly with taller buildings **
 - Market of leased office/industrial space
 - Anchor tenants (lessees) are often critical for the financing and initiation of large-scale developments
 - Primary market data on property statistics isn’t widely available, but some estimate that >66% of companies that occupy office/industrial space do so via leasing or renting
 - ICE vehicles vs. EVs
 - Embodied emissions of Polestar 2 (EV) versus Volvo XC40 (ICE) was 85% higher due to the battery pack

* Meta-analysis of 650 LCA case studies (<https://doi.org/10.1016/j.apenergy.2019.114107>)

** <https://doi.org/10.1080/09613218.2018.1479927>

Method by which to amortize emissions (formerly Appendix B)

- **What is this?**
 - It's a method by which to amortize the embodied emissions of leased assets
 - To account for it in Category 8 (by a lessee using the capital good, e.g., building)
 - To account for unamortized/depreciated emissions (by a second-hand capital goods buyer)
- **Issue**
 - Landlords often incur capital expenses (e.g., repair & maintenance, tenant improvements, and other activities) **during** a tenant's (lessee's) occupation of a space
 - These activities are capital goods with varying depreciation schedules and effective years of use
 - Some impact all lessees (e.g., lobby renovations)
 - Some are dedicated (e.g., tenant improvements)
 - Lessees have no calculation method to quantify emissions of capital expenses *during* a lease

Method by which to amortize emissions (continued)

- **Proposed solution:**

- Require that **landlords** effectively 'capitalize' said emissions from on-going capital expenses
 - I.e., add them to the upstream (cradle-to-gate) emissions of the capital good ***annually***
 - E.g., a landlord constructs a building using 10,000 tCO₂e and incurs 250 tCO₂e R&M in year 2
 - This would result in 10,250 tCO₂e to be amortized in year 3 onwards *
 - The capital improvement may have a different lifespan of use
- The landlord may rely on useful lifespans in accordance with its financial accounting practices
 - Or rely on estimates **
- Require that **tenants** (lessees) account for all upstream (cradle-to-gate) emissions ***to date***
 - E.g., tenant with 25% RSF would in year 2 account for 50 tCO₂e amortized emissions ***
 - E.g., tenant would in year 3 account for 50 tCO₂e plus 6.25 tCO₂e = 56.25 tCO₂e amortized emissions ^
 - $10,000 \text{ tCO}_2\text{e} / 50 \text{ years} = 200 \text{ tCO}_2\text{e per year} \times 25\% = 50 \text{ tCO}_2\text{e allocation to the lessee}$
 - $250 \text{ tCO}_2\text{e} / 10 \text{ years} = 25 \text{ tCO}_2\text{e per year} \times 25\% = 6.25 \text{ tCO}_2\text{e allocation to lessee (tenant)}$

* For example, if a new HVAC repair is expected to have a 10-year lifespan of use, then the 250 tCO₂e would be 25 tCO₂e amortized. ** Subject to disclosure. *** $10,000 \text{ tCO}_2\text{e} / 50 \text{ years} = 200 \text{ tCO}_2\text{e}$. ^ For shared capital improvements

Proposed lifespan (years) assumptions

- **Proposed text:**
 - “Companies shall determine the expected useful life of a capital good using recognized accounting standards (e.g., GAAP, IFRS, or jurisdictional equivalents) or their own best estimate, provided it is reasonable, supportable, and consistent with internal depreciation practices used for financial reporting. Useful life assumptions shall not be shorter than those applied in the reporting company’s audited financial accounts for the same or similar assets.
 - If a capital good remains in use beyond its expected useful life and its embodied emissions have been fully amortized, the annual allocation of embodied emissions shall be zero for those years.”

Example 1/2 – Amortization of building

- Landlord constructs building in year 0 causing 10,000 tCO₂e with an expected useful life of 50 years
- Tenant rents 25% of rentable square footage (RSF) in year 3 for a 10-year lease

Index year	0	1	2	3	4	5	6	7	8	9	10
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Landlord											
Construction (Category 2)	10,000										
Years of use	50										
Amortization		200	200	200	200	200	200	200	200	200	200
Total Amortization		200	200	200	200	200	200	200	200	200	200
Tenant											
Lease period (years)	10										
Tenants % rentable sq. foot	25%										
Start year	2027										
End year	2036										
% RSF			25%	25%	25%	25%	25%	25%	25%	25%	25%
Leased asset (Category 8)			50	50	50	50	50	50	50	50	50

Example 2/2 – Amortization of building

- Landlord performs (common space) capital improvements causing 250 tCO₂e with a useful life of 10 years*

Index year	0	1	2	3	4	5	6	7	8	9	10
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Landlord											
Construction (Category 2)	10,000										
Years of use	50										
Amortization		200	200	200	200	200	200	200	200	200	200
Capital improvement (Category 2)											
Years of use			10								
Amortization				25	25	25	25	25	25	25	25
Total Amortization		200	200	225	225	225	225	225	225	225	225
Tenant											
Lease period (years)	10										
Tenants % rentable sq. foot	25%										
Start year	2027										
End year	2036										
% RSF			25%	25%	25%	25%	25%	25%	25%	25%	25%
Leased asset (Category 8)			50	56.25	56.25	56.25	56.25	56.25	56.25	56.25	56.25

* For example, if a new HVAC repair is expected to have a 10-year lifespan of use, then the 250 tCO₂e would be 25 tCO₂e amortized.

Implications of operational v. financial control on capital improvements

- Operational control
 - Tenant improvements = operated by tenant (?) (category 2)
 - Tenant would account for it in category 2
 - Landlord would account for it in category 13 (if not included in Landlord's category 2)
- Financial control
 - Tenant improvement = financially owned (capitalized by) landlord (category 2)
 - Tenant would account for it in category 8
 - Landlord would account for it in category 2

Note

- Appendix B is not for discussion in this meeting
- Specific text will be reviewed subject to time or asynchronously (via comments file or a survey)

Landlords to amortize emissions of additional capital activities (continued)

- **Issue:**
 - Landlords often incur capital expenses (e.g., repair & maintenance, tenant improvements, and other activities) **during** a tenant's (lessee's) occupation of a space
 - These activities are capital goods with varying depreciation schedules and effective years of use
 - Some impact all lessees (e.g., lobby renovations)
 - Some are dedicated (e.g., tenant improvements)
 - Lessees have no calculation method to quantify emissions of capital expenses *during* a lease
- **Proposed solution:**
 - Require that landlords effectively 'capitalize' said emissions from on-going capital expenses
 - I.e., add them to the upstream (cradle-to-gate) emissions of the capital good **annually**
 - E.g., a landlord constructs a building using 10,000 tCO₂e and incurs 250 tCO₂e R&M in year 2
 - This would result in 10,250 tCO₂e to be amortized in year 3 onwards *
 - The capital improvement may have a different lifespan of use
 - The landlord may use useful lifespan in accordance with its financial accounting practices; or rely on estimates **
 - Require that tenants (lessees) account for all upstream (cradle-to-gate) emissions **to date**
 - E.g., tenant with 25% RSF would in year 2 account for 50 tCO₂e amortized emissions ***
 - E.g., tenant would in year 3 account for 50 tCO₂e plus 6.25 tCO₂e = 56.25 tCO₂e amortized emissions ^
 - $10,000 \text{ tCO}_2\text{e} / 50 \text{ years} = 200 \text{ tCO}_2\text{e per year} \times 25\% = 50 \text{ tCO}_2\text{e allocation to the lessee (tenant)}$
 - $250 \text{ tCO}_2\text{e} / 10 \text{ years} = 25 \text{ tCO}_2\text{e per year} \times 25\% = 6.25 \text{ tCO}_2\text{e allocation to lessee (tenant)}$

* For example, if a new HVAC repair is expected to have a 10-year lifespan of use, then the 250 tCO₂e would be 25 tCO₂e amortized. ** Subject to disclosure. *** $10,000 \text{ tCO}_2\text{e} / 50 \text{ years} = 200 \text{ tCO}_2\text{e}$. ^ For shared capital improvements

Amortization of building

- Landlord constructs building in year 0 causing 10,000 tCO₂e with an expected useful life of 50 years
- Tenant rents 25% of rentable square footage (RSF) in year 3 for a 10-year lease

Index year	0	1	2	3	4	5	6	7	8	9	10
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Landlord											
Construction (Category 2)	10,000										
Years of use	50										
Amortization		200	200	200	200	200	200	200	200	200	200
Total Amortization		200	200	200	200	200	200	200	200	200	200
Tenant											
Lease period (years)	10										
Tenants % rentable sq. foot	25%										
Start year	2027										
End year	2036										
% RSF			25%	25%	25%	25%	25%	25%	25%	25%	25%
Leased asset (Category 8)			50	50	50	50	50	50	50	50	50

Amortization of building

- Landlord performs **common space improvement** causing 250 tCO₂e with a useful life of 10 years*

Index year	0	1	2	3	4	5	6	7	8	9	10
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Landlord											
Construction (Category 2)	10,000										
Years of use	50										
Amortization		200	200	200	200	200	200	200	200	200	200
Capital improvement (Category 2)			250								
Years of use			10								
Amortization				25	25	25	25	25	25	25	25
Total Amortization		200	200	225	225	225	225	225	225	225	225
Tenant											
Lease period (years)	10										
Tenants % rentable sq. foot	25%										
Start year	2027										
End year	2036										
% RSF			25%	25%	25%	25%	25%	25%	25%	25%	25%
Leased asset (Category 8)			50	56.25	56.25	56.25	56.25	56.25	56.25	56.25	56.25

* For example, if a new HVAC repair is expected to have a 10-year lifespan of use, then the 250 tCO₂e would be 25 tCO₂e amortized.

Amortization of building

- Landlord performs **tenant improvement** causing 250 tCO₂e with a useful life of 10 years*

Index year	0	1	2	3	4	5	6	7	8	9	10
Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Landlord											
Construction (Category 2)	10,000										
Years of use	50										
Amortization		200	200	200	200	200	200	200	200	200	200
Tenant improvement (Category 2)			250								
Years of use			10								
Amortization				25	25	25	25	25	25	25	25
Total Amortization		200	200	225	225	225	225	225	225	225	225
Tenant											
Lease period (years)	10										
Tenants % rentable sq. foot	25%										
Start year	2027										
End year	2036										
% RSF			25%	25%	25%	25%	25%	25%	25%	25%	25%
Leased asset (Category 8)			50.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00

* For example, if a new HVAC repair is expected to have a 10-year lifespan of use, then the 250 tCO₂e would be 25 tCO₂e amortized.

Implications of operational v. financial control on capital improvements

- Operational control
 - Tenant improvements = operated by tenant (?) (category 2)
 - Tenant would account for it in category 2
 - Landlord would account for it in category 13 (if not included in Landlord's category 2)
- Financial control
 - Tenant improvement = financially owned (capitalized by) landlord (category 2)
 - Tenant would account for it in category 8
 - Landlord would account for it in category 2

Decision-making criteria for Category 8 (leased assets)*

- **Option 1: Current standard** – Life cycle emissions from construction/manufacturing leased asset is **optional**
- **Option 2: Amortization** – Lessees **shall** account for the ***amortized*** embodied emissions of leased assets

<i>Illustrative example</i>	Option 1: Optional inclusion of amortized emissions	Option 2: Required inclusion of amortized emissions
1A. Scientific integrity	• n/a	• n/a
1B. GHG accounting and reporting principles	• Pros: The exclusion of leased asset construction or manufacture is less complete, transparent, and relevant	• Pros: The inclusion of leased asset construction or manufacture is more complete, transparent, and relevant
2A. Support decision making that drives ambitious global climate action	• Cons: Excluding manufacture of leased asset may not support action by companies and/or disregards material emissions	• Pros: Including manufacture of leased asset may better support action by companies, including by reporting material emissions
2B. Support programs based on GHG Protocol and uses of GHG data	• Pros: All other current standards let lessees optionally include said emissions	• Cons: No other current standard or framework mandates that lessees include said emissions
3. Feasibility to implement	• Pros: Optionality makes this a non-issue	• Cons: May be challenging for lessees to quantify said emissions and data availability remains a challenge

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

Cat. 8) Option 1. Lessee to report leased asset construction amortized

- **Issue:**
 - Lessees have no calculation method to quantify emissions from constructing leased assets
- **Proposed solution (Option 1): Amortization**
 - Require that lessees account for **proportionate upstream (cradle-to-gate) emissions** associated with leased assets (including buildings, machines, equipment, etc.)
- Example:
 - A building that incurred 10,000 tCO₂e during construction with a 50-year expected useful life; and a lessee that rents 25% of the rentable square footage (RSF) for a 10-year lease in the period year 30-40 of the building's useful life would account for leased asset emissions as follows:
 - $10,000 \text{ tCO}_2\text{e} / 50 \text{ years} = 200 \text{ tCO}_2\text{e per year}$ (amortized emissions from construction)
 - $200 \text{ tCO}_2\text{e} \times 25\% = 50 \text{ tCO}_2\text{e}$ amortized emissions allocable to the lessee (tenant)
- See **Appendix B** for an example and proposed calculation method for amortizing capital improvements
 - Appendix B is not for discussion in this meeting
 - Specific text will be reviewed subject to time or asynchronously (via comments file or a survey)

Cat. 8) Option 2. Lessee to report leased asset construction upfront (Cat. 8)

- **Proposed solution (Option 2): Upfront**
 - Account for **proportionate upstream (cradle-to-gate) emissions** associated with constructing or manufacturing the leased asset **upfront** in the year that the lease starts
- Example:
 - Lessee rents 25% of the RSF of a building for a 10-year lease; the building has an expected lifespan of 50 years; construction caused 10,000 tCO₂e; the lessee could report either:
 - **Proportionate emissions, Upfront** (i.e., 50 tCO₂e x 10 years = 500 tCO₂e in year 1); **OR**
 - **Proportionate emissions, Amortized** (i.e., 50 tCO₂e per year for 10 years) (see previous slide)
- Pros:
 - This option could be simpler (feasibility)
 - It could let companies control forward-year emissions (e.g., record all emissions in year 1 to achieve greater reduction versus a year 0 or year 1 baseline)
 - Capital improvements could likewise be recorded in the year they are performed

Cat. 8) Option 3. Lessee to report either amortized or upfront (Cat. 8)

- Option 3:
 - Let companies (lessees) report emissions either (Option 1) amortized **OR** (Option 2) upfront
- Cons:
 - The optionality may result in widely varying emission reported by companies that lease assets (possibly negatively impacting accounting and reporting principles)
- Pros:
 - This improves feasibility

Appendix C

Other (remaining) optional boundaries

(Draft; for discussion)



3. Remaining optional boundary activities across all categories (excl. cat. 10)

- All remaining optional boundary activities across all scope 3 categories, excluding (I) fuel/energy and (II) capital goods as presented previously (excluding category 10)

Category	Optional boundary activities
Category 1, 2, 3, 4, 5, 6, 7, and 8	<i>N/A (for all said categories, the cradle-to-gate emissions of (I) fuel/energy and (II) capital goods used for activities thereof, is presented in the previous slides.)</i>
Category 9	[D9.4] “The scope 1, scope 2, and upstream (cradle-to-gate) emissions of fuels and/or energy that occur during the use of vehicles by customers traveling to and from retail stores or other locations to purchase the product(s) of a reporting company.”
Category 11	[D11.4] “The indirect use-phase emissions of sold products over their expected lifetime (i.e., emissions from the use of products that indirectly consume energy (fuels or electricity) during use)”
Category 12, 13, 14, and 15	<i>N/A (no optional boundary activities; note that category 10 remains to be considered*)</i>
Category 16	16.1.2 (insurance payment claims); 16.3 (other financial activities and services); 16.4 (licensing); 16.6 (all other facilitated activities) (some facilitated activities are required**)

* Category 10 to be considered at a later point. ** The following Category 16 facilitated activities are proposed to be required: 16.1.1 (insurance- 11/20/25 | 103 associated emissions); 16.2 (underwriting and issuance emissions); and 16.5 (distribution/transportation of oil and gas).

Implications summary

- If both (I) cradle-to-gate emissions of fuels/energy and (II) capital goods used to perform activities in scope 3 categories are **required**, then:
 - Only (III) Categories 9, 11, and 16 have **optional** boundary activities (as detailed on previous slide)
 - All other categories are required*
-
- Category 11 delineation to be considered in Meeting 05
 - Direct activities
 - Indirect activities

* Category 10 and Category 15 activities are required despite the fact that companies may exclude them subject to justification (a justified exclusions is not equivalent or synonymous with optionality)

Appendix D

Disaggregation

(Draft; for discussion)



TWG updates to revision A1. Disaggregation

The following updates will be included in the end-of-year public documentation with revisions to date:

- **A1a. Additional tier proposed in collaboration with the Corporate Standard TWG:**
 - Addition of a “measured” tier (71% support*) **
 - Most (91%) of Scope 3 TWG members support the “measured” tier for **scope 1** emissions
 - Most (71%) of Scope 3 TWG members support the “measured” tier for **scope 3** emissions
 - Definition of “measured” tier has yet to be reviewed by the Corporate Standard TWG (next year)
 - ISO’s definition of primary data received most support (i.e., “quantified value of a process or an activity obtained from a direct measurement or a calculation based on direct measurements”)
 - This will be finalized next year (1H26) with the Corporate Standard TWG
 - The public will be informed of as much in the EOY public documentation
- **A1b. Editorial revisions that will be proposed:**
 - Rename “unknown/unclassified” tier to “**unclassified**” (100% support*)
 - Rename “non-specific” tier to “**partially specific**” (84% support*)

* Based on a Scope 3 TWG member survey completed by 24 members (which does **not** constitute a quorum). ** This would result in five tiers: (1) Measured; (2) Specific; (3) Partially specific; (4) Spend-based/EEIO; and (5) Unclassified.

TWG updates to revision A1. Disaggregation

The following updates to A1. Disaggregation were not conclusive based on the indicative poll.

- A1c. Limit disaggregation to some or all scope 3 categories?
- A1d. Extend disaggregation to sub-categories?
- A1e. Extend disaggregation to optional boundary emissions?
- Generally, for consistency, the Secretariat strongly recommends requiring disaggregation for:
 - All scope 3 categories
 - All required scope 3 emissions
 - All optional scope 3 emissions
- These options will be polled in a final Phase 1, A.1 Disaggregation, survey following this meeting.