GREENHOUSE GAS PROTOCOL

Scope 3 Technical Working Group Meeting

Working draft, do not cite

Full TWG
Phase 2, Meeting 6

Phase 1 outstanding items & Series D (category-specific boundaries & optionality) consideration

December 11th, 2025

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

Agenda

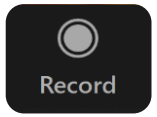
(Draft; for discussion)

- Housekeeping and Timeline (5-10 min)
- In order of member-determined priority
  - Disaggregation by data specificity
  - Distribution of fuel/energy (16.5)
  - Cradle-to-gate emissions of fuels/energy
  - Cradle-to-gate emissions of capital goods used by value chain partners
  - Category 2, 8, 13 (remaining unamort. emissions)
  - Category 16 titling
  - Category 3 (FERA)
  - Category 4/9
  - Other boundary language
  - Commodities and Undrawn commitments
  - Category 6, 7
- Next steps (5 min)

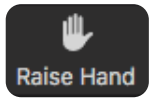
(Draft; for discussion)

Housekeeping and decision-making criteria

Welcome and Meeting information

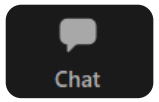


This meeting is recorded.



Please mute yourself by default and unmute when speaking

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



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

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

Housekeeping

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

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

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

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

Decision-Making Criteria

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

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

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

(Draft; for discussion)

Timeline for Phase 2

Full Scope 3 TWG Meetings

Meeting #	Date	Time	Topic
1	*Aug 28*		• *Category-specific boundaries & optionality*
2	*Sep 18*		• *Category-specific boundaries & optionality (continued)*
3	*Oct 9*		• *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	• 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	• 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**	• **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

(Draft; for discussion)

Disaggregation by data specificity

Disaggregation rules v3 (summary): Tiers

- A reporting company **shall** disaggregate its scope 3 emissions, for each category, by data specificity and type using one of the following tiers:
  - Tier 1: Measured or Specific
  - Tier 2: Other
  - Tier 3: EEIO/spend-based
- A company **may** report some or all of its scope 3 emissions as [Unclassified].
  - *Unclassified*
- Note
  - 'Measured' is going to be defined by the Corporate Standard TWG

Survey A (Question 4) - Titling of EEIO/spend-based tier

- In short, not all EEIO emission factors are GHG emissions per unit monetary value; the disaggregation rule is designed for emission factors per unit monetary value (i.e., spend-based)

Option 1: EEIO/spend-based	Option 2: EEIO	Option 3: Spend-based
In some cases, hybrid emission factors that rely on EEIO emission data are not spend-based and therefore would satisfy the [Partially- or Non-specific] tier. The above *could* be interpreted to ***contradict*** the title.	Many spend-based emission actors are not EEIO. The above w*ould* ***contradict*** the title.	EEIO emission factors expressed in emissions per monetary unit (i.e., nearly all EEIO emission factors) are spend-based. Therefore, using spend-based is clear and unambiguous. The above title would ***not*** have contradictions.

Survey A (Question 8) - Titling of partially- and non-specific emissions

- In short, neither partially- nor non-specific accurately and unambiguously define emission data in the tier; the long-form title could work but is inefficient; AI-based emissions data may satisfy neither term

Partially-specific (**not** a viable option)	Non-specific (**possibly** viable; **possibly** confusing)	Partially- or Non-specific
In some cases, the scope 3 emissions data would be non-specific (i.e., using both non-specific activity data and non-specific emission factors could be use). The above *would* ***contradict*** the title.	In some cases, the scope 3 emissions would be partially-specific (e.g., using specific activity data but a non-specific emission factor). The above *could* ***contradict*** the title.	This titling would be non-contradictory (it would be the same emissions data as in Partially-specific or Non-specific). The above would ***not*** have contradictions; but is wordy.

Survey A (Question 8) - Options for tiers

- The following Option 1 and Option 2 and the associated information provided (weighed with complexity and implementation challenges) yielded the proposed 3-tier solution as per Option 3

Option 1: Supports accounting principles	**Option 2**: …	**Option 3**: Supports feasibility, and likely more actionable/adoptable
[1] Measured [2] Specific [3] Partially-specific [4] Non-specific [5] [EEIO/spend-based] [6] [Unclassified]	[1] Measured [2] Specific [3] Partially-specific [4] [EEIO/spend-based] [5] [Other or Unclassified]	[Tier 1] Measured or Specific [Tier 2] Other [Tier 3] [EEIO/spend-based] Unclassified * * Tiering unclassified emissions is uninformative. Unclassified emissions reflect the *absence* of data-specificity disaggregation. Disaggregated emissions do not need to add up to 100% of total emissions to be informative for readers.

Survey A (Question 4) - Harmonization between Scope 1 and Scope 3:

- The proposed 3-tier solution as per Option 3 (previous page) could be mapped to a 3-tier system for scope 1 emissions as follows:

Tiers	Scope 1	Scope 2	Scope 3
Tier 1	Measured	TBD	Measured * or Specific
Tier 2	Specific	TBD	Other
Tier 3	Other	TBD	EEIO/spend-based

Unclassified (not a tier)

- Polling:
  - The Scope 3 TWG is being polled regarding using Option 1, Option 2, or Option 3 (previous slide) in **Survey A** which has been shared;
  - The Scope 3 TWG will receive a stand-alone (single question) survey regarding whether the scope 1 and scope 3 disaggregation tiering systems would best harmonize using the 5-tier systems (Option 2 or Option 3) or 3-tier system (Option 3) (**New Survey TBD**)

Disaggregation rules v3 (summary): Specific activity data shall

- 2.1 Demonstrate **temporal representativeness**
- 2.2 Demonstrate **technological representativeness**
- 2.3 Be **site-specific**
- 2.4 Where **allocation** is used:
  - 2.4.1. It shall be applied **consistently**
  - 2.4.2. It should **neither overstate nor understate** emissions
  - 2.4.3. **Only homogeneous companies** may allocate corporate-level data
- 2.5 **Where applicable**:
  - 2.5.1 Fuel-specific activity data
  - 2.5.2 Energy-specific activity data
  - 2.5.3 Fugitive emissions data
  - 2.5.4 Process-specific activity data
  - 2.5.5 Waste-specific activity data
  - 2.5.6 Material-specific activity data
  - 2.5.7 Service-specific activity data
- 2.6 **Category 9, 10, 11, 12** (requirements and exceptions)
- 2.7 **Category 10, 11** (requirements)

Disaggregation rules v3 (summary): Specific emission factors shall

- 3.1 Demonstrate **temporal representativeness**
- 3.2 Reflect the emissions of the fuel, product, process, technology or waste associated with the specific activity data being used to calculate scope 3 emissions [akin to **technological representativeness**]
- 3.3 Demonstrate **geographical representativeness**
- 3.4 Use the **latest global warming potential (GWP) conversion factors** within 36 mos. of public.
- 3.5 **Where applicable:**
  - 3.5.1 Fuel-specific emission factors
  - 3.5.2 Process and fugitive emission factors
  - 3.5.3 Location-based electricity emission factors (they'll rely on *Scope 2 Guidance*)
  - 3.5.4 Waste treatment emission factors
- 3.6 For categories 9, 10, 11, 12: **Temporal representativeness** exception (not required)

Disaggregation rules v3 (summary): Supplier-specific EFs or data

- 4. A reporting company **may** disaggregate its scope 3 emissions using the tier assigned and provided by its value chain partner only if the value chain partner's emissions data is **representative**.
  - 4.1 **Representative**: A value chain partner's scope 3 inventory emissions data **is representative** only if said emissions (a) correspond directly to the specific good(s) and/or service(s) transacted with the reporting company ("**transactional correspondence**") and (b) reflect, in substance and proportion, the actual activities, quantities, and conditions associated with said transacted good(s) and/or service(s) ("**substantive proportionality**").
  - 4.2. **Non-representative**: A value chain partner's scope 3 inventory emissions data is **not representative** if it is materially influenced by unrelated activity activities, misaligned time periods, irrelevant product mixes, or inappropriate (including inconsistent, misleading, over-estimated, underestimated) allocation methods.
  - 4.3. **Responsibility**: It is the responsibility of a reporting company to determine whether a value chain partner's disaggregated scope 3 inventory emissions is representative.
  - 4.4. **Optional verification**: A company **may** obtain third-party verification or assurance of its scope 3 inventory emissions, activities, and emission factors and its data-specificity (tier) disaggregation.

Survey A (Question 6, 7, & 7.2) - Unclassified emissions

- Question 6: Should a reporting company's use of Unclassified emissions be **time-limited**?
- Question 7: Should a company's use of the Unclassified tier be **restricted to X%** of its total required scope 3 emissions inventory?
- Question 7.2: Recommendations (potential)
    - **Recommend** that companies **should** classify emissions as either Measured, Specific, [Partially- or Non-specific], or [EEIO/spend-based]—if it is possible for them to do so; and/or
    - **Recommend** that any program or disclosure body/mandate (e.g., SBTi, IFRS, ESRS, etc.) that does require or will consider requiring reporting companies to provide insight into data specificity or data reliability, that said disclosure body/mandate **should** adopt and use these disaggregation requirements, as required by the GHG Protocol

- ISB likely will recommend a **single phase-in (transition) period** for the corporate suite of revisions
  – (i.e., for scope 1, scope 2, and scope 3 revisions, and including LSR)
- As a reminder, all revisions are **subject to re-consideration** every **five (5) years**

Survey A (Question 9, 10, 11, and 12) - Disaggregation and reporting

- Question 9: Require both required and optional scope 3 emissions to be disaggregated
- Question 10: Require disaggregated emissions to be reported in:
  - **GHG emissions** (e.g., tCO2e) (see Question 11 below)
  - **Percentages** (%), without any restriction(s)
  - **Percentages** (%), with the restriction/requirement that any % figure must be reported *next to* the sub-total emissions figure (denominator) by which the % is being calculated or be clearly titled.
  - GHG emissions **OR** % of sub-total.
  - Abstain
- Question 11: Report via an Annex
  - A reporting company **may** disclose *disaggregated* scope 3 category emissions via an annex.
  - A reporting company **may** report *non-disaggregated* scope 3 emissions by category subject to the availability of a supplementary annex with *disaggregated* scope 3 emissions by category
- Question 12: Other reporting requirements

Survey A (Question 1) - Sub-categories?

- Consider whether and which categories should have sub-categories (beyond Category 15 and 16)
- Refer to Category sub-classification for notes

- Question 1: Should any of the scope 3 categories 1 through 14 require (using "**shall**" language) that a company report emissions by sub-category (within said category)?

  - Yes (some/all scope 3 categories **shall** require emissions be reported by sub-category) *
  - No (in which case, we likely won't budget time to prepare optional sub-categorization)
  - Abstain

* With the implication that any sub-categories would need to be disaggregated by specificity, like is currently required for all scope 3 categories (subject to the outcome of Question 11).

(Draft; for discussion)

Distributors of fuel/energy (Category 16.5)

Optionality

- Companies **may** 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:
  - The loss of fuels (solid, liquid, gaseous) (e.g., due to leakage from pipe failure, fugitive releases, evaporative emissions, or other process emissions) during distribution by a distributor is treated as consumed fuels and therefore **shall** be accounted for and reported by the distributor as scope 1 emissions.
  - The loss of energy (including electricity, steam, heat, cooling) during distribution by a distributor **shall** be accounted for and reported by the distributor as scope 3 category 3 emissions

- 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
- Pipeline operators that transport crude oil, refined products, or natural gas but do not own the fuels they move.
  - Electric grid and transmission companies that deliver power generated by utilities to end users
  - Rail, shipping, barge, or trucking companies contracted to move coal, oil, gas, or biomass
  - Storage and terminal operators that blend, store, or transfer fuels under service agreements

(Draft; for discussion)

Series D: Optional boundaries

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).

GREENHOUSE GAS PROTOCOL

Read

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**	*n/a*
3	**Require**	**Applicable**	*n/a*
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)**	*n/a*
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**	n/a
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**	*n/a (Category 2)*	**Optional** inclusion of emissions associated with constructing improvements by ground lessee
14/15	*n/a (carried over)**	*n/a (carried over)**	**Requiring** the scope 3 emissions of franchisee/investee
16	*n/a (implied)*	*n/a (implied)*	**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. **Require well-to-wheel (WTW) emissions of fuels/energy used by value chain partners**
   - Proposed revision (general approach, not actual language)
   - Refer to **Appendix A**

II. **Cradle-to-gate emissions of capital good used by value chain partners to perform value chain activities 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%
  - Dedicated infrastructure (Rev. D20.3)
  - Justified exclus9ion of cradle-to-gate emissions (Rev. D20.4)

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

(Draft; for discussion)

Well-to-wheel (WTW) emissions of fuels/energy

Survey C (Question 1) – Well-to-wheel emissions of fuels/energy

- Refer to **Appendix A**

- This revision would explicitly **require** that a reporting company include the cradle-to-gate emissions of fuels/energy used by value chain partners to perform/operate value chain activities (new requirement), in addition to the scope 1 and scope 2 emissions of fuels/energy used by a value chain partner (as is currently required) (combined, effectively the "**well-to-wheel**" emissions of fuels/energy used)
  - Require ("**shall**") for all categories
  - Category-specific (see Question 1.1)
    - *Require for some categories ("**shall**"); and*
    - *Optional for remaining categories ("**may**")*
  - Optional for all categories ("**may**")

- Categories for which this boundary **could** apply: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
- Categories that would **'inherit'** this boundary from a franchisee/investee: 14, 15
- Categories for which this boundary could be **optional**: Category 16

(Draft; for discussion)

Cradle-to-gate emissions of capital goods used by value chain partners

Survey C (Question 2) – Cradle-to-gate emissions of capital good used by value chain partners to perform value chain activities

- Refer to **Appendix B**

- **Require** companies to include (account for and report) the cradle-to-gate emissions of capital goods used by value chain partners and which therefore would be embodied in a scope 3 category activity?
  - Require ("**shall**") for categories 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13 (footnote* and footnote**)
  - Require ("**shall**") for some categories (see Question 2.1)
    - *Require for some categories ("**shall**"); and*
    - *Optional for remaining categories ("**may**")*
  - Optional for all categories ("**may**")

- Categories for which this boundary **could** apply: 1, 2, 3, 4, 5, 6, 8, 9, 12
- Categories for which this boundary would be intentionally **excluded**: 7 *
- Categories which will consider this next year: 10 and 11
- Categories for which this doesn't apply: 13 *
- Categories that would '**inherit**' this boundary from a franchisee/investee: 14, 15
- Categories for which this boundary could be **optional**: Category 16

* Employee privacy. ** Cradle-to-gate emissions already required for asset; lessor (reporting company) may report lessee's capital goods, if any, and could include them in *indirect* use-phase cat. 11.

(Draft; for discussion)

Category 2, 8, 13

Survey C (Question 15, 16, 17, 32) - Cradle-to-grave emissions of assets leased by a reporting company

- 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)

- Summary:
  - Owner of asset (including Lessors) shall report **total remaining unamortized cradle-to-gate emissions** of capital good in the year said company purchases the asset (in **Category 2**)
    - Owners may determine the expected useful life independently (i.e., use different lifespans)
    - This means that the cradle-to-gate emissions of an asset **may** be double counted by companies
  - Lessee shall report the unamortized cradle-to-gate emissions amortization using a straight-line annualization methodology (total remaining unamortized cradle-to-gate emissions divided by the remaining useful lifespan) in proportion to their use/control of the leased asset (in **Category 8**)
  - Lessor shall report total remaining unamortized cradle-to-gate emissions of capital goods in the year said company purchases the asset **(in Category 13**) – ***if not already included in category 2***

Example 1 (identical lifespan of use assumption)

- A simple straight-line amortization for a building with a 50-year lifespan, assuming three owners A, B, and C owning and operating the building for 10, 40, and 10 (extended) years results in the following amortization schedule for each owner if all use the 50-year lifespan assumption

Total CO2e of building	10,000			
Expected lifespan of building	*50*			
Annuity (tCO2e)	200			
Beginning/Ending Remaining Unamortization	**Developer**	**Owner A**	**Owner B**	**Owner C**
Beginning remaining unamort. (category 2)	0	10,000	8,000	0
Plus new construction or R&M (category 1 or 2)	10,000	0	0	0
Less amortization	0	2,000	8,000	0
Ending remaining unamort.	10,000	8,000	0	0
Years owned	0	10	40	10
Cumulative lifespan	0	10	50	60

Example 2 (different lifespan of use assumption by Owner C)

- If Owner C uses a different lifespan of use assumption of 60 years (including the 10-year lifespan extension achieved/operated by Owner C), then its beginning remaining unamortized emissions will not match that of Owner B and these emissions would be double counted *between* companies *

Total CO2e of building	10,000			10,000
Expected lifespan of building	50			60
Annuity (tCO2e)	200			167
Beginning/Ending Remaining Unamortization	**Developer**	**Owner A**	**Owner B**	**Owner C**
Beginning remaining unamort. (category 2)	0	10,000	8,000	1,667
Plus new construction or R&M (category 1 or 2)	10,000	0	0	0
Less amortization	0	2,000	8,000	1,667
Ending remaining unamort.	10,000	8,000	0	0
Years owned	0	10	40	10
Cumulative lifespan	0	10	50	60

* This is consistent with financial accounting which permits different amortization schedules and lifespan assumptions, but each company must use reasonable, supportable, and consistently applied useful lifespans for its own financial reporting.

Example 2 (identical lifespan of use plus 2.5% annual R&M capex)

Total CO2e of building	10,000
Expected lifespan of building	50
Annuity (tCO2e)	200
Annual CO2e from R&M	250
Expected lifespan of building	10
Annuity (tCO2e)	25

- This example adds 250 tCO2e per year for repair and maintenance (R&M) (i.e., 2.5% of construction) each year with a 10-year amort. schedule (i.e., 25 tCO2e annuity)
- Over the 5-year lifespan, this adds up to 12,500 tCO2e R&M (250 tCO2e/year) being depreciated on different schedules

Beginning/Ending Remaining Unamortization	Developer	Owner A	Owner B	Owner C
Beginning remaining unamort. (category 2)	0	10,000	9,125	2,000
Plus new construction or R&M (category 1 or 2)	10,000	2,500	10,000	0
Less amortization	0	3,375	17,125	2,000
Ending remaining unamort.	10,000	9,125	2,000	0
Years owned	0	10	40	10
Cumulative lifespan	0	10	50	60

Example 1 (for lessee annualized emissions of leased asset in cat. 8)

Total CO2e of building	10,000
Expected lifespan of building	50
Annuity (tCO2e)	200

Beginning/Ending Remaining Unamortization	Developer	Owner A	Owner B	Owner C
Beginning remaining unamort. (category 2)	0	10,000	8,000	0
Plus new construction or R&M (category 1 or 2)	10,000	0	0	0
Less amortization	0	2,000	8,000	0
Ending remaining unamort.	10,000	8,000	0	0
Years owned	0	10	40	10
Cumulative lifespan	*0*	*10*	*50*	*60*
Lessee 1 (25% of building)	50	500	2,000	0
Lessee 2 (75% of building)	150	1,500	6,000	0
Total		2,000	8,000	0
Cumulative		*2,000*	*10,000*	*10,000*

Lessees would account for their % of the Annuity, each year, in Category 8

Cumulative tCO2e emissions annuity over the lease term (assuming no change in tenants)

- Cumulative tenant (lessee) annuity =
- Cumulative landlord (lessor, owner) annuity =
- Cradle-to-gate emissions from constructing the building

Category 16 Name/title

Category 16 name/title

- **Problem statement:** Not all activities currently listed in Category 16 meet the proposed strict definition of a facilitated activity.
  - For example, some identified activities (e.g., insurance, underwriting, commodities, O&G distributors, etc.) that may or may not satisfy the proposed definition of a "facilitated activity".
  - Therefore, naming this category "Facilitated activities" may be inconsistent.

- **Reference:** Currently, the approach taken by the Standard is to optionally let companies report said emissions separately from their scope 3 inventory in an "other" scope 3 category:
  - "Emissions from scope 3 activities not included in the list of scope 3 categories (e.g., transportation of attendees to conferences/events), **reported separately** (e.g., in an **"other" scope 3 category**)" *

- **Solution:** Make Category 16 the 'catch-all' category for all other scope 3 emissions not currently identified in categories 1 through 15 and make all said activities **optional** ("Other value chain activities").

  - If **"Other"** is used then Category 16 would include facilitated activities and other activities not in categories 1 through 15. Explanatory language would be developed and included in Category 16.
  - If **"Facilitated Activities"** is used then Category 16 would (as currently drafted) include some activities that do **not** satisfy the (draft) definition of a facilitated activity

* (p. 121, 11.2 Optional information, Chapter 11)

Category 3 (FERA)

Including the cradle-to-gate emissions of capital goods used to extract, refine, and transport fuels and/or facilitates to generate electricity

Year	1	2	3	3	3	Total
Coal-powered electricity	1,010	1,010	1,010	1,010	1,010	5,050
Cradle-to-gate allocaiton of capex	20	20	20	20	20	100
Total (kgCO2e/MWh)	**1,030**	**1,030**	**1,030**	**1,030**	**1,030**	**5,150**
Solar PV electricity	0	0	0	0	0	0
Cradle-to-gate allocaiton of capex	43	43	43	43	43	215
Total (kgCO2e/MWh)	**43**	**43**	**43**	**43**	**43**	**215**
% coal	4%	4%	4%	4%	4%	
% wind	331%	331%	331%	331%	331%	
Wind electricity	0	0	0	0	0	0
Cradle-to-gate allocaiton of capex	13	13	13	13	13	65
Total (kgCO2e/MWh)	**13**	**13**	**13**	**13**	**13**	**65**
% coal	1%	1%	1%	1%	1%	
% solar	30%	30%	30%	30%	30%	

Reference:

Approximate embodied emissions of capital goods used in the energy sector (NREL, 2021) (gCO2e/kWh) (from **non-combustion***, combustion):

- Natural gas (**97**, 389); Oil (**84****, 840); Coal (**20**, 1010)
- PV (**43**, 0); CSP (**28**, 0); Geo. (**37**, 0); Hydro. (**21**, 0); Ocean (**8**, 0), Wind (**13**, 0); Nuclear (**13**, 0)

(NREL, 2021): *Life Cycle Greenhouse Gas Emissions from Electricity Generation: Update.* https://docs.nrel.gov/docs/fy21osti/80580.pdf

* Emission from non-combustion is a proxy for cradle-to-gate emissions including capital equipment. ** Estimated using avg 10:1 EROI for oil.

(Draft; for discussion)

Category 4 and 9

Rule(s) for Category 4 vs. Category 9 activity classification

- **No change**: Cat. 4) Purchased goods and services (Tier 1 to Gate) and Purchased T&D (upstream or downstream). Cat. 9) Downstream T&D that is *not* purchased by company.

- **Gate principle**: Cat. 4) All upstream T&D activities are gate-defined based on or relative to the reporting company's sold product(s), including T&D activities purchased or not. Cat. 9) All downstream T&D activities are gate-defined based on or relative to the reporting company's sold product(s), including T&D activities purchased or not.

- **Payment principle**: Cat. 4 for "Purchased T&D services" ONLY and Cat. 9 for "Unpaid T&D services" ONLY. This option was excluded from the options above as it was not (in the eyes of Secretariat members of the Scope 3 workstream) considered a viable nor improved option versus the above ('No change') boundary delineation for category 4 versus category 9 activities.

(Draft; for discussion)

Other boundary language

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%

- **Member 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.*

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%

- **Member 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.

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

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.

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)

(Draft; for discussion)

Commodities and Undrawn commitments

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	• Pros: Requiring them could be more complete and more transparent • Cons: n/a	• Pros: n/a • Cons: Optionality could be less complete and less transparent
2A. Support decision making that drives ambitious global climate action	• Pros: Including commodities could drive more visibility and management of commodities • Cons: Some commodities traders may have limited influence over traded commodities	• 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	• 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	• 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	• Pros: Secondary LCA emission factors for commodities are widely available • Cons: n/a	• 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	• Cons: These are not financed emissions; no emission have occurred yet	• Pros: Companies may quantify how undrawn commitments facilitate activity
1B. GHG accounting and reporting principles	• 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	• 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	• Pros: • Cons: Mixing investments & non-investments in category 15 may confuse readers/users	• 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	• 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	• Pros: IFRS/PCAR requires disclosure of undrawn loan commitments; this disclosure requirement would work in Category 16 • Cons: n/a
3. Feasibility to implement	• Pros: n/a • Cons: No methodology currently exists so requiring this in Category 15 may be challenging	• 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)."

Next Steps

Next steps

- GHG Protocol Secretariat:
  - Distribute the Recording
  - Distribute Meeting Minutes and the Feedback Form

- Next meeting:
  - **January 15th Meeting #7 at 9 - 11 AM ET**
  - This will be the first TWG meeting of 2026

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Thank you!

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Appendix A

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

I. Well-to-wheel 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:**
  - This boundary requirement would apply to all scope 3 category activities

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	"All upstream (cradle-to-gate) emissions of fuels and/or energy used by…" • [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 well-to-wheel 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

- **Require cradle to gate emission factors for fuel/energy across all scope 3 categories (i.e. shall) (Nov 19th) ***
  - **Support: 82%**
  - Opposition: 18%
  - Abstentions: 0%

- **76%** believe that full life cycle emissions of fuels/energy across all scope 3 categories should be **required** **

- **Member feedback:**
  - I recommend to provide details on all cradle to gate emissions for fuel/energy to include (eg: WTT, T&D, 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. This 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.
  - Needs more time to dive deeper into the calculation and phase-in guidance.
  - 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
  - Supportive of GHGP adopting WTW EFs as a requirement for transport related categories. When it comes to utilization of WTW emissions factors for non-transport related categories (ex: categories aside from cat 4, 6, 7, and 9) , more of a "nice to have"

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

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

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. Cradle-to-grave EFs for fuels and/or energy (continued)

- *A complete well-to-wheel emission factor for fuel **does not** necessitate the inclusion of capital goods used to extract, process, or transport the fuel*
- *A complete well-to-wheel emission factor for energy **does not** necessitate the inclusion of capital goods used to generate the energy (e.g., solar facilities)*
- *The inclusion of the embodied emissions of capital goods is summarized in **Appendix B***

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

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: (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)

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Read

TWG member survey results*

- **Require the inclusion of capital goods used to perform category activities**
  - **Support: 81%**
  - Opposition: 19%
  - Abstentions: 0%

- **Member 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

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

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).

Appendix B.1
All categories (excluding 2, 8, 13)

Non-attributable emissions of capital goods

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 LCCEs, 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 CO_2-eq/kWh to a high of 364.8 g CO_2-eq/kWh for wind energy, with a mean value of 34.11 g CO_2-eq/kWh. For solar energy, it finds a range of 1 g CO_2-eq/kWh to 218 g CO_2eq/kWh, where the mean value is 49.91 g CO_2-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 Cat. 5; 12 Cat. 6 Cat. 7	[D4.4] "… transportation and distribution" [D5.3] "… waste handling"; [D12.2] "… waste handling" [D6.6] "… business travel" [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).

DMC analysis (source)	Option 1: **Require** for **all**	Option 2: **Optional** for **all**	Option 3: **Require** for **some**
1A. Scientific integrity	• Most scientific as some category emissions are significant (by magnitude)	• Least scientific as some companies may exclude significant (by magnitude) emissions	• More scientific if categories for which these emissions are significant (by magnitude) are included (required)
1B. GHG accounting and reporting principles	• Most complete, consistent, relevant, and transparent	• Not complete • Less transparent • May be inconsistent; exclude relevant	• May be complete • Improves consistency, relevance, and transparency
2A. Support decision making that drives ambitious global climate action	• Value chain activities that are capital-intensive and/or GHG-intensive capital goods would be identified/acted upon	• Value chain activities that are capital-intensive and/or GHG-intensive capital goods would/could be ignored	• 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	• The 5% exclusion threshold and de minimis provision could support harmonization	• Harmonizes with ISO 14064-1/14067 (materiality-based) & EU PEF/PEFCRs (if "relevant & significant") *	• Could harmonize with ISO 14064-1/14067 and EU PEF/ PEFCRs in many cases, though not entirely
3. Feasibility to implement	• Data uncertainty, complexity, and limited availability of both primary & estimated data	• Least challenging; companies with primary data or capacity to estimate may include; otherwise excluded	• 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%

- **Member 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

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

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 manufacturers 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 (kgCO2e/MWh)			*42.81*	*= 1,500 tCO2e / 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)

				W/out capital goods	W/ capital goods	
	Supplier	Supplier	Vendor	Reporting company	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. ** Compay A category 1 includes both 500 tCO2e and 1,250 tCO2e allocated.					5,000	[x]
Aveage t-shirts per year			10,000			
Scope 2 emissions per t-shirt (kgCO2e/t-shirt)			*50*		*50.00*	
Liferspan of cut/sew machine (expected) (years)			15			
Effective GHG emissions per year of capex (tCO2e/year)			*83.33*			
Effective GHG emissions from capex per t-shirt (kgCO2e/t-shirt)			*8.33*		8.33	
Combined effective GHG emissions per t-shirt (kgCO2e/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.

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%

- **Member 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.*

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%

- **Member 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.

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

(Draft; for discussion)

Appendix B.2
Category 2

Amortization of remaining unamortized emissions of capital goods

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.

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

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 LCCEs, 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 CO_2-eq/kWh to a high of 364.8 g CO_2-eq/kWh for wind energy, with a mean value of 34.11 g CO_2-eq/kWh. For solar energy, it finds a range of 1 g CO_2-eq/kWh to 218 g CO_2eq/kWh, where the mean value is 49.91 g CO_2-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)

For discussion

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)

Illustrative example	**Option 1: Total emissions**	**Option 2: Unamortized emissions**
1A. Scientific integrity	• n/a	• n/a
1B. GHG accounting and reporting principles	• Pros: Accuracy, completeness, transparency are satisfied • Pro/Con: **Relevance** may be **challenged** • Cons: **Consistency** (meaningful tracking over time) is **challenged**	• 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	• Cons: Excluding used capital goods may not support the accounting and reporting of capital goods with extended lifespans	• 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	• Pros: Harmonizes with SBTi and current drafts of other standards	• Cons: May not harmonize with SBTi and other construction-specific standards
3. Feasibility to implement	• Pros: Easier to quantify emissions from newly constructed/manufactured capital goods	• 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)

(Draft; for discussion)

Appendix B.3
Category 8

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

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 Volve 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 tCO2e / 50 years = 200 tCO2e per year x 25% = 50 tCO2e allocation to the lessee
      - 250 tCO2e / 10 years = 25 tCO2e per year x 25% = 6.25 tCO2e 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 tCO2e / 50 years = 200 tCO2e. ^ 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)			**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.

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 tCO2e / 50 years = 200 tCO2e per year x 25% = 50 tCO2e allocation to the lessee (tenant)
      - 250 tCO2e / 10 years = 25 tCO2e per year x 25% = 6.25 tCO2e 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 tCO2e / 50 years = 200 tCO2e. ^ 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

For discussion

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

Illustrative example	**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 tCO2e / 50 years = 200 tCO2e per year (amortized emissions from construction)
    - 200 tCO2e x 25% = 50 tCO2e 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

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	*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.)*
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	*N/A (no optional boundary activities; note that category 10 remains to be considered*)*
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-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

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.

(Draft; for discussion)

Series D, Category-specific optional boundaries & stakeholder feedback

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 listed 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)

GREENHOUSE GAS PROTOCOL

Read

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.

(Draft; for discussion)

Phase 1 Deliverable

GREENHOUSE GAS PROTOCOL

Read

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

(Draft; for discussion)

Category 16 optionality

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."