SCOPING AN ORGANISATION'S BIODIVERSITY FOOTPRINT

TOWARDS A PROTOCOL FOR ECOSYSTEM CONDITION ACCOUNTING

This document has been prepared by CDC Biodiversité and I Care, two biodiversity footprinting tool developers aiming to capitalise on their experience to propose an accounting framework on ecosystem condition. It complements the Scoping Note circulated in October 2025 and aims to propose common rules for defining the scope for the measurement of an organization's impacts on ecosystem condition.

As a reminder, biodiversity footprint is defined as the "quantified impact of a portfolio, asset class, project or company measured in terms of biodiversity change as a result of production and consumption of particular goods and services" (PBAF 2022). This framework emphasises measuring impacts on ecosystem condition within the biodiversity footprint, since among the range of indicators required to accurately capture impacts, ecosystem condition is critical for aligning with international biodiversity targets and offer the most realistic level for assessing a company's impact, thanks to the availability of operational tools.

Additional documents will follow, addressing topics such as the complementary of field- and model-based data to measure impacts and underpin credible claims, how to build state improvement and impact reduction trajectories, and more.

Further and broader collaboration will be required to develop this content. This note is intended to be shared with relevant stakeholders.

Comments, feedback, and expressions of interest in collaboration are welcome to gbs@cdc-biodiversite.fr and contact@i-care-consult.com.

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1 INTRODUCTION

Although inspired by the **GHG Protocol**, a well-established framework for climate accounting, this section adapts its logic to the **specific context of ecosystem condition**. It builds on the structure and principles of the GHG Protocol to ensure **consistency between climate and ecosystem condition reporting**, while addressing the unique characteristics of ecosystem condition.

Following this logic, the approach acknowledges that **robust and comparable reporting on ecosystem condition** impacts relies on **clear accounting rules and consistent definitions of value chain boundaries**. Accordingly, this section adapts key concepts traditionally applied in the GHG Protocol:

- **Accounting principles**, to ensure a faithful, true and fair representation of ecosystem condition impacts.
- **Scopes and organizational boundaries,** to consistently consolidate impacts in alignment with the structure of the reporting organization.
- **Value chain boundaries and Scope 3 categories**, adapted to reflect ecosystem condition-specific sources of impact.

Beyond the conventional **Scopes** applied to the activities of **companies** and **financial institutions**, this framework introduces the concept of **market impacts**, which captures **indirect responsibilities** for impacts occurring outside the organization's **value chain**.

In addition, beyond defining **principles** and **boundaries**, this section offers guidance on **crosscutting accounting aspects** that ensure **completeness** and **coherence** in attributing **responsibility** for ecosystem condition accounting. It addresses how to account for **assets** at the time of **acquisition** or **production**, and how to allocate their impact across **shared responsibilities** between **producers** and **owners**. It also considers the specific case of **shared assets**, particularly **non-owned shared infrastructure**.

Taken together, these principles and methodological rules form the core **accounting foundation** of the framework — a common reference point to ensure that ecosystem condition reporting is both **operationally consistent** and aligned with established **environmental accounting practices**.

2 MAIN PRINCIPLES

Ecosystem condition accounting shall be guided by the following principles (EWT - NBBN 2019):

- **Relevance**: Ensure that the ecosystem condition accounting framework allows to accurately capture the biodiversity impacts of organisations and effectively support the decision-making needs of users
- **Completeness**: Account for and report on all impact sources and activities within the inventory boundary. Any exclusions shall be clearly disclosed and justified.
- **Consistency**: Use consistent methodologies to enable meaningful tracking of impacts overtime. Any changes to data, inventory boundaries, methods, or other relevant factors in the time series shall be transparently documented.
- **Transparency**: Address all relevant issues in a factual and coherent manner, supported by a clear audit trail. Relevant assumptions shall be disclosed, with appropriate references to the accounting methodologies, calculation methods, and data sources used.
- **Accuracy**: Ensure that the quantification of impacts is, to the extent possible, not systematically overestimating or underestimating actual impacts, and that uncertainties are reduced as much as possible. The level of accuracy shall be sufficient to enable users to make decisions with reasonable confidence in the integrity of the reported information.
- **Equivalency:** Ensure that the notion of equity in the type of ecosystem (*i.e.*, ecological equivalency or like-for-like principle) is an integral part of the development and accounting of the biodiversity impact inventory.
- **Time-period assumption:** Account for impacts consistently across business reporting periods and considering the lingering effects of actions.

3 SETTING THE OPERATIONAL BOUNDARIES

3.1 THE CONCEPT OF SCOPES TO DEFINE THE VALUE CHAIN BOUNDARIES

To define a consistent scope for impact assessment, it is first necessary to **define key concepts in the value chain classification**. First, there are various definitions of **direct and indirect impact**. ALIGN, supported by the TNFD and PBAF, defines indirect impacts as a **change in the state of biodiversity caused by an impact driver or business activity with an indirect causal link** (for instance GHG emissions have indirect impacts on biodiversity) (UNEP-WCMC et al. 2023). After initially using a definition based on the **position of the impact within the value chain** in its first standard, **PBAF** has referred to ALIGN in its latest version (Partnership for Biodiversity Accounting Financials 2024). In this framework, for the sake of clarity, the terms “direct” and “indirect” may be used in reference to the value chain definition. However, given these different definitions, this framework prefers to focus on the definition of **Scopes** as *per* the GHG Protocol:

- **Scope 1**: direct impacts from sources that are owned or controlled by the company;
- **Scope 2**: indirect impacts from the generation of electricity, steam, heating and cooling purchased by the company;
- **Scope 3:** other indirect impacts.

This allows coherence with climate impact accounting. All Scopes must be reported against when assessing the impacts on ecosystem condition of an organisation.

3.2 CHOOSING AN APPROACH TO DEFINE THE ORGANISATIONAL PERIMETER

Impacts can be consolidated at the business level following one of the three consolidation approaches aligned with the GHG Protocol approach and defined in Appendix 0: **operational control, financial control or share of the assets owned**. The chosen option will determine the Scopes of the company activity. The organizational boundary should match the boundary used for financial reporting and other environmental disclosures (*e.g.*, carbon footprint, GRI reporting…).

4 SCOPE 3 CATEGORIES: ECOSYSTEM CONDITION ADAPTATIONS TO THE GHG PROTOCOL

The Scope 3 categories defined by the GHG Protocol, detailed in Appendix 0, are used as a reference framework for companies' impact reporting outside its direct operations. Using the same categories' numbers and names as the GHG Protocol allows **easier translation and comparison** between carbon and biodiversity reporting, even if companies do not collect data for some categories, since these may be less relevant to biodiversity than to climate. While most categories remain aligned with the protocol, **some do present biodiversity-specific considerations requiring adjustments or complementary treatments**. These are outlined in this document.

In greenhouse gas reporting under the SBTi, **significant Scope 3 categories** that must be reported are identified as representing 5% or more of total Scope 3 emissions or at least 10,000 tCO_2e/year. A similar approach can be used to prioritise categories of Scope 3 to report for ecosystem condition. While the 5% figure is not a mandatory threshold, it can serve as a useful reference to help identify and report the Scope 3 categories most relevant for ecosystem condition, **focusing on the categories where the organisation's activities have the greatest potential impact on ecosystems**. The choice of the categories to report on should be complemented with an appreciation of the level of influence the organisation can have on the category, and on the potential ecosystem condition sensitivity or richness of the potentially affected areas.

Figure [5.3] Time boundary of scope 3 categories

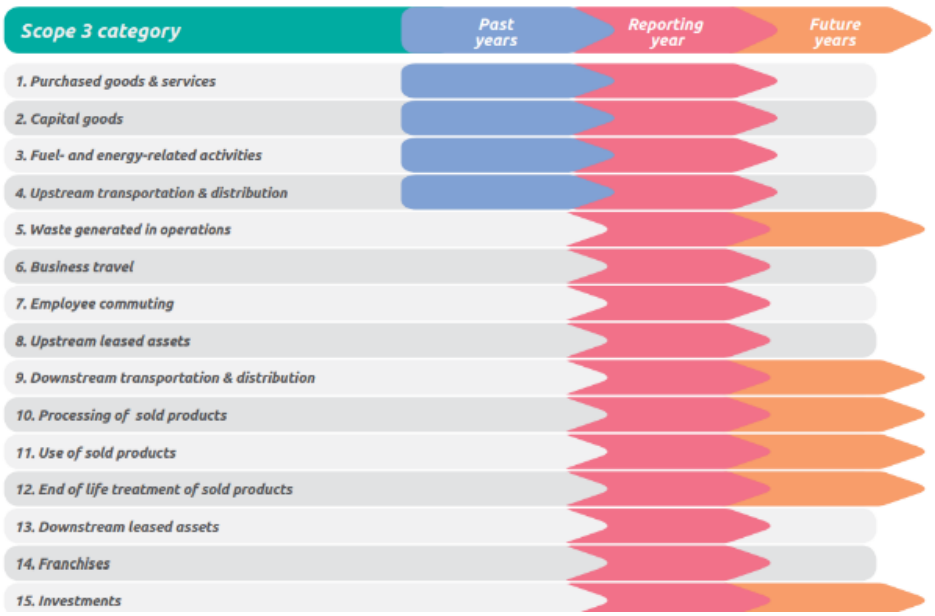


Figure 1. Time boundary for pressures' documentation of Scope 3 categories. Source: GHG Protocol, Corporate Value Chain Accounting and Reporting Standard (2011)

The **time boundary** to quantify externalities per category is similar to the one clarified by the GHG Protocol (GHG Protocol 2011). The impact dynamics related to these pressures will be detailed further in upcoming chapters.

4.1 CATEGORY 1: PURCHASED GOODS AND SERVICES

For Category 1 (Purchased Goods and Services), it can be relevant to **distinguish between biomass and non-biomass purchases to better capture biodiversity-related impacts and risks**. This distinction is particularly relevant for sectors related to agrifood, textile, wood-related products, energy, tobacco, etc.

4.2 CATEGORY 11: USE OF SOLD PRODUCTS

For Category 11 (Use of Sold Products), **product use can generate pressures beyond GHG emissions and not systematically captured in the end-of-life treatment categories**. The category thus encompasses both pressures that occur directly or indirectly due to the use of the products, until end-of-life treatments, which fall under Category 12.

Example

The use of shampoo releases some pollutants into water. These emissions need to be accounted for in Category 11, although they can be reduced thanks to water treatments processes, which are themselves modelled in the Category 12 (End-of-Life).

5 ACCOUNTING FOR NEW ASSET'S PRODUCTION OR ACQUISITION

When accounting for greenhouse gas emissions related to **capital assets**, two main methodologies are commonly used: the GHG Protocol and the Bilan Carbone® (developed by ADEME in France). The **GHG Protocol treats emissions from capital goods as part of Scope 3**, recognising the full carbon footprint of the asset at the **time of purchase**, **without amortisation**. This approach emphasises the immediate impact of investment decisions. In contrast, the **Bilan Carbone® method amortises emissions over the asset's useful life**, aligning with traditional accounting practices and offering a more gradual representation of emissions over time. While the GHG Protocol is more responsive to changes in procurement and investment, the Bilan Carbone® provides a smoother, usage-based view of emissions. The choice between the two depends on whether the organisation prioritises decision-making impact or long-term operational impact measurement.

Since the goal of this document is to support organizations in their long-term strategies and trajectories concerning ecosystem condition, it recommends **alignment with the GHG Protocol** carbon accounting framework. The temporal dynamics of the various pressures driving impacts will be detailed in a forthcoming document.

6 ACCOUNTING FOR MARKET IMPACTS

There are some cases where organisations' activities can lead to **market impacts**. For example, increasing demand in one commodity from one country can indirectly lead to an increase in production areas of this commodity, potentially leading to natural land conversion in this country. This phenomenon is captured through the indirect Land Use Change (iLUC) indicator. This effect was first observed regarding the land use change induced by an increase in the demand for biofuel in the United States (Searchinger et al. 2008). Such mechanisms can be observed beyond the sole case of land use change. Given the inherent complexity of accurately modeling such impacts, **we do not recommend that economic actors include them in annual ecosystem condition assessments**.

7 DEALING WITH THE USE OF NOT-OWNED SHARED INFRASTRUCTURES

Companies can depend on **shared infrastructures** for their direct and indirect activities, such as:

- Roads, railways, river channels…
- Port facilities, airports, train stations…
- Power networks, telecommunication networks, gas network…
- Power plants (hydraulic dams, photovoltaic plants, …)

However, emissions from infrastructure construction and other external services are not included in Scope 3, *per* GHG Protocol guidance, which limits Scope 3 to specific stakeholder categories (*e.g.*, suppliers, logistics providers, franchisees…).

For an ecosystem condition impact assessment, **impacts from infrastructures that are not owned but shared should be accounted for**, as they can represent a significant threat to biodiversity, notably because of their impact on land occupation and transformation.

If these infrastructures are simply required or used by the activities of the companies (*e.g.*, roads used by owned vehicles or power plants required for electricity consumption), **their impact should be accounted in Scope 3 within the relevant category.**

To allocate these impacts between users, **methodologies from life cycle assessment can be used,** such as ecoinvent (Wernet et al. 2016). Ecoinvent systematically includes and allocates the inventories of infrastructures construction, operation and decommissioning per unit of specific activities. Different allocation approaches can be used, but the essential aspect is to account for the **average yearly load** of the infrastructure and its **lifetime**, as shown in examples applied by ecoinvent for roads and port facilities in the box below. Where a full infrastructure inventory cannot be obtained, consideration should at minimum be given to direct land occupation and related land use changes.

If these infrastructures are owned, developed or produced by the company, please refer to Part 8**Erreur ! Référence non valide pour un signet.**.

Examples of allocation methods considered in ecoinvent for infrastructures:

Ecoinvent, a widely used database in Life Cycle Assessment, accounts for infrastructures' use impacts (including construction, operation and decommissioning) by applying allocation and amortisation methods. **These methods distribute impacts per unit of infrastructure use**. The allocation rules depend greatly on the infrastructure but are generally linked to the average yearly load of the infrastructure and its lifetime. Two examples are provided below:

- **Roads**: All environmental exchanges of road construction, maintenance and end-of-life refer to 1 meter and 1 year (i.e., expressed per [m.yr]). To do so, environmental exchanges from construction and end-of-life per meter of road are divided by the average lifetime of the road in years. Exchanges from maintenance are directly expressed per meter and per year of road operation. Then, for a specific activity using road, such as lorry transport, expressed per [t.km], ecoinvent applies a physical allocation for road provision based on the average yearly mass load of a road (in [t/yr]). Road provision is therefore modelled as a constant renewal rather than as a one-time expenditure and end-of-life and is assumed directly related to gross vehicle weight (i.e.,vehicle plus its load). The amount of road provision for a transport activity is expressed in [m.yr] per [t.km].
- **Port facilities**: All environmental exchanges from ports construction, maintenance and end-of-life are accounted and expressed per port over its lifetime. Then, for a specific activity using port facilities as a shared infrastructure (such as ship transport, expressed per [t.km]), ecoinvent applies a physical allocation for port facilities provision based on the average number of days at port and deadweight of a ship, as well as the average throughput of the port. The amount of port facilities provision is expressed in [unit] per [t.km] of ship transport.

8 ALLOCATION OF IMPACTS BETWEEN ASSET PRODUCER/DEVELOPER AND OWNER

The general guidance for new acquisitions of assets is to account for the **associated impacts under the capital goods Category (Category 2).** As in the GHG Protocol methodology, capital goods impacts are reported whole during the year of acquisition and not distributed over time based on financial accounting (see 5). It is nevertheless important to differentiate impacts from the **production** phase of an asset and its subsequent use or **operation** phase. This distinction applies to both real estate and other asset categories.

8.1 ALLOCATION OF THE IMPACTS OF THE PRODUCTION/CONSTRUCTION OF THE ASSET

The impacts related to the production phase of an asset include both those of the **extraction** and **production** of the **materials** and those **directly linked to the construction** or **manufacturing** of the finished asset.

During the construction phase, **impacts associated with any purchase of goods and services from the producer** (*e.g.*, water, construction materials, raw materials, fuels) should be accounted for as **upstream Scope 3 for the producer**. **Impacts associated directly with the production or construction phase** (*e.g.*, land transformation or occupation, GHG and pollutant emissions, habitat fragmentation and encroachment) should be accounted for as **Scope 1 for the producer.**

When the construction phase is over, and the project enters the operation phase, the impact responsibility shifts. The impacts of the construction phase are **then allocated proportionally to the lifetime of the asset to the different owners,** following this guidance:

- when an asset changes ownership (*e.g.*, from a producer to a real estate owner, or between owners), the responsibility for the construction phase **impacts associated directly with the production or construction phase** shifts to the new owner's Scope 1 proportionally to the ratio $\frac{Time\ possessed}{lifetime\ of\ the\ asset}$.For the original producer, they are reported as downstream Scope 3.
- Regarding **impacts associated with any purchase of goods and services from the producer**, they would now be considered as upstream Scope 3 for the new owner as well.

This shift of construction-phase impacts to the current owner's Scope 1 ensures that the construction sector does not bear the full environmental burden of all buildings it produces. Instead, responsibility **follows the asset**, reflecting the actual ownership and use over time, while the producer reports these impacts as downstream Scope 3. An exception applies to direct land use impacts: these are fully allocated to the current owner regardless of the duration of possession, because this land occupation or conversion directly alters the land under the owner's control. In summary, the **developer holds Scope 1 responsibility for the direct construction impacts during construction**, then it shifts to downstream Scope 3 responsibility during operation, while the **new owner assumes Scope 1 responsibility from the start of the operational phase**.

The **environmental persistence** of each impact per pressure should also be considered. "Persistence" usually refers to the capacity of a substance to degrades "slowly" and persists in the environment for long periods of time and is used to estimate the environmental effects of substances discharged into the environment (INERIS 2025). In this framework, persistence will be generalised to all types of pressures, reflecting the duration of their effects on ecosystem condition. This broader interpretation will be further detailed in a following section of the protocol.

Impacts are distributed over the shorter of two periods, lifetime of the asset and environmental persistence, so that for long-lived assets the annualised impact reflects the remaining effect.

Example of impact allocation between the producer and the owner

The following fictitious situation is considered:

- **Two identical buildings**, one with a **100-year lifetime (Building 1)** and one with a **10-year lifetime (Building 2)**;
- **Two pressures**:
  - **Pressure 1** with an impact of **3,000 units** and a remanence duration of **30 years;**
  - **Pressure 2** with an impact of **5,000 units** and a remanence duration of **50 years;**
- **Three owners**: the **Producer** (over 3 years), the **Owner 1** (over 10 years) and the **Owner 2** for the first building over the 87 remaining years.

The following tables show how the impacts associated directly with the production or construction phase linked to the construction phase would be distributed between owners. Table 1 below summarises the impacts attributed to the producer. For example:

- For Pressure 1 and Building 1, as the **total lifetime of the building exceeds the persistence of impact,** and as both the persistence of the impacts and lifetime of the building exceed the possession duration of the producer, the impacts are attributed to the 3 years of possession following the formula: $\frac{\text{Total impact}}{\text{persistence of the impact}} = \frac{3{,}000}{30} = 100$ units per year.
- For Pressure 1 and Building 2, as **the total lifetime of the building is inferior to the persistence of the impact**, and as both the persistence of the impacts and lifetime of the building exceed the duration of the time possessed by the producer, the total impact is distributed across the lifetime of the building. The impacts are therefore attributed to the 3 years of possession following the formula $\frac{\text{Total impact}}{\text{lifetime of the building}} = \frac{3{,}000}{30} = 100$ units per year.

Table 1: Direct impact linked to the construction phase attributed to the Producer

	Building 1			**Building 2**		
Year	Pressure 1_{30y}	Pressure 2_{50y}	Total attributed impact	Pressure 1_{30y}	Pressure 2_{50y}	Total attributed impact
1	**100**	**100**	600	**300**	**500**	2,400
2	**100**	**100**		**300**	**500**	
3	**100**	**100**		**300**	**500**	

Table 2: Direct impact linked to the construction phase attributed to the Owner 2

	Building 1			Building 2		
Year	Pressure 1_{30y}	Pressure 2_{50y}	Total attributed impact	Pressure 1_{30y}	Pressure 2_{50y}	Total attributed impact
14	**100**	**100**	5,400	0	0	N/A: the building no longer exists
15	**100**	**100**		0	0	
....						
30	**100**	**100**		0	0	
31	0	**100**		0	0	
...						
50	0	**100**		0	0	
51	0	0		0	0	
...						
100	0	0		0	0	

As shown in Table 3, asset management policies have a significant influence on how impacts are distributed over time. The longer the asset's lifespan, the lower the impacts allocated per year, and, therefore, the lower the impacts allocated per owner.

Table 3: Overview of direct impacts from the construction phase, allocated to the producer and successive owners

Owner	Holding period	Total attributed impact for Pressure 1_{30y} and Pressure 2_{50y}	
		Building 1	Building 2
Producer	3	600	2,400
Owner 1	10	2,000	5,600
Owner 2	87	5,400	N/A: the building no longer exists
	Total impact	8,000	8,000

8.2 ALLOCATION OF THE IMPACTS OF THE OPERATION PHASE OF THE ASSET

Impacts associated with the use of an asset include **resource consumption, waste management, maintenance, pollution, and interactions of the asset with its surrounding environment** during its operational lifetime, such as disturbance pressures like encroachment or fragmentation. These impacts are **fully attributed to the current owner** of the asset and are not transferred to subsequent owners upon sale.

- **Impacts associated with the production of all purchased services during the operation phase** (*e.g.*, energy, resource procurement, maintenance expenses) must be accounted for as upstream Scope 3 for the owner and as downstream Scope 3 for the producer of the asset.
- **Impacts directly linked to the exploitation/use of the asset** (*e.g.*, land use, GHG or pollutant emissions, habitat fragmentation and encroachment) should be reported as Scope 1 for the owner and as downstream Scope 3 for the producer. Specifically, the impacts related to land use that were previously attributed to the producer are now reported under the Scope 1 of the new asset owner as inherited impacts. Scope 1 impacts refer to direct impacts from sources that are owned or controlled by the company, and the land occupation of the building is directly linked to the owner's operational sphere.

This allocation ensures that all impact drivers are consistently attributed to either producing or owning entities, according to their Scope categorisation.

9 CONCLUSION

This document introduces a framework for **accounting ecosystem condition impacts**, building on **established carbon literature**. Distinguishing between **Scopes** is crucial to ensure transparency and accountability across the asset lifecycle, though **Scope 3 categories require slight adaptation to reflect ecosystem condition-specific considerations**.

In addition, the document offers guidance on key topics such as **asset acquisition or production**, the **use of non-owned assets**, and the **allocation of responsibilities** between **producers and owners** throughout the lifecycle.

This document will be complemented by further publications addressing **ecosystem condition impacts across time and space, approaches to positive impact accounting, and the definition of pressures**, among other related aspects.

10 ANNEXES

10.1 DEFINITIONS

To enable a consistent and transparent understanding of the framework, some key terms are clarified below, using various sources such as the IPBES Conceptual Framework (Díaz et al. 2015) and the DPSIR model (Driver-Pressures-State-Impact-Response) (Smeets et al. 1999). Other definitions are suggestions from the authors of this document.

Driver: drivers are factors that initiate change in nature and biodiversity. In this protocol, the word "pressure" is preferred.

Ecosystem condition: describes the overall quality of an ecosystem measured in terms of its biotic (living) and abiotic (physical rather than biological) characteristics (UNEP-WCMC et al. 2023).

Impacts: Impacts are the ecological changes that result from pressures. They describe how the state of biodiversity is altered, positively or negatively, by human activity. Impacts can be modelled using known relationships between pressures and expected ecosystem responses or observed through direct monitoring techniques.

Indirect impacts: indirect impacts as a change in the state of biodiversity caused by an impact driver or business activity with an indirect causal link (for instance GHG emissions have indirect impacts on biodiversity) (UNEP-WCMC et al. 2023). After initially using a definition based on the position of the impact within the value chain in its first standard, PBAF has referred to ALIGN in its latest version (Partnership for Biodiversity Accounting Financials 2024). In this framework, for the sake of clarity, the terms "direct" and "indirect" may be used in reference to the value chain definition. However, given these different definitions, this framework prefers to focus on the definition of Scopes as *per* the GHG Protocol.

Market impacts: environmental pressures or consequences that occur outside the immediate operational boundaries of a company but are causally linked to its activities. These impacts often result from market dynamics, land displacement, supply chain shifts, or broader systemic effects triggered by a company's actions — even when no direct change is observed within its own assets.

Pressure: a pressure is a factor that initiates change in nature and biodiversity. Pressures are classified into:

- **Direct pressures**: natural or anthropogenic processes that directly alter nature. In the IPBES framework, these are called direct drivers of change, while the DPSIR model refers to them as pressures or impact drivers. Examples include land use change, direct exploitation, climate change, pollution and invasive alien species.
- **Indirect pressures**: underlying societal causes such as demographic, economic, socio-political or technological factors that influence the direct drivers. Indirect drivers correspond to the "Drivers" in the DPSIR model.

A pressure generally has three main characteristics: magnitude (*e.g.*, amount of contaminant, noise intensity), spatial extent of the impact driver (*e.g.*, area of land changed) and temporal

extent (*e.g.*, duration of persistence of contaminant). They are neutral, i.e. they may result in both positive and negative changes in the state of biodiversity and associated impacts on business or society (*e.g.*, impacts on human wellbeing). Several pressures, either from one company or combined with those of other organisations, can result in cumulative impacts.

Responses and actions: Responses refer to societal or organisational actions aimed at addressing biodiversity loss. These can include regulatory interventions, corporate practices, conservation programs, or ecosystem restoration. Effective responses reduce pressures, mitigate impacts, and improve ecological conditions.

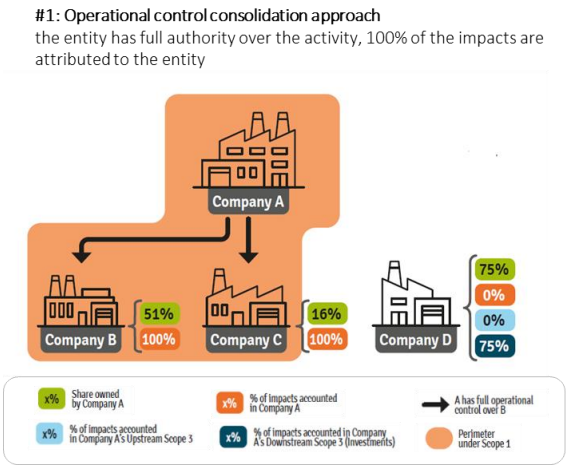
Robust response indicators should be actionable (tied to specific levers of influence); specific (targeted to pressures or impacts) and verifiable (measurable over time and across scales) . The effectiveness of responses is ultimately judged by their influence on pressure levels, ecological impacts, or improvements in biodiversity state. The IPBES conceptual framework refers more broadly to actions, rather than responses.

State of biodiversity: The state refers to the current condition of biodiversity and ecosystems, including their structure, function, and composition. It captures both the present status and temporal trends in ecological integrity.

10.2 ORGANISATION PERIMETER

10.2.1 Operational control approach

If the entity has full authority over the activity/asset, 100 % of its impacts are attributed to the entity.

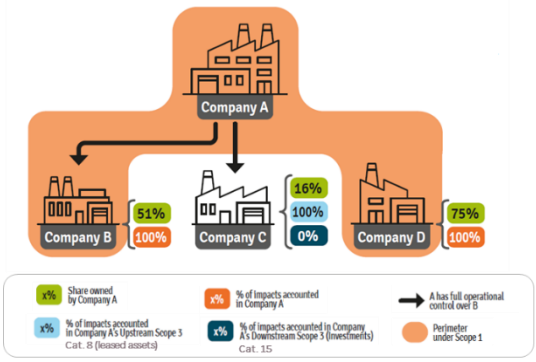


Example: companies B and C are fully operated by company A, therefore, their impacts from direct operations are accounted for in the Scope 1 of company A. Company D is not operated by A, but A has 75% of the shares of D which can be accounted for in the investments of company A. Investments belong to the downstream Scope 3 for the investor (category15 in the GHG protocol (Greenhouse Gas Protocol 2011, 3)), therefore 75% of company D's impacts from direct operations are accounted for in the downstream Scope 3 of company A.

10.2.2 Financial control approach

If the entity is the investor with the highest share, 100 % of the activity/asset's impacts are attributed to the entity.

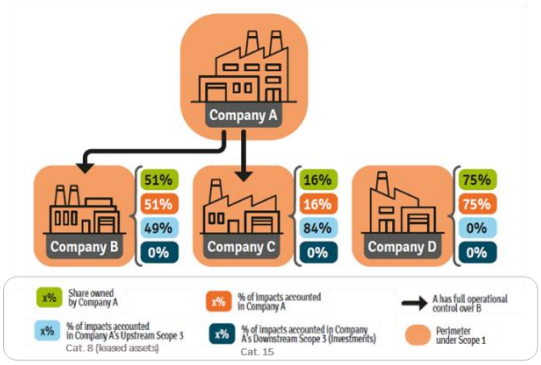
#2: Financial control consolidation approach
the entity has >50% of the voting rights related to the activity.
100% of the impacts are attributed to the entity



Example: companies B and D are detained more than 50% by A, so their impacts from direct operations are accounted for in the Scope 1 of company A. Company C is owned less than 50% by A but is fully operated by A, which means that C is fully leased by A. According to the GHG protocol, leased assets are part of the upstream Scope 3 (category 8 in the GHG Protocol) for the assessed entity. Therefore, 100% of the impacts from direct operations of C are accounted for in the upstream Scope 3 of A.

10.2.3 Share of assets approach

#3: Shares of the asset owned consolidation approach
the impacts of the activity are attributed to the entity according to the share of assets owned



The impacts of a given asset are attributed to the entity's Scope 1 in proportion to the share of the asset it owns. Example: companies B, C, and D's direct impacts are accounted for in the Scope 1 of A *pro rata* the share of assets owned by A (respectively 51%, 16% and 75% of their impacts from direct operations). For companies B and C which are fully operated by A, following the logic of case #2, B and C are also leased assets for A. Their impacts from direct operations are already partly accounted in company A's Scope 1, their remaining impacts is then accounted for in the upstream Scope 3 of company A (upstream leased assets). As for company D, it is not operated by company A so the remaining impacts from direct operations (25%) of D is not accounted for in the Scope 3 of company A.

10.3 SCOPE 3 CATEGORIES

Depending on the consolidation approach adopted by the reporting company, some categories may instead be reported as Scope 1 impacts. When a single system produces multiple outputs (*e.g.* cows can produce milk, meat and skins used for leather production) and impacts are quantified for the system as a whole, allocation is required to partition impacts among the various outputs. The approaches described by the GHG Protocol can usefully be applied to understand how the choice of consolidation approach influences the Scopes under which each impact falls, and how to best allocate impacts (Greenhouse Gas Protocol 2011).

The following tables on upstream and downstream Scope 3 are designed, for each category, to:

- Identify the category
- Provide a description
- Define the minimum boundary to be included in the biodiversity impact assessment
- Suggest optional extensions beyond the defined minimum boundaries

10.3.1 Upstream Scope 3 categories for accounting

Category	Category description	Minimum boundary	Optional
1. Purchased goods and services	Extraction, production and transportation of products and services purchased or acquired by the reporting company in the reporting year not otherwise included in other categories. Products include both goods and services. They can be separated between biomass and non-biomass related purchases.	All upstream (cradle-to-gate) impacts of purchased goods and services.	
2. Capital goods	Extraction, production and transportation of capital goods purchased or acquired by the reporting company in the reporting year.	All upstream (cradle-to-gate) impacts of purchased capital goods.	
3. Fuel and energy related activities (not included in Scope 1 or 2)	Extraction, production and transportation of fuels and energy purchased by the reporting company in the reporting year that are not included in Scope 1 nor Scope 2. They are detailed as follow: • Extraction, production and transportation of fuels consumed by the company • Extraction, production and transportation of fuels consumed in the generation of electricity, steam, heating and cooling consumed by the company • Extraction, production and transportation of fuels consumed in the generation of electricity, steam, heating and cooling lost during transmission and distribution • Extraction, production and transportation of fuels consumed in the generation of electricity, steam, heating and cooling sold to end users	All upstream (cradle-to-gate) impacts of purchased fuels and electricity (from raw material extraction up to the point of, but excluding combustion and combustion by a power generator).	
4. Upstream transportation and distribution	Transportation and distribution of products (excluding fuel and energy products) purchased or acquired by the reporting company in the reporting year in vehicles and facilities not owned or operated by the reporting company, as well as other transportation and distribution services purchased by the reporting company in the reporting year.	Scope 1 and 2 impacts of transportation and distribution providers that occur during use of vehicles and facilities.	Impacts associated with manufacturing vehicles, facilities, infrastructure.
5. Waste generated in operations	Disposal and treatment of waste that is generated in the reporting company's owned or controlled operations in the reporting year in facilities not owned or controlled by the reporting company. This category includes impacts from disposal of both solid waste and wastewater.	Scope 1 and Scope 2 impacts of waste management suppliers that occur during disposal or treatment.	Impacts from transportation of waste.
6. Business travel	Transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars.	Scope 1 and Scope 2 impacts of transportation carriers that occur during use of vehicles.	Impacts associated with manufacturing vehicles or infrastructure.

Category	Category description	Minimum boundary	Optional
7. Employee commuting	Transportation of employees between their homes and their worksites in vehicles not owned or operated by the company.	Scope 1 and Scope 2 impacts of employees and transportation providers that occur during use of vehicles.	Impacts from employee teleworking
8. Upstream leased assets	Operation of assets that are leased by the reporting company (lessee) in the reporting year and not already included in the reporting company's Scope 1 or Scope 2 inventories.	Scope 1 and Scope 2 impacts of lessors that occur during the reporting company's operation of leased assets (*e.g.*, from energy use).	Impacts associated with manufacturing or constructing leased assets.
U1. Areas occupied but not owned	Areas subject to restrictions or activities controlled or used by the reporting company but which are not owned by the reporting company (e.g. hydropower lakes or easement strips). If they are controlled, the activity should be reported in the reporting company's Scope 1 inventories if it selects the operational control approach.	All impacts generated directly within the spatial perimeter of the areas controlled.	

10.3.2 Downstream Scope 3 categories for accounting

Category	Category description	Minimum boundary	Optional
9. Downstream transportation and distribution	Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company).	Scope 1 and Scope 2 impacts of transportation providers, distributors, and retailers that occur during use of vehicles and facilities.	Impacts associated with manufacturing vehicles, facilities, or infrastructure.
10. Processing of sold products	Processing of intermediate products sold by the reporting company in the reporting year, by downstream companies.	Scope 1 and Scope 2 impacts of downstream companies that occur during processing.	
11. Use of sold products	End use of goods and services sold by the reporting company in the reporting year.	Direct use-phase impacts of sold products over their expected lifetime, i.e. Scope 1 and Scope 2 impacts of end users that occur from the use of: products that directly consume energy (fuels or electricity) during use fuels and feedstocks direct impacts (e.g direct GHG emissions) due the sold products	Indirect use-phase impacts of sold products over their expected lifetime.
12. End-of-life treatment of sold products	Waste disposal and treatment of products sold by the reporting company in the reporting year at the end of their life.	Scope 1 and Scope 2 impacts of waste management companies that occur during disposal or treatment of sold products.	
13. Downstream leased assets	Operation of assets that are lease by the reporting company (lessor) and leased to other entities in the reporting year and not already included in the reporting company's Scope 1 or Scope 2 inventories.	Scope 1 and Scope 2 impacts of lessees that occur during operation of leased assets.	Impacts associated with manufacturing or constructing leased assets.
14. Franchises	Operation of franchises in the reporting year not included in Scope 1 and Scope 2 of the franchisor.	Scope 1 and Scope 2 impacts of franchisees that occur during operation of franchises.	Impacts associated with manufacturing or constructing franchises.
15. Investments	Operation of investments (including equity and debt investments and project finance) in the reporting year, not included in Scope 1 and 2.	Scope 1 and Scope 2 investees during should be reported proportionally to the reporting company investment. In the case of project finance, Scope 1 and Scope 2 of project during their expected lifetime should be reported proportionally to the reporting company investment Impacts should be accounted in the Scope 1 or Scope 2 of the reporting company for equity share consolidation approach. For other approaches,	

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