Version 0.3 (August 2024)

FACTSHEET: Wholesale and Retail

AIM OF THE FACTSHEET

The benchmark factsheet is designed for companies or investors to assess a sector's impacts and dependencies on biodiversity. Companies can use the factsheet to compare their impacts and dependencies (*e.g.*, assessed with the Global Biodiversity Score (GBS) tool) to the sector average or to estimate their impacts and main pressures on biodiversity. Investors can also use it to screen their biodiversity impacts and dependencies, or rate specific companies' performance against sectoral benchmarks. Finally, factsheets will help nourish the work of the EU Taxonomy by identifying low impact companies. It is supported by a technical annex and a reading guide.

The calculations were performed using GBS version 1.4.8 in May 2024.

WHAT DOES THE SECTOR INCLUDE?

The sector covers:

- Wholesale and retail trade, maintenance and repair of motor vehicles, motorcycles and related parts or accessories;
- Wholesale trade of other goods;
- Retail trade of other goods (in specialized or non-specialized stores, markets and stalls);
- Repair of personal and household goods.

KEY MESSAGES

➤ Most of the impacts of the Wholesale and Retail sector fall under **Scope 3** as the sector is located downstream of the economic value chain. Scope 3 includes sectors such as raw materials extraction, agriculture & agrifood or even manufacturing.

➤ The **strategic position** of the sector's industries allow them to entice both **suppliers and consumers** to switch towards more sustainable production processes and consumption behaviors.

➤ The development of **circular economy** is a key measure to reduce both upstream and downstream impacts of the sector. **Energy savings** are also crucial to decrease its biodiversity footprint.

EXIOBASE INDUSTRIES	NACE rev2 CODE
50a. Sale, maintenance and repair of motor vehicles, motor vehicles parts, motorcycles, motorcycles parts and accessories 50b. Retail sale of automotive fuel 51. Wholesale trade and commission trade, except of motor vehicles and motorcycles 52. Retail trade, except of motor vehicles and motorcycles repair of personal and household goods.	G.45. Wholesale and retail trade and repair of motor vehicles and motorcycles G.46. Wholesale trade, except of motor vehicles and motorcycles G.47. Retail trade, except of motor vehicles and motorcycles S.95. Repair of computers and personal and household goods

ECOSYSTEM SERVICES DEPENDENCIES Scope 1

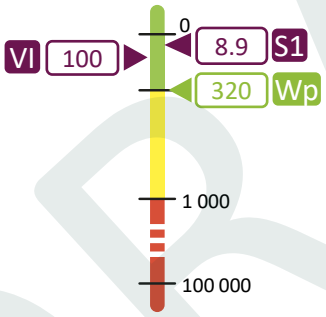
Wholesale and retail trade of motor vehicles[2]
2.9 %

Wholesale trade of other goods[3]
9.5 %

Retail trade of other goods[3]
2.9 %

TERRESTRIAL STATIC PERFORMANCE OF THE SECTOR

Intensity (MSA.m²/kEUR)



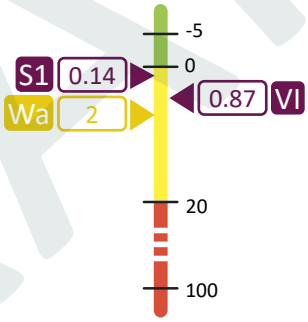
S1 Sectoral Scope 1 terrestrial static intensity

VI Sectoral vertically integrated [5] terrestrial static intensity

Wp World terrestrial static intensity compatible with planetary boundaries[4]

TERRESTRIAL DYNAMIC PERFORMANCE OF THE SECTOR

Intensity (MSA.m²/kEUR)



S1 Sectoral Scope 1 terrestrial dynamic intensity

VI Sectoral vertically integrated terrestrial dynamic intensity

Wa Corporate world average terrestrial dynamic intensity

STATIC AGGREGATED SCORE

Vertically integrated (VI) (terrestrial and aquatic)

Wholesale and retail trade of motor vehicles
1 100
MSAppb/bEUR

Wholesale trade of other goods
1 200
MSAppb/bEUR

Retail trade of other goods
1 600
MSAppb/bEUR

Mean sector aggregated score

VI	Scope 1
1 300 MSAppb/bEUR	72 MSAppb/bEUR

BIODIVERSITY FOOTPRINT

Realm	Accounting category	Impact intensity - MSA.m²/kEUR					
		Wholesale and retail trade of motor vehicles		Wholesale trade of other goods		Retail trade of other goods	
		Scope 1	Vertically integrated	Scope 1	Vertically integrated	Scope 1	Vertically integrated
Terrestrial	Static	8.5	86	9.3	100	8.6	130
	Dynamic	0.16	0.79	0.12	0.81	0.15	1.1
Aquatic[6]	Static	0.029	4.2	0.065	4.6	0.056	6.4

(2) For practical reasons, the EXIOBASE industry group "Wholesale and retail trade of motor vehicles […]" is designated as "Wholesale and retail trade of motor vehicles" in this factsheet. This industry group includes the EXIOBASE industries "Retail sale of automotive fuel" and "Sale, maintenance and repair of motor vehicles […]". Further details are available in the annex.

(3) For practical reasons, the EXIOBASE industries "Wholesale and commission trade, except of motor vehicles and motorcycles" and "Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods" are respectively designated as "Wholesale trade of other goods" and "Retail trade of other goods".

(4) World terrestrial static intensity compatible with planetary boundaries $= \frac{terrestrial\ static\ impact\ compatible\ with\ planetary\ boundary}{global\ turnover} = \frac{28\%MSA*total\ emerged\ land\ surface}{global\ turnover}$

(5) The vertically integrated results refer to the sum of Scope 1, 2 and upstream Scope 3 impacts.

(6) The aquatic dynamic results have a high uncertainty and are therefore not presented here. However, the data is available in the technical annex.

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GBS GLOBAL BIODIVERSITY SCORE®

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FACTSHEET: Wholesale and Retail

KEY ISSUES OF THE SECTOR

ECOSYSTEM SERVICES DEPENDENCIES OF THE SECTOR

The dependencies of the sector are calculated using the GBS, based on data from the ENCORE model, developed to provide knowledge on sectors' dependency on 21 ecosystem services (UNEP 2024). Details about the methodology and graphs displaying the output of all the dependencies are provided in the annex.

The Wholesale and Retail sector has a low Scope 1 average dependency on ecosystem services (see page 1). The aggregated score of each industry of the sector is between 3 % and 10 %. However, all of them rely rather strongly on the "Mass stabilisation and erosion control" ecosystem service: each industry has a dependency score between 40 % and 60 % for this ecosystem service. Indeed, a stable land is required to support the sector's infrastructures such as warehouses, parking lots or stores.

Despite rather low Scope 1 average dependencies, upstream activities can be part of dependent sectors such as agriculture or raw materials extraction. This leads the upstream Scope 3 critical dependency score to reach **between 44 and 62 % depending on the sector's industry**, meaning that **this fraction of the industries' value chain is critically dependent on at least one ecosystem service.**

HOW DOES THE SECTOR CONTRIBUTE TO CHANGES IN THE STATE OF NATURAL CAPITAL?

The **upstream Scope 3** impacts are extremely important compared to the Scope 1 and 2 impacts, as the Wholesale and Retail activities are located at the end of the economic value chain. The upstream activities can include intensive sectors, such as transport, manufacture, and before that raw materials extraction or agriculture & agrifood production. These activities contribute to the high upstream impacts due to **spatial pressures**.

The sector contributes to **climate change** in each of its Scopes. Indeed, intensive energy consuming activities are present all along the value chain. Further details are presented on page 3.

Regarding the Wholesale and retail trade of motor vehicles, which includes the sale of automotive fuel, **Climate change, Land use and Pollution** are important pressures due to the nature of the traded products. Indeed, the car industry requires metallic and plastic components, and the fuel industry relies on petroleum extraction.

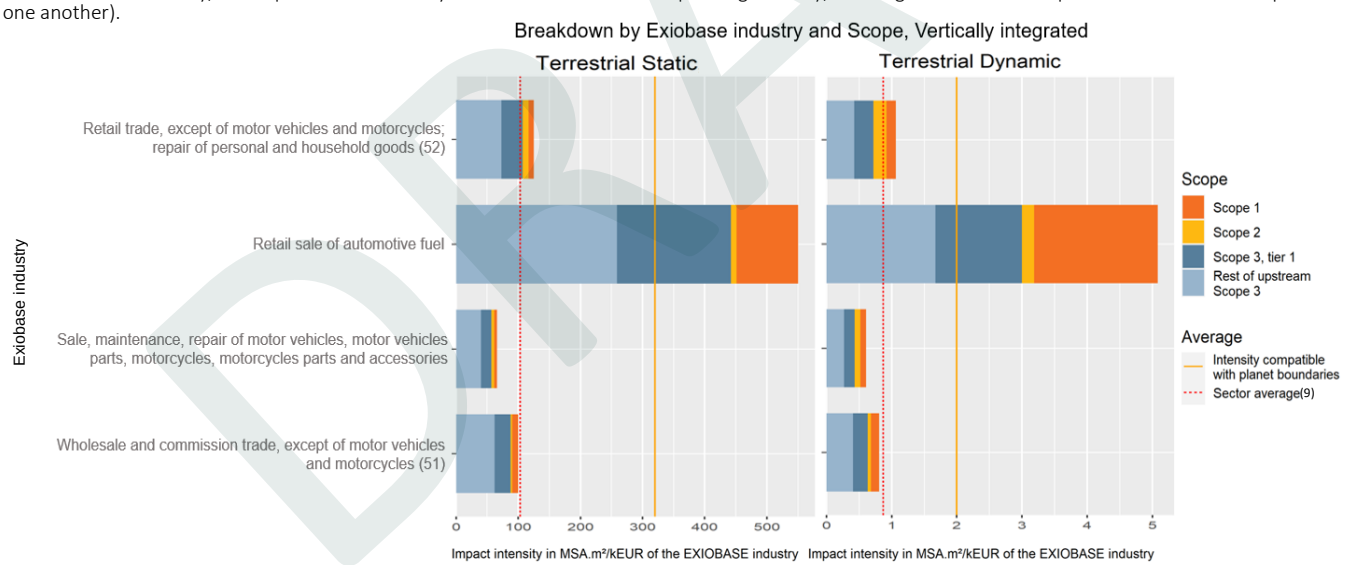
OPPORTUNITIES OF THE SECTOR

Wholesale and Retail is a key sector because of its position between the producers, the manufacturers and the consumers (Naidoo et al. 2018) Companies from the sector have the power to **influence the whole upstream value chain** by deciding which products they sell and what sourcing they prefer. Therefore, a main lever lies in their choices of suppliers and discussions with them to opt for sustainable practices and products in the **upstream Scope 3**. Another important opportunity to reduce the upstream impacts is to develop the sale of **second-hand goods and circular economy**. As a result, impacts due to production would decrease.

This would also help reducing the **downstream impacts** by contributing to avoid waste and promoting reuse, even though these impacts are not assessed by the GBS. Wholesale and Retail activities translate the consumers' habits and preferences. Thus, they can **influence and drive consumption** towards sustainable practices. Finally, **packaging** is a key component of the sector's value chain and can be a lever to reduce both upstream impacts (using recycled or reused packaging which does not require production) and downstream impacts (making sure packaging is collected and reused).

SCOPE AND INDUSTRY BREAKDOWN

Here is presented the breakdown of the terrestrial static and dynamic impacts by Scope and EXIOBASE industry. The results are in MSA.m²/kEUR (i.e., for each EXIOBASE industry, the impacts are divided by the turnover of the corresponding industry, allowing the industries to position themselves compared to one another).



Source: GBS 1.4.8 computation, May 2024, Marie Kovalenko

The impact intensity of the "Retail sale of automotive fuel" industry appears to be very high compared to the other industries from the sector. This is due to the presence of highly impacting industries in its upstream Scope 3, such as Extraction of natural gas. In the opposite way, the terrestrial static and dynamic impact intensities of the whole sector are below the limit compatible with planet boundaries, because of low Scope 1 impacts as well as a large diversity of upstream activities which attenuates the intensity of each one : 100 MSA.m²/kEUR for the terrestrial static impacts and 0.87 MSA.m²/kEUR for the terrestrial dynamic impacts (see page 1).

Almost all **terrestrial static impacts occur in the upstream Scope 3** for each industry of the sector. Indeed, Scope 1 only covers the trade activity, sometimes including storage and transport, even though these activities are often operated by specialized companies and thus fall under the upstream Scope 3 impacts. When the assessment is only based on financial data, the Scope 1 terrestrial static impacts do not include the spatial impacts of stores and warehouses and is underestimated. More accurate results can be obtained by combining land use data of Wholesale and Retail buildings and are detailed in the annex. The Scope 3, Tier 1 terrestrial static impacts are mainly driven by agricultural and mining industries, while dynamic impacts are led by the Landfill of waste, Air transport and Transport via pipelines industries. Further details about the upstream impact drivers are available in the annex.

Regarding the terrestrial dynamic impacts, Scopes 1 and 2 account for a larger part as these impacts are substantially linked to **Greenhouse Gas (GHG) emissions**, which occur at every step of the value chain. However, the upstream impacts are still dominant.

Finally, Scope 2 impacts cover the electricity consumption of the industries and are mainly due the production of electricity by coal for the "Sale, maintenance and repair of motor vehicles […]" and "Sale of automotive fuel" industries. Regarding the Scope 2 impacts of "Wholesale of other goods" and "Retail trade of other goods" industries, they are mostly due to the GHG emissions of **steam and hot water supply**.

(9) The sector average is the average weighted by the part of each industry in the total sector's turnover.

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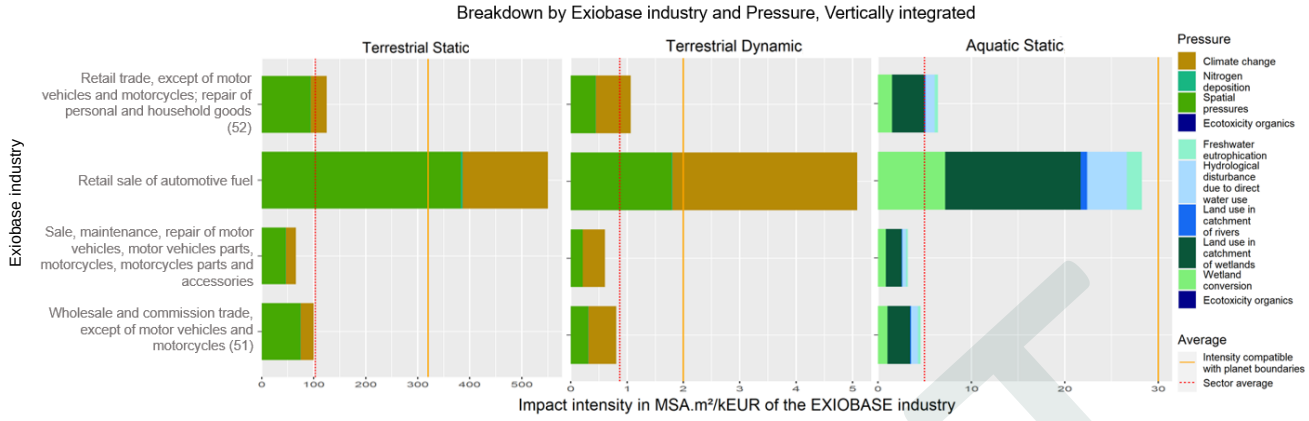
FACTSHEET: Wholesale and Retail

IMPACT DRIVERS BREAKDOWN



Source: GBS 1.4.8 computation, May 2024, Marie Kovalenko

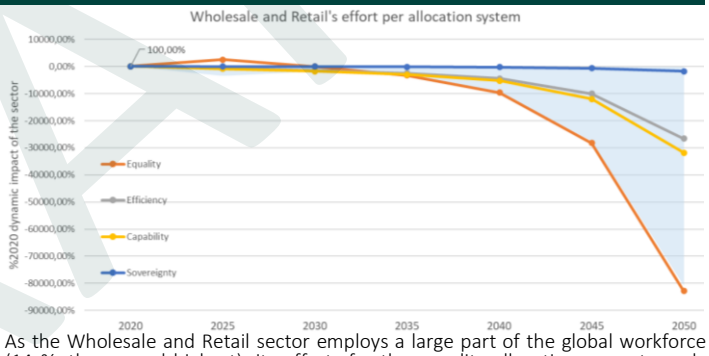
All the sector's industries have the same pressure distribution. The terrestrial static impacts are mainly due to **spatial pressures**: Land use, Fragmentation and Encroachment. However, Scope 1 spatial pressures are underestimated when the assessment is only based on financial data. These pressures are therefore mainly caused by the upstream activities, such as raw materials extraction and agriculture. Regarding terrestrial dynamic impacts, **Climate change** is the main pressure for every industry, as GHG emissions are significant in every Scope. Scope 1 GHG emissions can be linked to the use of refrigerant, as commercial refrigeration accounts for 35 % of EU CO_2-eq emissions related to refrigerants (fluorinated gases) (Gimeno-Frontera et al. 2018). The Scope 2 impacts are directly due to the use of electricity for lighting, cooling infrastructures and heating. Scope 3 GHG emissions are also important due to the long upstream value chain and all the transport (especially air transport) and manufacture processes (particularly for products containing metallic components).

The main aquatic static pressure is a pollution pressure: Land use in catchment of wetlands, which may be due to rejections of upstream industries in aquatic areas, such as agriculture. The spatial pressure Wetland conversion is also important and is mainly driven by upstream activities.

TRAJECTORIES TO ACHIEVE THE INTERNATIONAL TARGETS

The Kunming-Montreal Global Biodiversity Framework (GBF) aims to reach at least a global no net loss of biodiversity in 2030 (interpreted as a global dynamic impact of 0 in 2030) and restore biodiversity between 2030 and 2050. The efforts to achieve these restoration goals need to be allocated to economic sectors and companies. Four allocation systems encapsulate different ethical points of view that the society could consider when asking companies to contribute to biodiversity gains. This methodology focuses on the Scope 1 of each sector.

ALLOCATION	APPROACH	DATA USED	SECTOR'S FIGURES
Equality	Everyone has the same right	Number of employees in the sectors (Eurostat 2018)	**14 %** of the total global workforce
Efficiency	Cost-effectiveness	Restoration cost (EUR/[MSA.m²])	**6.0** (vs 5.5 for the global average[10])
Capability	Industries' ability to pay	Turnover (MEUR) (EXIOBASE 2011)	**5.2 %** of the total global turnover
Sovereignty	Grandfathering[11]	2020 dynamic impacts (MSA.km²/year)	**0.26 %** of the total global 2020 dynamic impacts



As the Wholesale and Retail sector employs a large part of the global workforce (14 %, the second highest), its efforts for the equality allocation are extremely demanding and rather unrealistic. On the other hand, because of its location downstream of the economic value chain and its low Scope 1 dynamic impact, the sovereignty allocation does not require much effort. The efficiency and capability allocation entail substantial efforts as the sector has low restoration cost and turnover compared to other sectors. Thus, the blue area covers the wideness of the possible paths companies of the Wholesale and Retail sector could have to follow to reach nature positive targets.

POSSIBLE ACTIONS TO REDUCE THE IMPACTS ON BIODIVERSITY

	Wholesale and retail trade of motor vehicles	Wholesale trade of other goods	Retail trade of other goods
All scopes	• Develop the trade of electric and low-consumption cars	• Use recycled (at least 65 % of recycled materials), second-hand packaging, or reusable or biodegradable packaging	
	• Develop circular economy models: repair services, sale of spare parts, leasing, sale of second-hand products, …		
Scope 1	• Use natural refrigerant substances (e.g. carbon dioxide or ammonia) • Reduce direct waste (unsold food, clothes, metallic or plastic parts) • Avoid building infrastructures on non-artificialized areas, use already existant real-estate		
Scope 2	• Encourage a renewable energy sourcing in stores and warehouses, such as solar panels on rooftops • Avoid lighting stores and warehouses during the night, use daylight, have an energy consumption monitoring system • Install heat recovery systems in stores and warehouses • Produce and use biogas by methanisation of food waste		
Scope 3	• Increase demand of sustainable products (organic food, manufactured products using reused or low-impact materials, eco-designed products, …) to the suppliers • Optimize and choose low-impact transportation processes • Coordinate with suppliers to reuse products not fit for selling as resource to produce new ones		

(10) The global average weighted by the turnover of each benchmark sector

(11) The grandfathering approach means that the obligations of industries (or companies) are based on their historic impacts, here their 2020 biodiversity dynamic impact.

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FACTSHEET: Wholesale and Retail

ENVIRONMENTAL SAFEGUARDS

Some impacts and pressures are not covered by the figures displayed in this benchmark factsheet (partly due to limitations in the Global Biodiversity Score tool used to obtain them). The technical annex provides a more detailed description of the uncertainties and limitations of the results. They should not be ignored when defining the biodiversity action plan.

- **Avoid locating activities on or near sites of high environmental value** or establish a specific management plan, especially for the upstream agricultural or extractive activities.
- Make sure that suppliers do not have harmful practices such as **deforestation,** as recommended by the EU Deforestation regulation[15].
- **Restore habitats** during operations and/or after operations (IFC 2012).
- Conduct a **systematic review** to identify priority ecosystem services, meaning those on which project operations are most likely to have an impact and those on which the project is directly dependent (*e.g.*, water) (IFC 2012).

Moreover, of the three components of biodiversity, the GBS only focuses on the ecosystem diversity, and does not cover species or genetic diversity. See the GBS review report "Quality assurance" for the full list of environmental safeguards to implement (CDC Biodiversité 2020; IFC 2012).

The **EU Taxonomy Environmental Delegated Act**, published in the Official Journal in November 2023, describes conditions for activities to make a substantial contribution to environmental objectives[16]. Four activities of the Wholesale and Retail sector can contribute substantially to the **transition to circular economy** objective:

- **Sale of second-hand goods**
- **Repair, refurbishment and remanufacturing.**
- **Product-as-a-service and other circular use- and result-oriented service models**
- **Sale of spare parts**

Technical Screening Criteria for a substantial contribution to Circular economy include for instance:

- Making sure that the materials that cannot be directly repaired are **reused elsewhere or recycled**.
- Providing a **reused or reusable packaging** for the sold products.

More details and extracts from the Environmental Delegated Act, are presented in the annex.

BIODIVERSITY FOOTPRINT ASSESSMENT

GENERAL OBJECTIVES OF A GBS-BASED ASSESSMENT

The factsheet helps companies of each sector to understand their most material impacts and dependencies. However, a Biodiversity Footprint Assessment is more company-specific and allows to calculate the companies' impacts and dependencies on biodiversity. Indeed, a GBS-based assessment uses companies' data (emissions, land occupation or other pressures, raw materials and products purchased and produced by the companies) to calculate biodiversity impacts.

Thus, a GBS-based Biodiversity Footprint Assessment allows to:

- **Quantitatively assess the biodiversity footprint** generated by the activity of the company or by its investment portfolio and to **assess the contribution of the company to global biodiversity erosion**;
- Understand which impact drivers on biodiversity the company contributes to and which ecosystem services it is dependent on;
- Provide elements for a **short-term** and a **mid-term action plan to reduce the footprint** on biodiversity and alleviate the contribution of the company to biodiversity erosion;
- **Comply with mandatory biodiversity footprint disclosure** in France, in the European Union (action 30 of the French National Biodiversity Plan, CSDR), and in the world (Global Biodiversity Framework), as well as voluntary reporting frameworks such as the one set by the Taskforce on Nature-related Financial Disclosure (TNFD).

Limitations: The assessment does not consider some pollution impact drivers nor the existence and impacts of invasive species, the impacts on genetic and marine biodiversity.

HOW TO LEAD A BIODIVERSITY FOOTPRINT ASSESSMENT BASED ON THE GLOBAL BIODIVERSITY SCORE?

A GBS-based assessment can be led by **various organisms**:

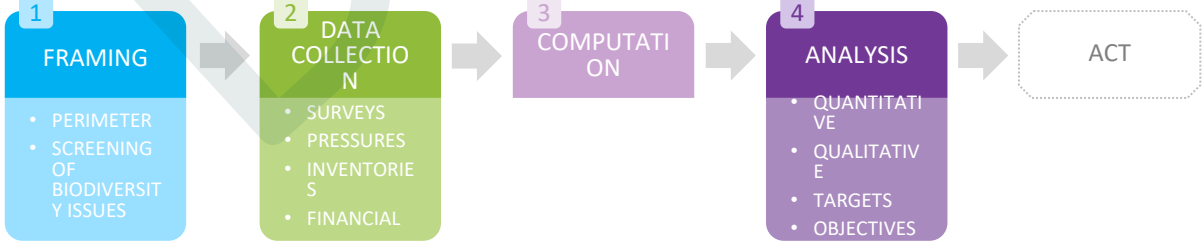
- The company itself, after being trained to use the GBS;
- CDC Biodiversité or external GBS-trained assessors (list available here), instructed by the company;
- A GBS-trained non-financial rating agency.

A biodiversity footprint assessment follows **4 main steps**, as shown below:

- The **framing** step validates the Scope of the assessment, particularly in terms of **Scopes and assessed pressures**.
- During the **data collection** step, the **methodological choices** are validated: assumptions applied, proxies used, possible limits identified
- The **computation** uses the refined analysis and the pressure-impact relationships of the GBS tool to compute impacts.
- The **analysis** step explains the results obtained with the GBS by **identifying major impacts** as well as the **main sources of these impacts**. It is also an opportunity to identify objectives and **impact reduction actions, aligned with international recommendations**.

The **relevance** of the assessment depends on:

- The inclusion of direct operations and value chain impacts
- The consistency and transparency of the data and methodology used
- The appropriate quality assurance and complete disclosure of the results



Wholesale and Retail factsheet version 0.3, August 2024. GBS computations: GBS 1.4.8, May 2024, Marie Kovalenko.
The sources are referenced in the bibliography section of the "Wholesale and Retail" technical annex.

More information
About the GBS: Présentation PowerPoint (cdc-biodiversite.fr)
About the factsheets: https://www.cdc-biodiversite.fr/documentation-gbs/
Measuring the contributions of business and finance towards the post-2020 global biodiversity framework (CDC Biodiversité, 2020)
Establishing an ecosystem of stakeholders to measure the biodiversity performance of human activities (CDC Biodiversité, 2021)
Accounting for positive and negative impacts throughout the value chain (CDC Biodiversité, 2023)
Resources to build trajectories

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(15) The European parliament adopted a text which "obliges companies to ensure products sold in the EU have not [recently] led to deforestation and forest degradation." Source: European Parliament, POSITION OF THE EUROPEAN PARLIAMENT on Deforestation regulation, 2023.
(16) The EU Taxonomy addresses 6 environmental objectives, which are detailed in the annex.

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