Case study Summary sheet

Context

CASE STUDY

Footprint use category: Financial assets
Assessment time: Based on the most recent data available for each company (often 2020)
Business application: Assessment/rating by and for third parties with external data

Perimeter

		LUEFN Pressure	CC Pressure	Aquatic Pressures
Scope 1		✓	✓	✓
Scope 2		☐	☐	☐
Scope 3	Tier 1	✓	✓	✓
	Rest of value chain	✓	✓	✓
	Downstream	☐	☐	☐

COMPANY'S IDENTITY

Financial asset's identity
N/A: study conducted by CDC Biodiversité and Carbon4 Finance

Asset class
Listed equity

Underlying entities
STOXX Europe 600's entities

Asset under Management (AuM)
N/A: 1 billion euro of turnover achieved by STOXX Europe 600 companies, broken down according to the respective weight of each issuer in the index

Why?

Provide a benchmark for a widely used listed equity index against which other assets can compare, and demonstrate the use of BIA-GBS to evaluate such an index.

When?

Computation in fall 2021 based on the most recent composition of the index (2021) and data available in the unerdlying database (CRIS and CIA) for each company (often 2020).

How often?

One off

What?

Terrestrial and freshwater impacts provided by BIA-GBS for 1 billion euro in turnover, divided between the STOXX Europe 600's components, based on their weighting in the index.

For who?

Managers and owners of assets comparable to the STOXX Europe 600 in terms of industries and geographies, as well as financial institutions seeking benchmark values more broadly.

How detailed?

Results are presented at the sector level, with information on the predominant pressures and the drivers of impact.

DATA COLLECTED

Item	Description	Source
Financial data	Turnover by sector and country	Carbon4 Finance's CRIS database
GHG emissions data	GHG emissions on all Scopes	Carbon4 Finance's CIA database

Footprint analysis

RESULTS

INDUSTRY GROUP	SHARE IN THE AGGREGATED SCORE	TERRESTRIAL STATIC	TERRESTRIAL DYNAMIC	AQUATIC STATIC	AQUATIC DYNAMIC
Financial service activities	20%				
Manufacture of chemicals & chemical products	18%				
Manufacture of food products	15%				
Manufacture of beverages	8%				
Manufacture of computer, electronic & optical products	5%				

Figure 17: Breakdown of impacts per realm and accounting category for the five industry groups with the highest share of aggregated score
Source: Biodiversity Impact Analytics powered by the Global Biodiversity Score database, GBS 1.3.0, 09/21, Carbon4 Finance

KEY MESSAGES

- BIA-GBS provides data needed by the financial sector the data it needs to start on its biodiversity journey and identify hotspots of impacts: detailed analysis of the impact of portfolios on biodiversity, with multiple explanatory variables (ventilation per sector, pressure, and biodiversity realm).
- The impacts are driven by the weight of the sectors in the index and their intensities in terms of biodiversity pressures.
- The predominant pressures of the companies are either Land use or Climate change, depending on the sector.

LIMITATIONS / IMPROVEMENTS

- New methodological developments for BIA-GBS are under way to use company-specific inventories data for all pressures rather than financial data, which will allow best-in-class selection, beginning with the agri-food sector.
- A first threshold of low-impact activity on average was defined, based on the impacts calculated in MSA.km². It should be considered only as an initial guidance that will need to be refined in the future.

5.1 Analysis of the impact of a STOXX Europe 600 portfolio on biodiversity using BIA-GBS

5.1.1 Context and objectives

This case study is an extract from a study published by Carbon4 Finance and CDC Biodiversité in July 2023 (CDC Biodiversité 2023a). It provides an in-depth analysis of the results provided by BIA-GBS for 1 billion euro in turnover, divided between the STOXX Europe 600's components, based on their weighting in the index.

The purpose of this exercise is to analyse the impact on biodiversity of a portfolio that replicates the STOXX Europe 600 Index. With 600 components, the STOXX Europe 600 Index represents large, mid, and small capitalization companies across 17 European countries.

5.1.2 Methodology

This study evaluates the impact of 1 billion euro of turnover achieved by STOXX Europe 600 companies, broken down according to the respective weight of each issuer in the index. Issuers from the construction sector were excluded from this study due to an insufficient coverage of impacts in the GBS, which is part of the ongoing improvements of the tool. Thus, the final sample includes 571 issuers accounting for 98% of the STOXX Europe 600 in monetary terms. The results were computed with version 1.3.0 of the GBS with the composition of the STOXX Europe 600 by the end of 2021. The sectoral distribution of the turnover using the 57 EXIOBASE Industry Groups is displayed in Figure 19.

All results are expressed in terms of intensity per euro of weighted turnover, *i.e.*, an average of the issuers' intensity of impact per euro of turnover weighted by their share in the portfolio. The impacts include the Scope 1, 2, Upstream Scope 3 and Downstream Scope 3 for the impacts related to Climate change. Static and dynamic impacts on the one hand, and aquatic and terrestrial impacts on the other hand are reported separately. However, the MSAppb* score has been used in this analysis to screen for impact hotspots by aggregating the four associated compartments (static, dynamic, aquatic, terrestrial).

*Figure 18: Distribution of the turnover per EXIOBASE industries for € 1b of turnover achieved by STOXX Europe 600 companies**

* "Other" include for instance Land transport and transport via pipelines, Human health and social work activities or Mining of metal ores.

5.1.3 Results and discussion

Using the aggregated score in MSAppb* summed up on the value chain (Scope 1, 2, Upstream Scope 3 and Downstream Scope 3 related to climate change), the four most impactful sectors in the portfolio are financial service activities, Manufacture of chemicals and chemical products, Manufacture of food products and Manufacture of beverages.

In addition, and to better understand the impact of the portfolio on biodiversity, it is useful to zoom out of the aggregated score and come back to MSA.m²/kEUR to break down the intensities into their elementary components. Some sectors, such as Manufacture of leather & related products, have an important accumulated impact on land use and therefore a predominant static impact. On the other hand, dynamic impacts linked to the Climate change pressure stand out for financial service activities, as the downstream impact of financed emissions on the Climate change is included.

BIA-GBS also reveals that most of the impacts of the portfolio are generated within the issuers' (upstream and, for climate change only, downstream) Scope 3, which accounts for between 91 % and 97 % of the total impact in MSA.km² depending on the realm (terrestrial or aquatic) and the accounting category (static or dynamic).

80 % of the average aggregated score intensity per turnover is explained by the Land use and Climate change pressures. Figure 18 shows the distribution of the ten most intensive sectors according to the share of these two pressures in the aggregated score.

The Climate change pressure is predominant for four of the ten largest sectors in terms of contribution to the aggregated score. More than 95 % of the score of the financial service activities sector derives from the Climate change pressure. This raises the predominance of this pressure at the portfolio level as this sector accounts for 20 % of the portfolio's intensity and 12 % of its financial weight. This significant share of Climate change in the biodiversity impact of the financial sector is explained on the one hand by the inclusion of its Downstream Scope 3 GHG emissions (those caused by the companies financed by financial institutions) and associated Climate change impacts, and on the other hand by the current lack of assessment of other pressures (such as Land use) for Downstream Scope 3 in BIA-GBS.

The Land use change pressure is the main driver for five out of ten of these sectors, including the agri-food and leather industries. These activities, in green in the Figure 18, are associated to significant land occupation (and thus high Land use static intensities), required to grow crops and grass for humans and for livestock.

5.1.4 Lessons learnt

BIA-GBS can be used to assess an index and provide benchmark values for financial assets benchmarking against those indexes.

This study introduced a new concept of "low impact threshold" across realms and accounting categories, that showed to be useful, but it needs to be refined to be more based on planetary boundaries, including for dynamic impacts.

The analysis has displayed quantitatively two main groups of industries: those causing mainly Land use impacts (leather, crops etc.) and those causing mainly Climate change impacts (Financial services, etc.).

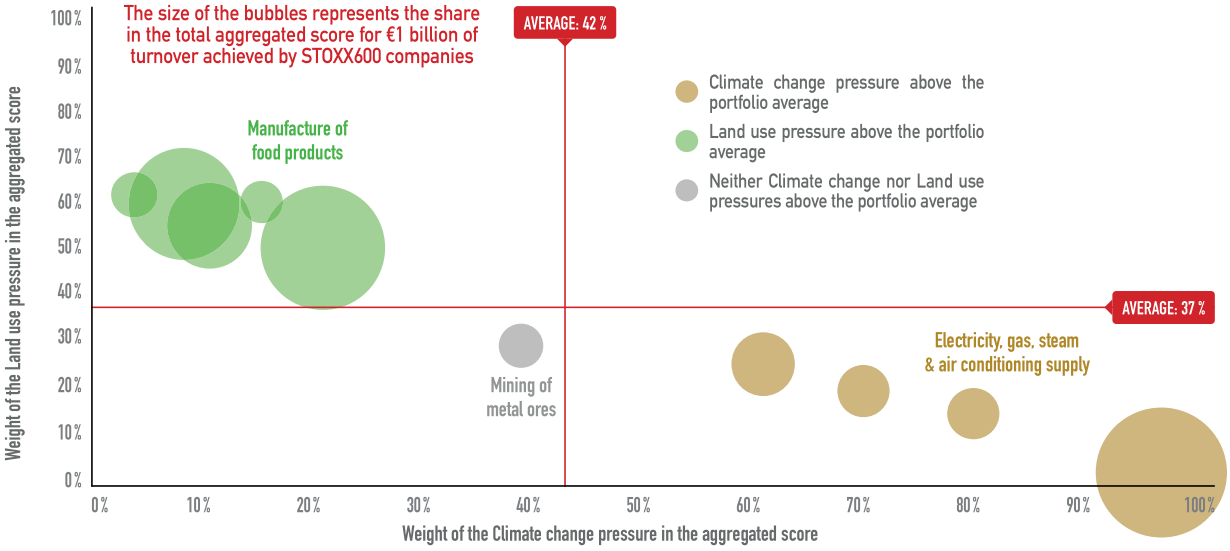

Figure 19: Share of the Land use and Climate Change pressures in the aggregated score of the ten most intensive sectors, for 1 billion euro in turnover of STOXX600 companies. Source: Biodiversity Impact Analytics powered by the Global Biodiversity Score database, GBS 1.3.0, 09/21, Carbon4 Finance*

* Mining involves disturbance to surrounding ecosystems, which is captured by the Encroachment pressure that therefore represents a much higher share of Mining's impacts than for other industries. The pressure linked to water use is also higher than the average.