

## **Biodiversity** Impact Analytics

*How to assess the biodiversity impact of an investment portfolio?*

# Carbon4 Finance

A Climate data provider specialized in metrics for the financial sector

## Our services



Climate data for portfolio carbon footprinting



Scope 1, 2 & 3: induced emissions and emissions savings



Assessment of assets' physical risks



Web platform for climate scenario alignment

## Our approach



An innovative bottom-up methodology



Each analyst is specialized in one or more specific sectors



Global coverage (c.20,000 securities, corporate and sovereign)

## Our Clients



# A strategic partnership

*Alliance based on an in-depth environmental and sectoral expertise*

**CDC** BIODIVERSITÉ



- **Expertise in biodiversity** footprint tools
- Development of the **Global Biodiversity Score (GBS)** methodology



- **Experienced data provider** on environmental issues
- **Global Coverage** of main equity and fixed income market indices (15 000 lines).

## Objectives of the **Biodiversity** Impact Analytics database:

- help measure the risk of ecological transition,
- communicate impacts on biodiversity
- feed into broader reporting,
- facilitate engagement.

# Biodiversity Impact Analytics

How to calculate the biodiversity impact?

## Global Biodiversity Score

- A **corporate biodiversity footprint assessment tool**
- Results expressed in **MSA.km<sup>2</sup>** measuring the **intactness of ecosystems**.
- Links data on **economic activity** to **pressures** on biodiversity, and translate them into **biodiversity impacts**



- Analysis of the value chain and calculation of scope 1, 2 & 3 **induced emissions** and **emissions savings**
- Based on operational data collected from annual and operational reports

## GLOBIO Model

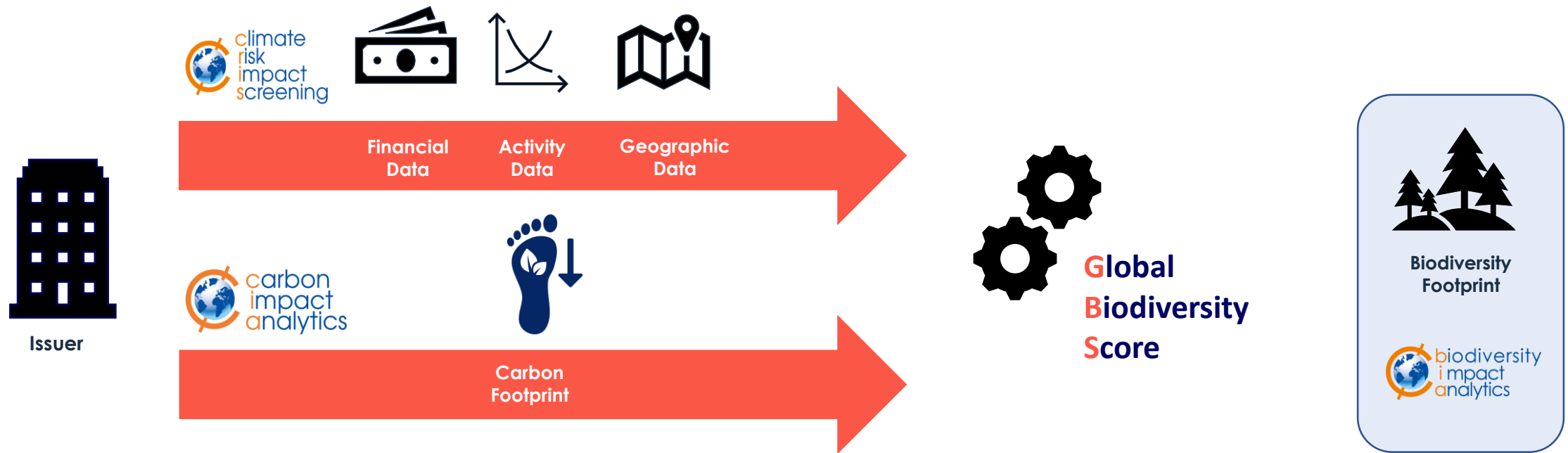
- Estimates of **terrestrial and aquatic (freshwater) biodiversity** at a global level.
- Estimates of biodiversity state using **pressure-impact relationships** set using a database of around 300 peer-reviewed scientific papers



- Analysis of the geographic breakdown of each activity of the company.
- At the company level, for each climate hazard, **combination of the risks of each country-sector coupling, composing its business**.

# Biodiversity Impact Analytics

*How to aggregate the data?*



# Biodiversity Impact Analytics

## The Biodiversity Impact

### Biodiversity state is expressed using MSA metric

- MSA% for **Mean species Abundance** is a **ratio of abundance** between the observed ecosystem and a pristine reference
  - 100% is the maximum ratio describing pristine state, 0% is the minimum, describing a fully destroyed ecosystem
- MSA can be multiplied by a surface leading to **MSA.km<sup>2</sup>**

1 km<sup>2</sup> MSA **loss** is equivalent to the **destruction** of 1 km<sup>2</sup> of pristine natural areas

1 km<sup>2</sup> MSA **gain** is equivalent to the **restoration** of 1 km<sup>2</sup> of destroyed area

### BIA Covers the main pressures on biodiversity

Land use

Fragmentation

Encroachment

Atmospheric nitrogen deposition

Climate change

Hydrological disturbance

Wetland conversion

Freshwater eutrophication

Land use in catchment

# The Value of Biodiversity Impact Analytics

## TRANSPARENT



Based on the GBS methodology, transparent process line with existing public taxonomies. The involvement of CDC B with marketplace workgroups will keep the GBS up to date with the upcoming biodiversity diplomatic events.

## BOTTOM-UP APPROACH



It assesses the entire value chain, breaks down into geographies and activities, and finalizes with detailed analysis and a single indicator.

## SECTORAL EXPERTISE



It calculates using quantifiable physical data from companies' public information, academic, similar environmental initiatives, and possibly open source metrics.

## GLOBAL



As for the CIA and CRIS methodologies, the Global Biodiversity Score will be applicable across all asset classes (equity, bonds, private equity, real estate, infrastructure).

## CONTINUOUS DEVELOPMENT



GBS will continue to grow and evolve through a collaborative effort in the financial and corporate sectors, allowing the emergence of a shared methodology.

## FLEXIBILITY



The database will be exportable and compatible with internal environmental assessment systems (all underlying data will be at disposal).

# Platform BIA – Issuer Analysis





# Platform BIA – Portfolio Analysis

## Portfolio

[Download underlying data for selected companies](#)

Company	ISIN	Sector	Weight	Revenues (EURm)	Aggregated Intensity (MSAppb/EURbn)
Rio Tinto	GB0007188757	Mining	33%	34 341	211
McDonald's	US5801351017	Restaurants	33%	16 318	56
BASF	DE000BASF111	Chemicals	33%	56 346	68

## Portfolio Test

Securities

3

BIA Coverage

100%

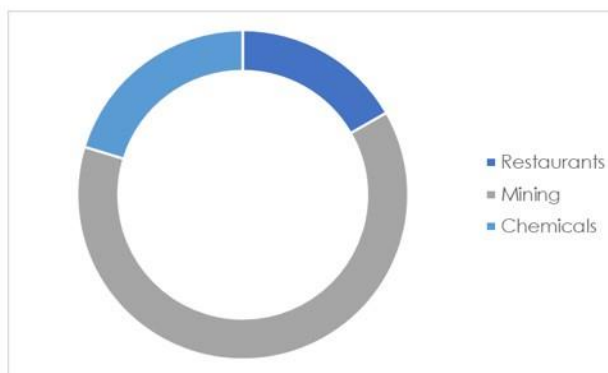
Aggregated score

112 MSAppb/EURbn

[View portfolio](#)

## Sectoral distribution

Induced impact (in MSAppb/EURb)



## Impact distribution

Induced impact (in MSA.km<sup>2</sup>)

