



28 November 2023

Webinar – *Answer Article 29 with Carbon4 Finance*

*Melissa Perez – Head of Sales
Nolwenn Kazoum – Head of Relationship Management*

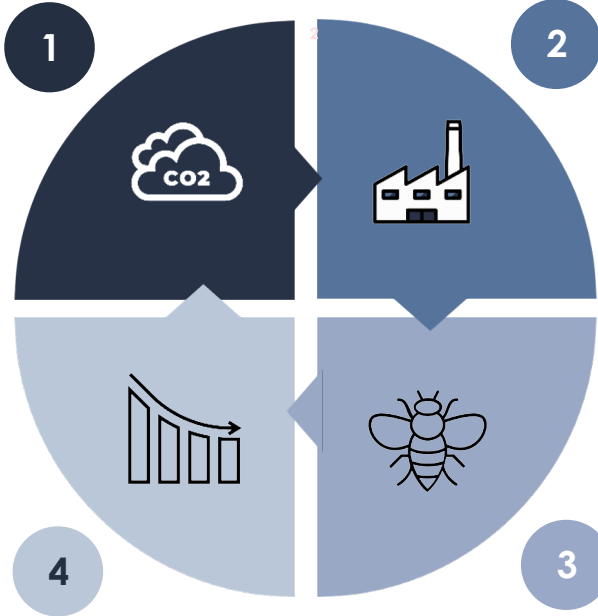
Carbon4 Finance

A climate and biodiversity data provider specialized in metrics for the financial sector

Our services

Assessment of transition risks (CIA)

Carbon footprint
Scope 1, 2 & 3
Saved emissions
Climate scenario alignment



Web platform & Datafeed

Issuer Analysis
Portfolio performance

Assessment of physical risks (CRIS)

7 climate Hazards
3 IPCC Scenarios
2 time-horizons

Assessment of Biodiversity risks and Impacts (BIA-GBS™)

MSA.Km2
Scope 1, 2 & 3
10 Terrestrial and Aquatic pressures

Our approach



An innovative bottom-up technology



An international coverage (c. 125,000 instruments, corporate and sovereign)



25 analysts, each specialized in specific sector



A multi-sector approach
Listed and unlisted Assets

Carbon4 Finance

Carbon4 Finance, a pioneer in measuring the carbon impact of financial institutions

Securities portfolio



Reporting requirements (TCFD-compliant, Article 29, SFDR)
Transition and Physical risks
Bottom-up data on 60 sectors (Equity, Sovereign, Green bonds)
Additional sectoral data (energy, green/fossil shares, reserves, etc.)

Assets & Loan Book



Carbon footprint of Loan & Credit Portfolios
Implementation of climate score into credit process
Exposure's assessment of central banks assets
Research papers on climate risk impacts on financial value

Other collaborations



Indices – Recast of Low Carbon 100, Euronext's low carbon index
Fintech – positive impact financing and savings platforms
Data integration into platforms
Schools – conferences on the role of finance in climate mitigation, research paper

Climate data provider of the Eurosystem



European Central Bank +20 Central Banks in Europe

Carbon4 Finance

BIA-GBSTM, trusted to assess the biodiversity impact of investment portfolio

Securities portfolio



Impact of an investment portfolio on biodiversity
Communicate impacts on biodiversity
Engagement with companies

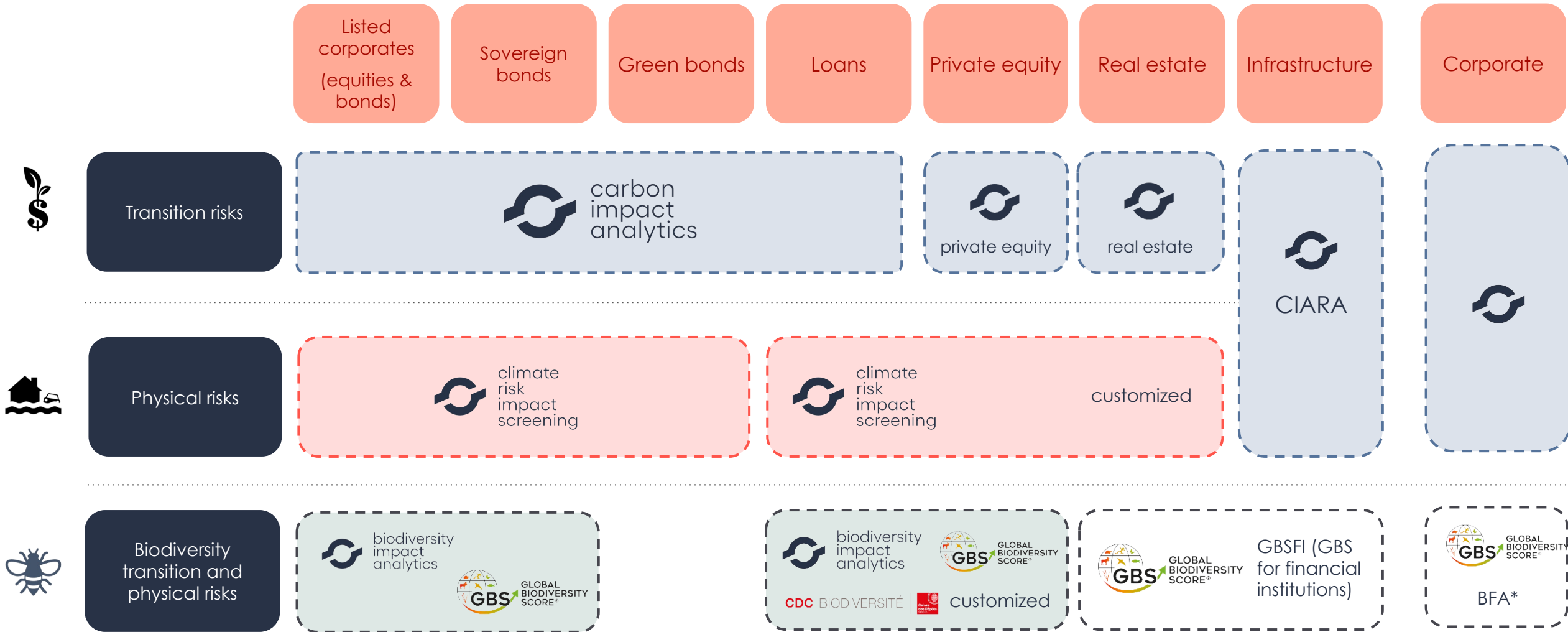
Transparency & research



Regulatory requirements (Article 29 French Energy & Climate Act)
Research paper on biodiversity risk impacts on financial valuation
Reporting

Coverage

A comprehensive service offering with common methodological principles for all asset classes



Common methodological principles for all asset classes: bottom-up logic, measurement of Scope 3 emissions and saved emissions, qualitative forward-looking assessment, etc.

*BFA = Biodiversity Footprint Assessment

A strategic partnership

Alliance based on an in-depth environmental and sectoral expertise

 carbon4 | finance

 carbon
impact
analytics

 climate
risk
impact
screening

 carbon4 | finance

 biodiversity
impact
analytics

+

powered by the

CDC BIODIVERSITÉ | 

 **GLOBAL
BIODIVERSITY
SCORE®**

Our approach



Robust, scientific and transparent methodologies



Support by methodological experts and analysts

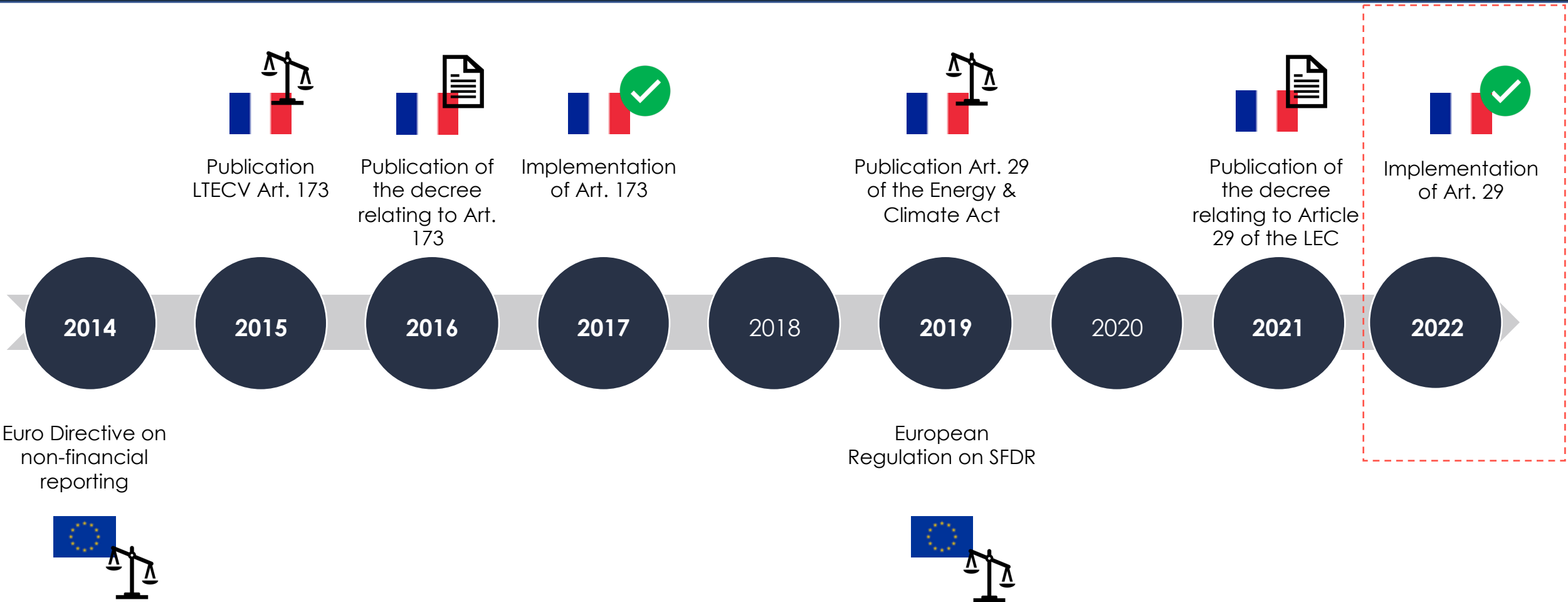


Customized and adapted to Clients' needs

Agenda of the day

1. **What is Article 29 ?**
2. How Carbon4 Finance can help you ?

Interaction between the French and European regulations on climate finance reporting



NB : Unlike a directive, a "regulation" applies directly to the Member States. The SFDR is therefore directly applicable without transposition.

Source : Ministère de l'économie, des finances et de la relance

Decree 29 LEC is a true pioneer on climate & biodiversity

Objectives of the decree implementing Article 29 of the Energy-Climate Law

Taking into account the history of the French mechanism

Take over and clarify the provisions of the French system under Article 173-VI:

Policy and resources devoted to contributing to the ecological and energy transition: internal resources, **Paris Agreement alignment**, **biodiversity alignment**, etc.

Publication of **indicative pre-defined targets** on alignment with the Paris Agreement's T° objectives

Going beyond the European framework under Art. 29 LEC

Strengthen the French system to meet the requirements of the energy-climate law:

Additional explicit **focus on climate change and biodiversity risks**

Clarification on the integration of ESG factors in risk management systems (to compensate for the lack of a RTS mandate under Article 3 of SFDR)

Learning from five years of French experience

Integrate the double materiality logic from the SFDR (PAI/sustainability risks) and the **lessons from the 2019 review**

Articulate the system around a clear distinction of information, for each type of policy, relating to governance, strategy, risk management and metrics/targets adopted (TCFD recommendations)

Answering to the Article 29 law using Carbon4 Finance data

Indent III of the Article 1 on publication requirements

Paragraph	Subject
1°	General approach of the entity
2°	Internal means to contribute to the transition
3°	ESG governance within the entity
4°	Engagement strategy, voting policy and reporting
5°	Alignment with the European taxonomy and the share of fossil energy
6°	Alignment with the Paris Agreement
7°	Biodiversity alignment
8°	Risk management and specificities of climate risks and biodiversity
9°	Improvement process and corrective measures

What is at stake?

JOINT EFFORT

- An expectation of **transparency** and effort in a **constrained environment**
- A shared objective to **transform the economy**

STEERING THE TRANSITION

- Publication of the strategy to **align climate and biodiversity objectives** as a fundamental exercise
- Towards **useful figures** for legislators?

PARIS, A GREEN FINANCIAL CENTER

- Continuing to **demonstrate France's leadership** in sustainable finance
- The importance of the **credibility of our initiatives**

International leadership

L

Locate

Identify the firm's interface with nature

E

Evaluate

Consider nature dependencies and impacts

A

Assess

Material risks and opportunities

P

Prepare

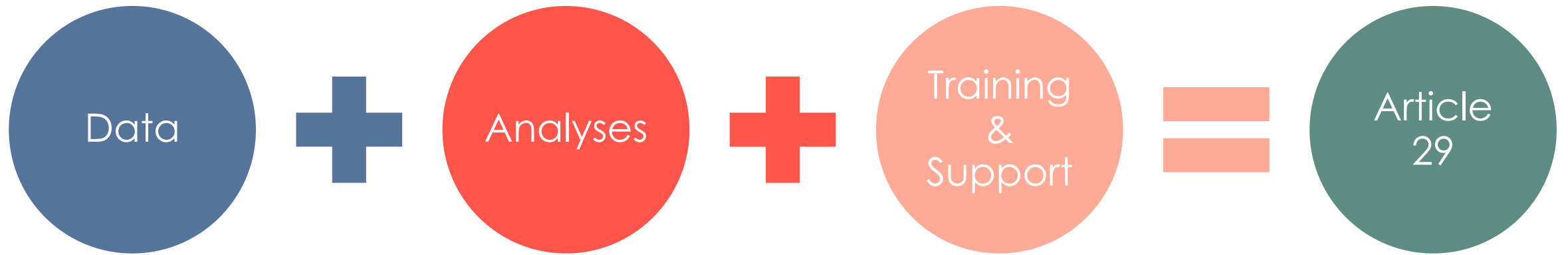
Steps towards responding and reporting

Agenda of the day

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2. How Carbon4 Finance can help you ?

Answering to the Article 29 law using Carbon4 Finance data



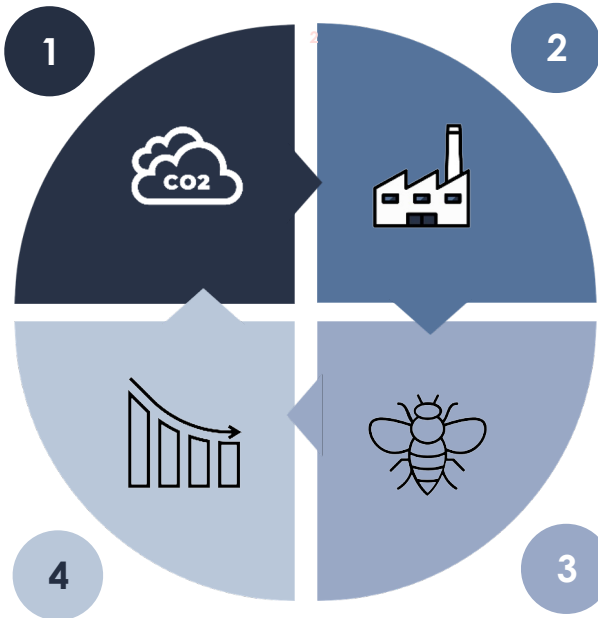
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Key indicators are used for each of the reporting requirements covered by Carbon4 Finance. Methodological explanations are provided in the deliverable so that financial institutions can interpret the results obtained according to Carbon4 Finance methodologies.

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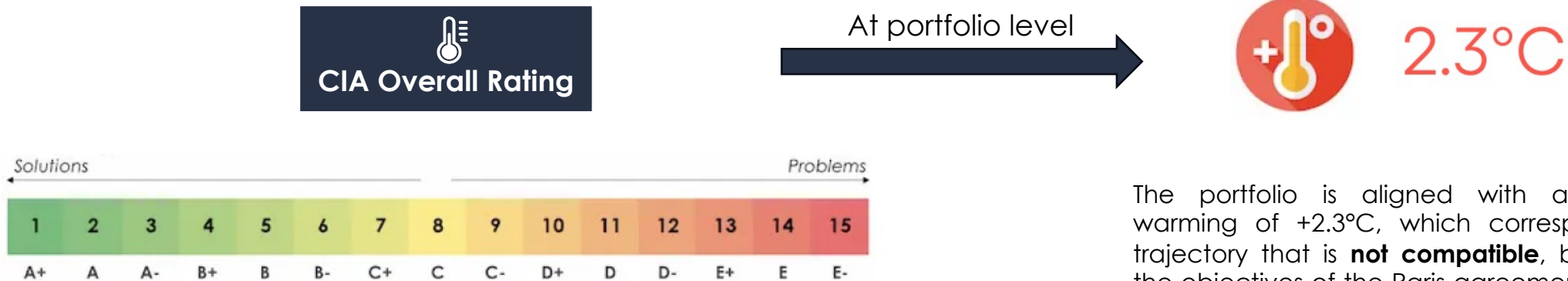
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6° Alignment with the Paris Agreement with CIA

Carbon4 Finance provides portfolio alignment temperature

The 6° paragraph asks for Alignment with the Paris Agreement – Carbon4 Finance has a metric for **temperature of portfolio**, based on the **CIA Overall Rating**.



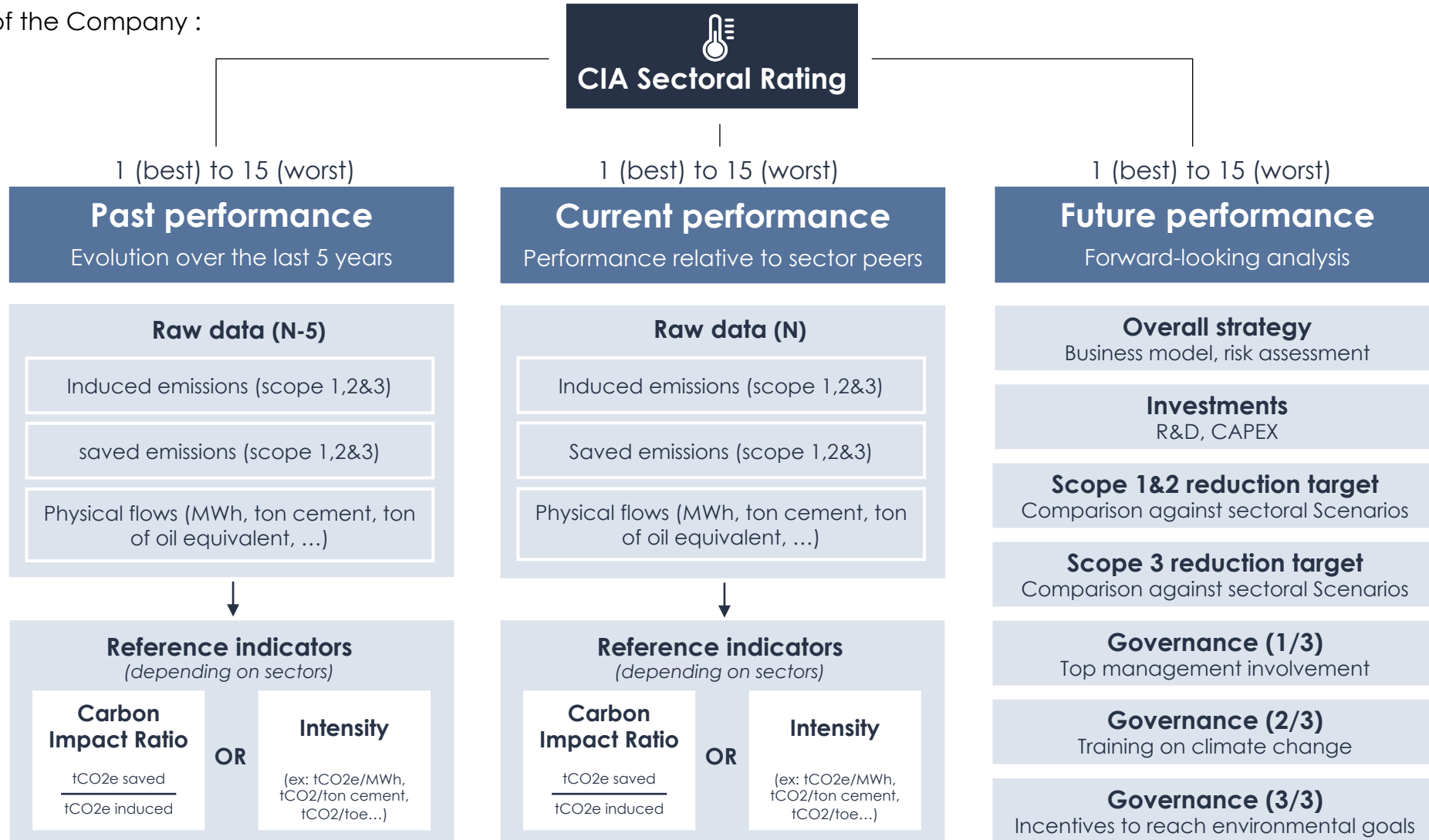
A company's overall CIA score is given out of 15 and reflects the **company's contribution to the transition** to a low-carbon economy. The closer the score is to 1, the greater the positive contribution to the transition. Conversely, the closer the rating is to 15, the greater the negative contribution to the transition.

The portfolio is aligned with an average warming of +2.3°C, which corresponds to a trajectory that is **not compatible**, but close to the objectives of the Paris agreements. If global economic emissions were to follow the same trajectory as those of the portfolio's underlying assets, then the **increase in average temperatures by 2100** compared to the pre-industrial era would be of the order of 2.3°C.

6° Alignment with the Paris Agreement with CIA

A CIA Overall Rating to assess the contribution of the Company on its whole value chain and sectors

For each activity of the Company :



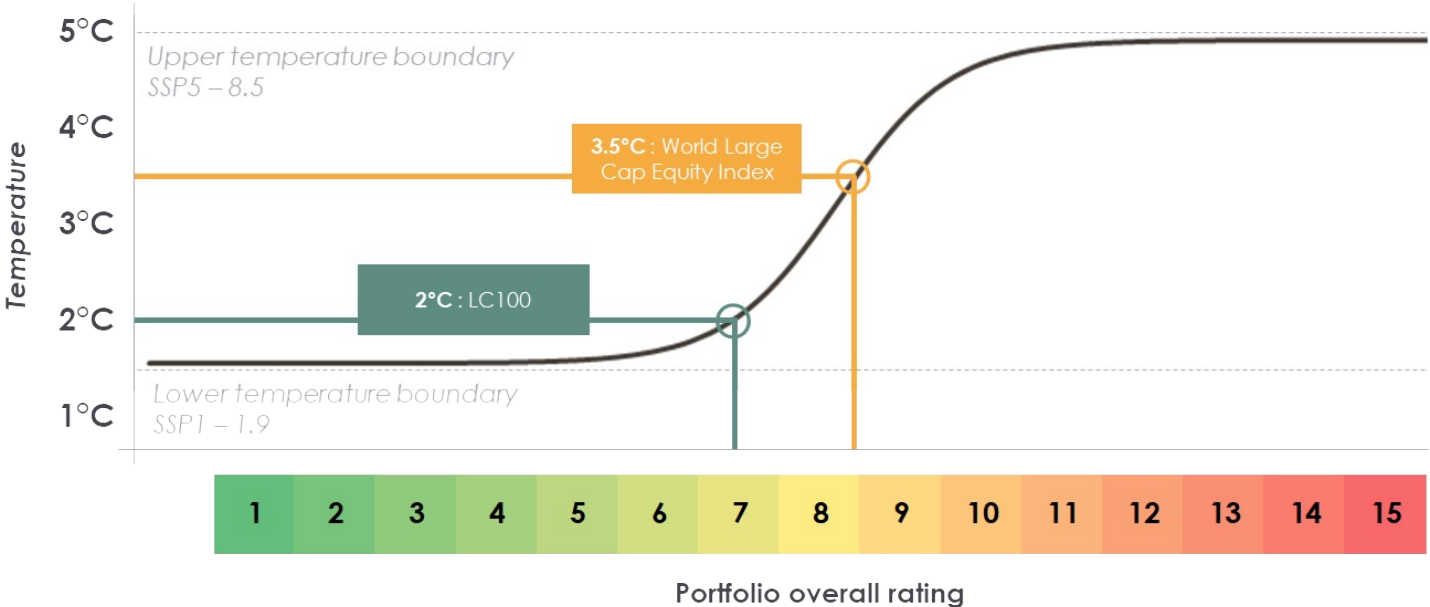

6° Alignment with the Paris Agreement with CIA

The CIA Overall Rating is then translated into temperature

Calibration of the tool

3.5°C : World Large Cap Equity Index	The whole CIA database is a proxy of the global economy, aligned with a 3.5°C trajectory. Business As Usual
2°C : LC100	What are the efforts to make in order to reach a 2°C scenario ? Proxied by the LC100 index. Best-in-class by sector

Equivalence in degree to each overall rating



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7° Biodiversity alignment with BIA-GBS

Alignment score

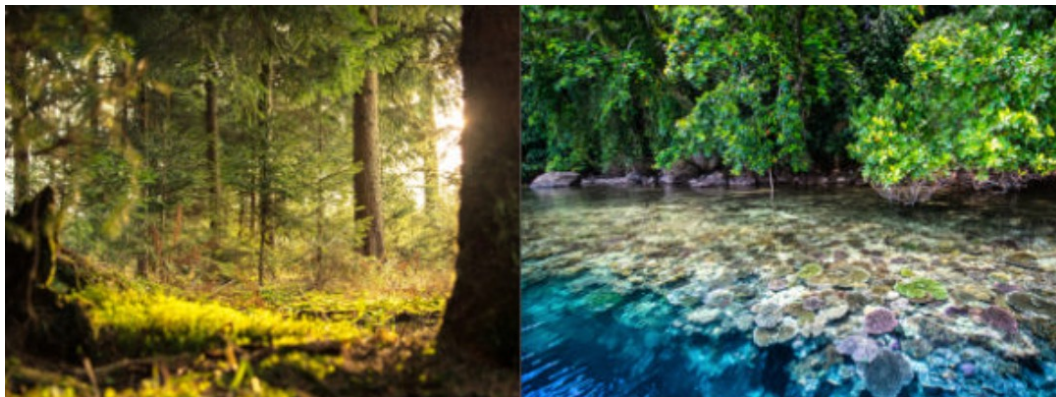
The agreements adopted at COP 15 of the Convention on Biological Diversity set 4 objectives for 2050, with associated targets for 2030.

The purpose of the alignment score provided by C4F and CDC B is a first step towards measuring the alignment of companies with these objectives and targets. The method used is a **convergence method**.

- **Target** static intensities (terrestrial and aquatic) are defined for **each sector**
- At company and portfolio level, CBD targets can be **translated as a reduction** in static impact intensity in **MSA.km² per euro of sales**.
- Companies whose two intensities, aquatic and terrestrial, are greater than the target intensity **must converge** towards this intensity.
- The **non-aligned** portion corresponds to companies that should be looking for alternatives to their current activity in the short term.

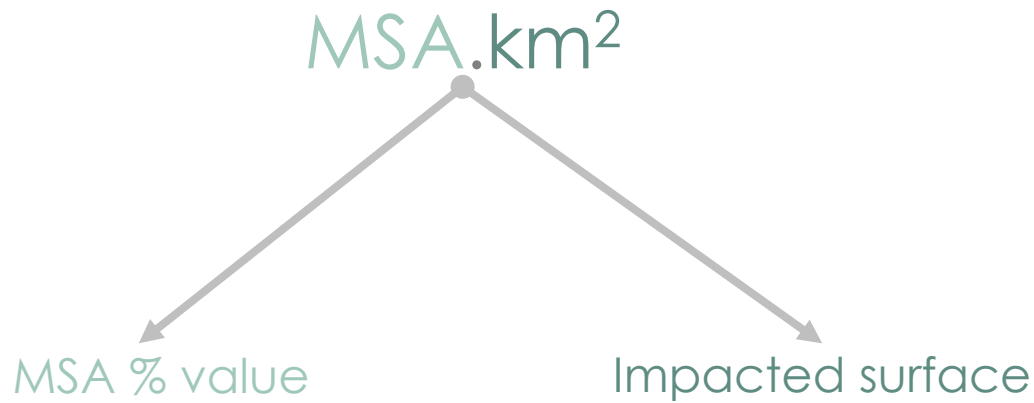


Convention on
Biological Diversity



7° Biodiversity alignment with BIA-GBS

Measurement of the portfolio's biodiversity footprint by compartment



1 MSA.km² loss is equivalent to the artificialisation of 1km² of pristine natural ecosystem

Example

Conversion of pristine forest into a plantation on **100 km²**



MSA = 100 %



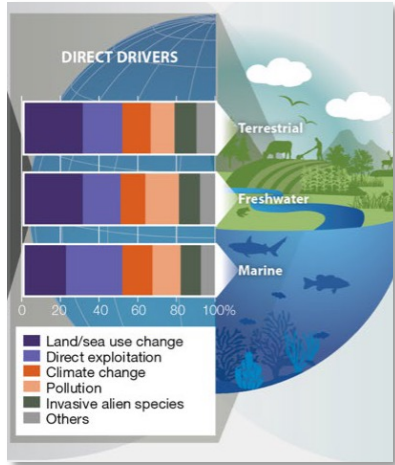
MSA = 30 %

This conversion causes the loss of 70 MSA.km² of undisturbed ecosystem

$$(100 \% - 30 \%) \times 100 \text{ km}^2$$

7° Biodiversity alignment with BIA-GBS

Breakdown of the impact financed by the portfolio by pressure



IPBES PRESSURES	GBS / GLOBIO PRESSURES		Marine
	Terrestrial	Freshwater	
Land/sea use change	Land use Fragmentation Encroachment	Wetland conversion	Not yet covered
Direct exploitation	Pressures due to resources extraction (crops, woodlogs, mining...)	Hydrological disturbance due to direct water use	
Climate change	Climate change	Hydrological disturbance due to climate change	
Pollution	Atmospheric nitrogen deposition Terrestrial ecotoxicity	Land use in catchment of rivers & wetlands Freshwater eutrophication Freshwater ecotoxicity	
Invasive alien species	Not yet covered		

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8° Risk management and specificities of biodiversity with BIA-GBS

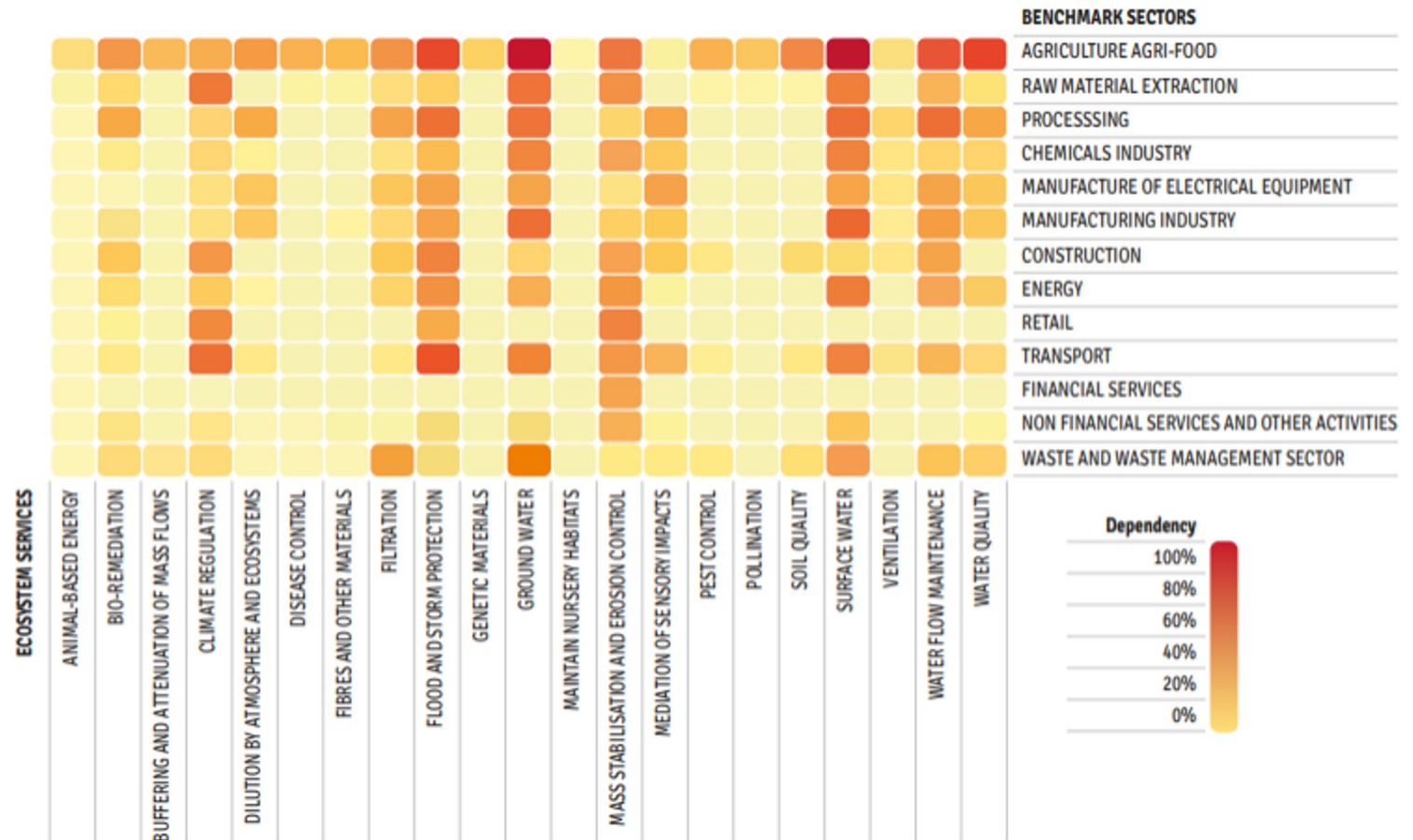
BIA- GBS assesses the dependencies on ecosystem services for direct operations and the supply chain

- The score ranges from **0% (no known dependency)** to **100% (very high dependency to ecosystem services)**.

FOCUS ON ECOSYSTEM SERVICES

Ecosystem services are services provided by biodiversity that enable or facilitate human activities, particularly economic ones.

The ENCORE database lists 21 ecosystem services based on the CICES (Common International Classification of Ecosystem Services) classification. To obtain the definition of the 21 ecosystem services, click on [this link](#).



8° Risk management and specificities of climate risks

Physical risks are also included in Article 29 with CRIS !

→ **A complete approach** based on geographic and sectorial breakdowns of each company's activity.
In-depth assessment of portfolio's physical vulnerability to climate change. Covers primary, secondary and tertiary sectors, over their whole value chain.

→ **7 direct hazards and 9 indirect hazards**, enables to assess:

- Increase in average temperature
- Change in the intensity or frequency of heatwaves
- Changes in drought extreme
- Changes in the intensity or frequency of rainfall extreme
- Sea level rise
- Changes in rainfall patterns
- Changes in the intensity or frequency of storms

A Multi dimensional approach considering indirect hazards that can aggravate direct hazards.

→ **3 different scenarios:** low (RCP 4.5) , moderate (RCP 6) and high (RCP 8.5)
Emissions scenarios from the IPCC, themselves resulting from the aggregation of several peer-reviewed scenarios.

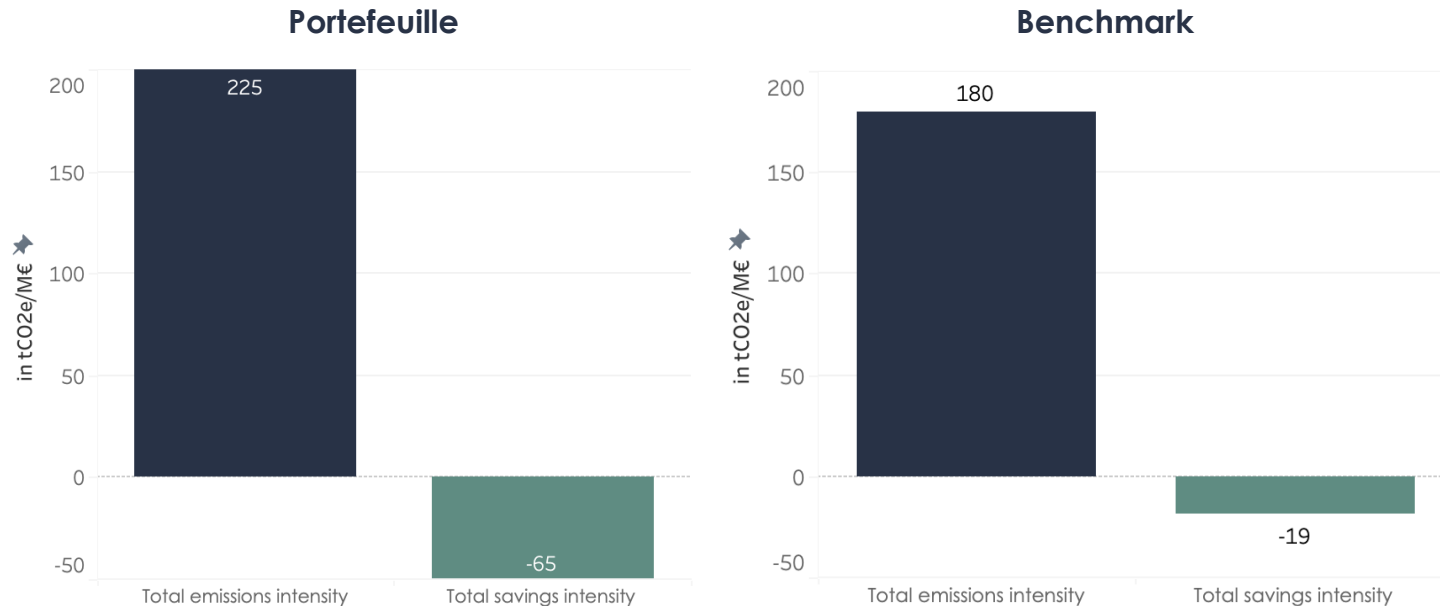
→ **2 times horizons:** risk projections to mid-century and end of century.
Risk scores provided for 2050 and 2100.



Benchmark comparison included

Comparaison entre le portefeuille et son benchmark

Intensité carbone (tCO₂e/an/M€ ve) ajustée au portefeuille



$$CIR_{\text{Portefeuille}} = 0,29$$

$$CIR_{\text{Benchmark}} = 0,10$$

Principaux résultats

- L'intensité totale des émissions induites du portefeuille est de 225tCO₂e/M€. Ces émissions induites comprennent à la fois les Scopes 1&2 et le Scope 3, ainsi que les émissions induites émises par les entités souveraines et les obligations vertes (green bonds). Le portefeuille possède une empreinte carbone plus élevée que le benchmark.
- L'intensité des émissions économisées est de -65 tCO₂e/M€, sur le périmètre des entités souveraines, des obligations vertes et des entreprises (i.e. sur leur Scope 1&2 et 3). Ces émissions économisées sont bien supérieures aux résultats du benchmark.
- **Même avec des émissions induites plus élevées, le portefeuille a un meilleur CIR que son benchmark, indiquant une meilleure identification des entreprises contributrices à la transition bas carbone pour le portefeuille.**

Estimation et calcul des émissions

- Pour les émissions Scopes 1&2, C4F utilise les émissions reportées par l'entreprise (si celles-ci sont cohérentes avec nos estimations internes).
- Pour les émissions Scope 3 et les émissions économisées, les données sont estimées à l'aide d'une approche propriétaire basée sur les principes de l'analyse du cycle de vie.

Les définitions et éléments méthodologiques sont disponibles en Annexe 1.