REPORT

NATURE AND FINANCE: METRICS AND TOOLS FOR A COMMON LANGUAGE

September 2026



INSTITUT DE LA FINANCE DURABLE
PARIS EUROPLACE

SUMMARY

SUMMARY 3

INTRODUCTION 12

I. METRICS AND OPERATIONAL TOOLS TO REPORT ON NATURE 19

A. Complete table of operational metrics and tools for financial actors 24

B. Table Guide 27

II. STEPS PRIOR TO REPORTING: IDENTIFYING AND ASSESSING NATURE-RELATED CHALLENGES 37

A. Locate your interface with nature 39

B. Evaluate your dependencies and impacts on nature 44

C. Assess your nature-related risks and opportunities 50

D. Prepare your report 55

III. LESSONS LEARNED FROM EXISTING NATURE REPORTING FRAMEWORKS 59

A. Overview of Existing Nature Reporting Frameworks 60

B. The Double Materiality Assessment for ESRS E4 64

C. Article 29 of the Energy and Climate Act 67

D. CSRD–TNFD Interoperability 69

APPENDICES 73

Appendix 1: Identifying Interfaces with Nature 74

Appendix 2: Assessing Dependencies and Impacts on Nature 75

Bibliography & useful resources for operationalizing nature reporting 76

NATURE AND FINANCE:
METRICS AND TOOLS
FOR A COMMON LANGUAGE

SUMMARY



Implementing robust nature reporting is now a key challenge for both companies and financial stakeholders. Beyond regulatory requirements and transparency obligations, it represents **an opportunity to develop a common language that fosters a better understanding of dependencies, impacts, risks, and opportunities related to nature**.

By aligning the needs of financial stakeholders with the information produced by companies, nature-based reporting can become **a catalyst for dialogue, engagement, and more effective capital allocation**. The challenge, therefore, is no longer simply to produce more data, but to make that data understandable and actionable for financial decision-making.

With this in mind, the Paris Sustainable Finance Institute (IFD) offers a reading guide designed to help transform available data into useful indicators for portfolio management.

The framework developed in this context with stakeholders in the Paris financial community is not intended to create new indicators or replace existing frameworks. Its aim is to **bridge the gap between the data produced by companies and the needs of financial institutions**, in order to facilitate the operational use of that data and strengthen the dialogue between lenders and companies.

WHILE VOLUNTARY AND REGULATORY FRAMEWORKS ARE BECOMING MORE ESTABLISHED, NATURE REPORTING REMAINS A RELATIVELY IMMATURE PRACTICE AMONG FINANCIAL INSTITUTIONS.

Frameworks for analyzing economic and financial issues related to nature have become more precise in recent years. In particular, the **Network for Greening the Financial System (NGFS)**, in collaboration with the Banque de France, recently published **a conceptual framework for identifying and analyzing financial risks related to nature.**

Reporting frameworks have also proliferated in parallel, as the Kunming-Montreal Global Biodiversity Framework creates an incentive to communicate on these issues[1] . The *Corporate Sustainability Reporting Directive* (CSRD), Article 29 of France's Energy and Climate Law, the *Taskforce on Nature Financial Disclosure* (TNFD) framework, etc.: these frameworks are encouraging companies and financial actors to identify their challenges and take action to manage them. They also contribute to the emergence of a common language among organizations, fostering a better understanding of these issues and facilitating the implementation of actions and measures.

However, fewer **than 1% of publicly traded companies worldwide have disclosed their impacts on biodiversity in their reports (IPBES, 2026). Analysis of nature-related issues therefore remains relatively underdeveloped. For example, in 2024, 39% of European companies subject to the CSRD identified biodiversity-related issues as material (compared to 98% for ESRS E1 on climate change).** Among French companies subject to the CSRD, 53% of non-financial companies assessed the issue as material, compared to 31% of financial companies.

1 See Target 15 of the Kunming-Montreal Global Biodiversity Framework: https://www.unep.org/fr/resources/cadre-mondial-de-la-biodiversite-de-kunming-montreal

THE RELEVANCE OF THE INDICATORS INCLUDED IN THE FRAMEWORKS VARIES DEPENDING ON THE TYPE OF STAKEHOLDER: CERTAIN METRICS MAY BE PARTICULARLY USEFUL FOR COMPANIES BUT PROVE DIFFICULT FOR FINANCIAL STAKEHOLDERS TO APPLY DIRECTLY.

While certain indicators may be useful for non-financial companies in identifying and managing their nature-related challenges at the site level, they may be less directly applicable to steering the activities of financial institutions. For example, raw data on *a company's land footprint, total water consumption*, and *volumes of waste or pollution* are useful indicators for companies to guide their strategy. While **these data points may also be relevant for transparency purposes in the context of the dialogue between investors and companies, they nevertheless need to be contextualized by financial actors to be more directly actionable. For example, by cross-referencing the data with the location of operations (areas at risk of water stress, etc.), with pollutant emission thresholds (whether regulatory or not), and by making comparisons within the same sector.**

It should also be noted that the indicators useful for financial institutions' management can vary significantly across financial sectors (banking, insurance, investment, *etc.*).

DESPITE A RELATIVE ABUNDANCE OF NATURE-RELATED DATA, THE TOOLKIT AVAILABLE FOR STAKEHOLDER REPORTING IS STILL FAR FROM PERFECT, BOTH IN TERMS OF THE SCOPE OF ISSUES COVERED AND ITS ROBUSTNESS.

For companies and financial institutions, the ability to develop indicators requires access to granular data on issues that are material to them, as well as appropriate tools. However, "environmental" data can cover a wide range of topics such as pollution, ecosystems, species, and water-related issues, which necessitates significant preliminary work to identify and prioritize these issues. **Furthermore, there remains a significant gap between many of the indicators defined in nature-related reporting frameworks and the actual capacity of companies and financial institutions to collect the data needed to meet these requirements.**

THERE IS NO SINGLE METRIC FOR NATURE, BUT IT IS POSSIBLE TO FOCUS ON A CORE SET OF RELEVANT INDICATORS FOR WHICH INFORMATION SOURCES ARE BEGINNING TO TAKE SHAPE. THE PARIS SUSTAINABLE FINANCE INSTITUTE (IFD)OFFERS A REFERENCE MATRIX TO HELP NAVIGATE THESE INDICATORS AND DATA.

The analysis of nature-related dependencies, impacts, risks, and opportunities (DIRO) cannot rely on a single indicator (IPBES, 2026). This exercise involves tracking multiple metrics that address the various pressures on nature and cover the entire value chain of the economic actor.

IFD has collaborated with the Paris financial community to identify the most practical metrics by cross-referencing framework indicators with the tools and databases available for stakeholder reporting. Based on this work, a reference matrix was developed to navigate among these metrics along a pathway that enables stakeholders to assess their exposure to nature-related issues.

Summary table of operational metrics and tools for financial actors (see the detailed version in Part I of the report)

Source: Paris Sustainable Finance Institute (IFD)

01 GROSS EXPOSURE TO NATURE-RELATED ISSUES

Preliminary Question

WHERE are the activities in my portfolio located?

WHICH SECTORS in my portfolio are most dependent on and have the greatest impact on nature?

Relevant indicators for financial actors

Exposure to companies that own assets and/or operate in or near sensitive areas

Link to frameworks: TNFD (FI.CO.1: additional metric for financial actors) / former PAI No. 7 / related to ESRS E4

Exposure to a defined set of sectors considered to have significant nature-related dependencies and impacts on nature

Link to frameworks: TNFD FI.CO.0: additional metric for financial actors)

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Reports from companies in the portfolio can serve as sources of information on the location of assets.

2. Tools & Databases (selection, not exhaustive)

- MSCI, S&P, Asset Impact, Kayrros' Nature Impact Platform
- IUCN Global Ecosystem Typology
- World Database on Protected and Conserved Areas
- IBAT

1. Corporate reporting (CSRD / TNFD)

Reports from companies in the portfolio can serve as relevant sources of information (for example, for companies with multiple business lines).

2. Tools & Databases (selection, not exhaustive)

- ENCORE
- SBTN Materiality Tool
- Biodiversity footprint measurement (Global Biodiversity Score, PBAF Standard)

02 SIGNIFICANT EXPOSURE TO NATURE-RELATED ISSUES

Preliminary Question

WHAT ARE, by theme, THE MAIN SIGNIFICANT PRESSURES on nature to which the companies in my portfolio are exposed?

Relevant indicators for financial actors

Share of companies in the portfolios with significant exposure to nature-related issues. Depending on the characteristics of the investors' portfolios, this may include issues such as ecosystem change, pressure on water resources, pollution, etc.

FOR EXAMPLE:

- Percentage of companies whose activities lead to land degradation, desertification, or soil sealing (former PAI No. 10).
- Proportion of companies that cause significant pollution of the air, water, and soil, etc. (TNFD).

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Indicators derived from corporate reporting frameworks can be used by financial stakeholders at the portfolio level. For example, in the case of air pollution, (1) collect data on the quantities of air pollutant emissions reported by companies in the portfolio, (2) cross-reference this data with regulatory (or "materiality") thresholds for these pollutants, (3) aggregate at the portfolio level the proportion of companies exceeding these thresholds.

2. Tools & Databases (selection, not exhaustive)

- Assessment of companies' natural risks: CDP questionnaire, WBA, NEC
- Thematic tools: WWF Water Risk Filter, WRI Aqueduct
- Portals: TNFD Catalogue Tool, Nature Tool Compass

03 POLICIES & COMMITMENTS TO NATURE

Preliminary Question

WHAT MEASURES have the companies in my portfolio implemented to reduce their exposure and/or offer solutions for managing nature-related risks?

Relevant indicators for financial actors

Share of companies in the portfolios that have taken measures to reduce their exposure to nature-related issues

FOR EXAMPLE:

- Proportion of investments in companies with a policy to combat deforestation (former PAI No. 15).
- Proportion of investments in companies with sustainable land use or agricultural practices or policies (former PAI No. 11).
- Proportion of investments in companies whose sites are located in areas exposed to high water stress and that have a water management policy (former PAI No. 8).

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Indicators derived from companies' reporting frameworks can be used by financial actors at the portfolio level. For example, in the case of waste recycling: (1) collect the proportions of reused/recycled waste reported by companies in the portfolio; (2) cross-reference these with materiality thresholds; (3) aggregate at the portfolio level the proportion of companies reusing/recycling more than X% of waste.

2. Tools & Databases (selection, not exhaustive)

- Tracking commitments: SBTN for Nature, Act4Nature, Companies Committed to Nature
- High-Risk Raw Materials and Commodities: SBTN High Impact Commodity List
- IFD Guide on Deforestation and Blue Finance

agricultural commodities ecosystems water finance pollution

This table is designed to help financial institutions accelerate and strengthen their nature reporting by:

→ **offering a roadmap that enables financial institutions to identify the levers for developing useful portfolio-level indicators;**

→ **establishing a clearer link between the needs of financial institutions and the reporting of non-financial companies (whose data is beginning to become actionable), thereby strengthening the dialogue between financiers and companies.**

The goal is not to define new nature-related metrics, as the highlighted indicators are drawn exclusively from existing frameworks such as the *Taskforce on Nature-related Financial Disclosures* (TNFD), the *Corporate Sustainability Reporting Directive* (CSRD), and the *Sustainable Finance Disclosure Regulation* (SFDR). Nor is the aim to provide an exhaustive list of existing indicators. The goal of the work carried out with IFD members is to **present, in an educational manner, various indicators that are relevant from the perspective of financial actors** and for which operational data sources exist.

The process consists of three steps:

1 The first step involves identifying potential risks related to nature-related issues, drawing in particular on indicators:

- *The location of assets in or near sensitive areas (indicator group #1);*
- *An assessment of the level of dependence on and impacts on nature of the economic sectors and activities in one's portfolio (indicator group #2).*

Practical example:

A significant portion of the assets in my portfolio is located in the Amazon, an area that is particularly sensitive in terms of deforestation, biodiversity loss, etc. Furthermore, my portfolio has significant exposure to the agri-food sector, which is also sensitive to these issues. These two observations lead me to move on to the second step to deepen the assessment and characterize, in greater detail, the exposure of the companies in my portfolio to the identified issues.

2 The second step involves conducting a more granular assessment of exposure to nature-related risks. This involves refining the analysis at the portfolio level, for example by identifying materiality thresholds for environmental impacts (whether regulatory or not), by comparing the company with peers in the same sector, or by specifying the location of the company's operations, including within its value chain.

Practical example:

A company in my portfolio is located in a region experiencing water stress and has higher water consumption levels than other similar companies in the same area.

3 The third step involves identifying the actions implemented by portfolio companies to reduce their exposure to nature-related risks through policies, commitments, and other nature-friendly measures. This final step should *ultimately* lead financial actors to direct their financing toward companies that are implementing policies and measures to manage their environmental challenges.

Practical example:

X% of the agricultural commodities sourced by a company in my portfolio come from a sustainable management program. What percentage of commodities should I consider desirable, and what percentage target should I set for the number of companies in my portfolio that must meet this threshold? Furthermore, is it possible to set a financing target for companies with programs to restore degraded land?

Identifying and Assessing Nature-Related Issues: Strong Interest Among Paris Financial Centre Participants in the TNFD's LEAP (Locate-Evaluate-Assess-Prepare) Approach

Several preliminary steps prior to nature reporting enable market participants to begin identifying and assessing their nature-related issues. Locate interactions with nature ; Evaluate dependencies and impacts ; Analyze risks and opportunities ; Prepare strategic and operational responses: this "LEAP" framework, developed by the TNFD, aligns coherently with the requirements of the *Corporate Sustainability Reporting Directive* (CSRD). **The initiatives identified in the study demonstrate rapid progress in the process of identifying priority nature-related issues within investment portfolios. Although best practices have been identified in the Paris financial centre across the various LEAP stages, prioritization analysis remains the most mature approach at this stage.** To this end, market participants have implemented targeted mapping, spatial analyses, and life-cycle assessments for certain products. **The planning and monitoring of nature-related transition targets, as well as the identification of nature-related opportunities, remain rare at this stage.**

Examples of initiatives to identify and assess nature-related challenges in the Paris financial centre

Locate your interface with nature	**Mapping the downstream value chain in the real estate sector (a sector with significant nature-related challenges for the group)** Stakeholders identified include: individuals, businesses (including real estate professionals and institutional investors), customers' households, suppliers of goods, suppliers to customers and professionals, employees of customers and suppliers, etc.	*Crédit Mutuel Arkéa*
Locate your interface with nature	**Mapping the upstream value chain of an agricultural cooperative** Tools used: GBS and biodiversity footprints, and Self CO2 carbon footprints by farm.	*Sodiaal Dairy Agricultural Cooperative – supported by CDC Biodiversité*
Locate your interface with nature	**Integrating location-based criteria into financial institutions' strategies to combat deforestation** (e.g., BNP Paribas, Crédit Agricole, LBP AM, HSBC, Société Générale, etc.)	Overview of the Paris Financial Centre's Practices in Combating Deforestation
Evaluate your dependencies and impacts on nature	**Engaging with clients most exposed to nature-related risks**	*LBP AM*
Evaluate your dependencies and impacts on nature	**Research conducted by data scientist teams to assess dependencies on and impacts on nature** Articles on: ecosystem integrity, species metrics, and the biodiversity footprint.	*BNP Paribas*
Evaluate your dependencies and impacts on nature	**Targeted monitoring of companies in an equity fund** Tools: – Biodiversity footprints by company – Targeted qualitative and quantitative analyses – Sector-specific analyses	*Banque de France Gestion (BDF Gestion) – in partnership with CDC Biodiversité*
Assess your nature-related risks and opportunities	**Tool for scoring nature-related physical and transition risks**	*Caisse des Dépôts Group (including La Banque Postale, CNP Assurances, Louvre Banque Privée, and LBP AM)*
Assess your nature-related risks and opportunities	**Nature-related fund portfolio**	*Aéma Groupe and its brands (Abeille Assurances, Macif, AESIO mutuelle, Ofi Invest AM)*
Assess your nature-related risks and opportunities	**"Objectif Biodiversité" initiative** Listed and unlisted equity funds for the private equity segment, development of investment methodologies and a sector-specific materiality matrix.	*20 institutional investors from the Paris financial centre, including: Abeille Assurances (Aéma Groupe), BNP Paribas Cardif, BPCE Assurances, Caisse des Dépôts, CNP Assurances, EDF Gestion, Maif, Macif (Aéma Groupe), Malakoff Humanis, Société Générale Assurances, Crédit Agricole Assurances, Axa, Allianz France, Aésio Mutuelle (Aéma Groupe), Pro BTP, Carac, and the Caisse Générale de Prévoyance des Caisses d'Epargne (partners in the initiative as of September 8, 2025).*
Prepare your report	**Nature-related governance** (Board of Directors, SRI Steering Committee, dedicated working group, etc.)	*Aéma Groupe and its brands (Abeille Assurances, Macif, AESIO mutuelle, Ofi Invest AM)*
Preparing your report	**Double materiality exercise on ESRS E4 under the CSRD**	*Crédit Mutuel Arkéa*
Preparing your report	**Nature reporting exercise under Article 29 of the LEC**	*Société Générale Investment Solutions (SG IS)*
Preparing your Report	**TNFD Reporting**	*Veolia*
Preparing your Report	**TNFD Reporting**	*Renault*

The selection of metrics and operational tools presented in this report was based on preliminary work and made possible thanks to the invaluable support of the teams at the consulting firm BL Evolution.

Certain elements presented in this study — notably those related to measuring the biodiversity footprint and sharing action levers that enable companies to identify their nature-related challenges — were developed with the invaluable support of the teams at CDC Biodiversité.

NATURE AND FINANCE:
METRICS AND TOOLS
FOR A COMMON LANGUAGE

INTRODUCTION



In its latest report from February 2026 — the first global assessment of the relationship between business and nature — IPBES notes that all businesses depend on nature and have an impact on it, either directly or indirectly through their value chains. For example, the agri-food, forestry, and fisheries sectors, as well as the energy and mining sectors, depend directly on natural resources. The OECD estimates that the **ecosystem services** provided by nature globally amount to between **125 and 140 trillion USD per year — more than one and a half times the value of global GDP**[2] **— compared to the 4.2 billion USD in private payments for environmental services recorded in 2023**[3]**. This economic link has a direct financial counterpart. The Banque de France estimates, for example, that 42% of the value of stocks and bonds held by French financial institutions is issued by companies that are heavily or very heavily dependent on at least one ecosystem service**[4]**.**

IPBES also identifies nearly $7,300 billion in public subsidies and private investments directed toward activities harmful to the environment. Of this total, approximately two-thirds ($4,900 billion) come from private financing. These figures highlight considerable potential for redirecting financial flows toward activities compatible with a resilient natural environment.

1. REPORTING FRAMEWORKS – WHETHER REGULATORY OR VOLUNTARY – ARE BECOMING MORE ESTABLISHED ALONGSIDE THE GROWING BODY OF LITERATURE ON ECONOMIC AND FINANCIAL RISKS RELATED TO NATURE.

In recent years, a significant body of research on the characterization and modeling of economic and financial risks linked to the degradation of nature has emerged. The **Network for Greening the Financial System**[5] , in collaboration with the Banque de France, has published **a conceptual framework for identifying and analyzing nature-related financial risks and their potential transmission channels**. Two broad categories of nature-related risks have thus been identified. **Transition risks** stem from the shift toward an economy that better integrates nature conservation and include, in particular, political, market, technological, reputational, and liability risks. The NGFS also explores quantitative indicators that financial institutions can use to assess these nature-related transition risks. Examples include:

→ **Revenues exposed to nature-related regulatory risk**: that is, the portion of a counterparty's or sector's revenues that could be affected by stricter nature-related policies;

→ **Sectoral exposure to protected areas**: that is, the portion of activities or supply chain actors located in areas that are or could be designated as protected areas;

→ **The risk of stranded assets in high-impact sectors**: for example, fossil fuels, assets related to forestry, or agriculture.

2 See the OECD report, *Biodiversity: Finance and the Economic and Business Case for Action*, published in 2019 for the French G7 presidency.

3 UNEP FI, *State of Finance for Nature*, 2026. https://www.unep.org/resources/state-finance-nature-2026

4 Banque de France, *Silent Spring*, 2021.

5 NGFS (Network for Greening the Financial System), Conceptual Framework for Nature-related Financial Risks, 2023. See also the Note on the Monitoring of Nature-related Financial Risks, and the report Exploring Nature-related Data: Indicators, Sources, and Uses, 2026.

Physical risks, on the other hand, result from the degradation or disruption of the ecosystem services on which activities depend, and can be categorized as acute risks (short-term, one-off events) and chronic risks (gradual changes in environmental conditions).

More broadly, the use of **nature-related stress tests** would provide a forward-looking view of the financial impacts associated with physical and transition risks by quantifying them (although these tools are still in their infancy and under development[6]). For example, **EthiFinance**, a French financial and non-financial rating agency, has developed the **Nature Stress Test (NST)**. The NST is a tool that quantifies the financial risk associated with dependencies on nature, using indicators such as probability of default (PD) and Value at Risk (VaR). By incorporating into its methodology (i) an input-output economic model describing the value chain, (ii) regions' exposure to the degradation of ecosystem components, (iii) sectoral dependence on ecosystem services, and (iv) the financial health of companies, the model estimates the probability of default and derives a Value at Risk (VaR) for each company. This tool thus provides financial institutions with a valuable perspective for accounting for the systemic risk associated with nature within their investment portfolios[7] .

Among the most well-documented risks are **the economic risks associated with the degradation of the water cycle**. Indeed, water-related risks are significant and could account for 7 to 9% of global GDP (5% Value at Risk), with significant repercussions for the manufacturing sector. The risks facing agriculture are also significant. According to the same study, 14 to 18% of agricultural production is threatened by water-related risks, and 12% of production could be compromised by the decline of pollinators. These impacts could be amplified by cascade effects and the multiplier effect of environmental risks[8] .

The *Taskforce on Nature-related Financial Disclosures* (TNFD) has identified **600 concrete examples of nature-related risks for companies and financial institutions**[9] . In its latest report on global risks, the **World Economic Forum**[10] emphasizes that **nature-related risks**, such as **extreme weather events** and **biodiversity loss**, are among the **top concerns** for the global economy over the next decade.

6 NGFS, Note on the Monitoring of Nature-Related Financial Risks, 2026.

7 To learn more about the NST: https://www.ethifinance.com/fr/publications/nature-stress-test-var/?langue=French & https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4923237

8 OECD, "Embedding Water-related Risks in Financial Stability Frameworks," 2025. Based on the work conducted by Ranger et al., *2023*. It is important to note that, in this study, the researchers considered only five ecosystem services; subsequent work will provide analyses for all twenty services identified in the ENCORE database. As such, these estimates should be considered a conservative range.
More broadly, the IPBES "Nexus" report elaborates on this interconnectedness between environmental risks related to biodiversity, water, food, and health .

9 TNFD, University of Oxford, Global Canopy, Evidence review on the financial effects of nature-related risks, 2025.

10 WEF, Global Risks Report, 2025. Nature-related risks have been listed among the top concerns in the World Economic Forum's annual global risk assessments for several years now.

Examples of various economic and financial risks associated with deforestation:

The risks caused by deforestation at the company level

Reputational risk
Loss of credibility of companies that will continue deforestation with regard to all stakeholders.

Regulatory and legislative risk
Leading to fines or an increase in reporting costs for example (which are necessarily higher for institutions particularly affected by these issues).

Operational risks
For example, a change in regulations aimed at restricting deforestation practices may cause reductions in productivity or material damage to supplies in the supply chains of certain activities. Increased security personnel costs may also be an operational consequence of regulatory and legislative changes.

Market risk
Consumer boycott, limited access to the international market, cancellation of contracts, etc.

Physical risk
Since forests are a key link in water cycles (e.g. through evapotranspiration and the resulting precipitation), deforestation increases the risk of droughts and fires. Furthermore, the resulting decline in ecosystem services can cause a decline in agricultural productivity.

These risks relating to companies may pose economic risks for the financial institutions that finance these activities

The risks caused by deforestation at the level of financial institutions

Financial risk
For example, for investors a risk of capital loss due to stranded assets or a negative return on investment for banks with non-performing loans, risk of default or loss of income

Regulatory risk
Failure to meet new requirements on the inclusion of ESG risk criteria in due diligence and risk management procedures, failure to disclose ESG risks in portfolios

Litigation risk
Potential breach of fiduciary duty related to difficulties in integrating ESG criteria. The obligation to report on ESG impacts under regulatory guidelines

Reputational risk
Damage to brand value, loss of credibility as a financial player on the markets

NB: This diagram is inspired by the report *An Investor-led sovereign engagement initiative that aims to halt deforestation* by the IPDD, which identifies the main risks associated with deforestation for businesses and financial institutions

Source – Overview of the Paris Financial Centre's Practices in Combating Deforestation

Alongside these efforts to identify and characterize nature-related issues, the number of nature reporting frameworks has also grown. The Kunming-Montreal Global Biodiversity Framework creates an incentive to report on these issues[11]. The *Corporate Sustainability Reporting Directive* (CSRD), Article 29 of the Energy and Climate Law, the *Taskforce on Nature Financial Disclosure* (TNFD) framework, etc. : these frameworks are encouraging companies and financial actors to identify their nature-related issues and take action to manage them. They also contribute to the emergence of a common language among organizations, fostering a better understanding of these topics and facilitating the implementation of actions and measures.

It is worth noting that reporting is an exercise in transparency, which may be driven by regulatory requirements or be part of a company's voluntary initiative. **Nevertheless, publishing a report is not an end in itself: some institutions do not publish reports, but this does not mean they lack mechanisms for identifying nature-related dependencies, impacts, risks, and opportunities (DIRO) within their operations**.

Thus, work on nature-related risks and reporting is in its infancy and still evolving. In this regard, the work of IPBES is foundational, as it provides **an initial assessment of the links between businesses and biodiversity**. At the same time, **under the auspices of the Autorité des Normes Comptable (ANC) and as part of France's National Biodiversity Strategy, a working group comprising public institutions, companies, banks, investors, NGOs, and researchers has been collaborating for several months to integrate biodiversity into non-financial accounting frameworks**. Their findings will be presented in the fall of 2026 with the aim of launching large-scale pilot programs beginning in early 2027. In this context, it appears necessary to maintain a certain degree of flexibility and sufficient agility to effectively address these challenges.

11 See Target 15 of the Kunming-Montreal Global Biodiversity Framework: https://www.unep.org/fr/resources/cadre-mondial-de-la-biodiversite-de-kunming-montreal

2. THE IMPLEMENTATION OF BIODIVERSITY REPORTING BY COMPANIES AND FINANCIAL INSTITUTIONS IS STILL IN ITS INFANCY.

Less than 1% of publicly traded companies worldwide have disclosed information on biodiversity impacts in their reports[12]. Several barriers may explain these gaps:

→ **The metrics proposed in current nature reporting frameworks — that is, the indicators on which to collect and report information — are not always sufficiently relevant or actionable for stakeholders, particularly financial institutions.**

→ Nature-related issues are inherently cross-cutting, which means that companies and financial institutions must manage multiple topics. **However, this situation creates the impression of an abundance of data and methodological approaches, without it always being clear how to set priorities.**

→ While **the literature on nature-related risks is growing, translating these risks into concrete economic costs for organizations remains complex.** The chains through which nature-related economic and financial risks are transmitted are often still qualitative at this stage, for example, in an approach that identifies risks by specific operational sites.

→ Finally, this complexity may also be exacerbated by the **lack of harmonization of frameworks and associated regulations at the international level.**

The analysis of nature-related issues remains relatively underdeveloped within institutions. For example, 39% of European companies subject to the CSRD have identified ESRS E4 on biodiversity as material for the year 2024[13] **(compared to 98% for ESRS E1 on climate change).**

Furthermore, nature-related issues currently appear to be addressed at different levels of maturity by non-financial companies and financial institutions. Among French companies subject to the CSRD, 50% reported ESRS E4 as material, with a higher level of adoption among non-financial companies (53%) than among financial institutions (31%)[14] . Regarding the TNFD framework, of the 659 companies adopting the TNFD in 2023, 480 were non-financial companies and 179 were financial institutions[15] .

12 IPBES (2026). Summary for Policymakers of the Methodological Assessment Report on the Impact and Dependence of Business on Biodiversity and Nature's Contributions to People. Jones M., Polasky S., Rueda X., Brooks S., Carter Ingram J., Egoh B. N., von Hase A., Kohsaka R., Kulak M., Leach K., Loyola R., Mandle L., Rodriguez-Osuna V., Schaafsma M., and Sonter L. J. (eds.). IPBES Secretariat, Bonn, Germany. DOI: https://doi.org/10.5281/zenodo.15369060

13 EFRAG: https://insights.efrag.org/dashboard

14 EFRAG: https://insights.efrag.org/dashboard

15 https://tnfd.global/engage/tnfd-adopters/

3. OBJECTIVE OF THE INSTITUTE FOR SUSTAINABLE FINANCE'S REPORT AND ISSUES ADDRESSED.

Following initial thematic studies focused on deforestation and blue finance, the Paris Sustainable Finance Institute (IFD)returns with this new study on **metrics and tools designed to help financial actors report on nature**. Through examples gathered **from banking groups, insurance and mutual insurance groups, investors, non-financial companies, and tool developers**[16] **,** the IFD and its members go beyond the obstacles typically identified — such as a lack of data or insufficient maturity in this area — by proposing **courses of action to identify and assess nature-related issues.**

In the first part of this report, the IFD presents a reference matrix to help navigate the various indicators and tools useful for financial actors' reporting, notably by clarifying the links with corporate reporting. In the second part, the study catalogs **initiatives undertaken by financial market participants to identify and assess nature-related issues.** These examples demonstrate, in particular, a rapidly advancing process for identifying priority nature-related issues within portfolios.

Clarifications on the concepts used in the report

Nature – By the term "nature," the report refers here to the definition provided by IPBES: "Nature represents the natural world (e.g., land, water, oceans, atmosphere), as well as biodiversity and ecosystem functioning, with an emphasis on the diversity of living organisms (including humans) and their interactions with one another and with their environment." Adapted from Díaz, S. et al. (2015), *The IPBES Conceptual Framework – Connecting Nature and People*. The term therefore encompasses broader issues than biodiversity alone.

Nature-related issues / DIRO (Dependencies, Impacts, Risks, Opportunities) – The acronym "DIRO" encompasses all possible interactions between economic and financial actors and nature. These concepts are incorporated into nature reporting frameworks (TNFD, CSRD[17] , etc.), which help structure the various issues for stakeholders. Thus, the term "nature-related issues" may be used in the report for convenience, potentially encompassing all DIROs.

Financing / Portfolio – The matrix presented in Part 1 to navigate among nature reporting tools and metrics is intended for all types of financial actors (banks, insurers, investors). In this context, the use of the term "financing" in this report encompasses investments (asset managers, asset owners) as well as loans granted by banks. More broadly, the term "portfolio" may refer to investment portfolios as well as the client portfolios of banks and insurers.

16 Among the stakeholders who voluntarily contributed to this study: **BL Evolution, BNP Paribas, CDC Biodiversité, Crédit Mutuel Arkéa, Aéma Group (Aésio Mutuelle, Abeille Assurances, OFI Invest, La Macif), Caisse des Dépôts Group (including CDC, La Banque Postale, LBP AM), the "Objectif Biodiversité" Market Initiative ," Renault, Société Générale Investment Solutions, and Veolia.**

17 It should be noted that the CSRD's ESRS (European Sustainability Reporting Standards) generally incorporate the "IROs" throughout the framework, but clearly specify that dependencies must also be considered when addressing nature-related issues.



NATURE AND FINANCE:
METRICS AND TOOLS
FOR A COMMON LANGUAGE

I. METRICS AND OPERATIONAL TOOLS TO REPORT ON NATURE

The reporting frameworks developed in recent years — whether voluntary or regulatory — have helped structure and bring to light numerous metrics related to nature. The corresponding indicators aim to help economic actors better identify and manage their dependencies, impacts, risks, and opportunities (DIRO) related to nature, while meeting the requirements of these frameworks. However, there is a wide variety **of metrics related to nature-related issues, and it remains difficult for different types of stakeholders** (e.g., non-financial companies, banks, insurers, investors, etc.) **to identify which ones are best suited to their specific circumstances**.

To provide an analysis that supports stakeholders in identifying and selecting the most relevant nature-related metrics, the Institute for Sustainable Finance has focused specifically on the metrics of the following three frameworks:

→ **The metrics defined within the TNFD framework,** which are based on the five pressures identified by IPBES and consist of 14 core indicators[18] , supplemented by additional metrics for certain types of stakeholders[19] .

→ **The metrics defined under the CSRD's European ESRS standards,** organized into chapters covering several nature-related themes (biodiversity, pollution, water, circular economy, etc.)[20] .

→ **The SFDR metrics[21] , which are specifically intended for financial market participants, particularly through the *Principal Adverse Impacts* (PAI) indicators**. PAIs measure the negative sustainability impacts of investments, including those related to nature-related issues (such as deforestation or pressures on ecosystems)[22] . These metrics are therefore more directly relevant from the perspective of financial market participants, particularly in terms of portfolio management.

Hearings conducted with stakeholders in the Paris financial centre revealed three main findings related to nature-related metrics and how stakeholders are adopting them:

18 To view the TNFD's 14 core metrics, see: https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures/#publication-content (p. 83). The two additional metrics for financial institutions are: exposure to a defined set of sectors considered to have significant nature-related dependencies and impacts (FI.C0.0) and exposure to companies with assets and/or operations in or near sensitive areas (FI.C0.1) within sensitive sectors and to activities located in ecologically fragile areas.

19 To further the application of the TNFD metrics, the Green Finance Institute has published a guide for UK companies in five sectors that are considering or preparing a report in accordance with the TNFD metrics. Green Finance Institute, TNFD: Getting Started with Data and Metrics, 2025.

20 It should be noted here that the CSRD is currently undergoing a revision process. In this context, we are referring here to the latest simplified version of the ESRS from November 2025 (see https://www.efrag.org/en/draft-simplified-esrs). It should be noted that these versions are closely aligned with the European Commission's recent draft delegated act on the simplified ESRS standards from May 2026: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/16775-Revised-European-sustainability-reporting-standards_en

21 Sustainable Finance Disclosure Regulation

22 It should be noted here that the SFDR is currently undergoing a revision process. In this context, we are referring here to the previous versions of the PAI. https://www.eiopa.europa.eu/publications/principal-adverse-impact-and-product-templates-sustainable-finance-disclosure-regulation_en

1. THE RELEVANCE OF THE INDICATORS INCLUDED IN THE FRAMEWORKS VARIES DEPENDING ON THE TYPE OF STAKEHOLDER: CERTAIN METRICS MAY BE PARTICULARLY USEFUL FOR COMPANIES BUT PROVE DIFFICULT FOR FINANCIAL STAKEHOLDERS TO APPLY DIRECTLY.

While certain indicators may be useful for non-financial companies in identifying and managing their nature-related challenges at the site level, they may be less directly applicable to steering the activities of financial institutions. For example, raw data on *a company's land footprint, total water consumption*, and *volumes of waste or pollution* are useful indicators for companies to guide their strategy. While **these data points may also be relevant for transparency purposes in the context of the dialogue between investors and companies, they nevertheless need to be contextualized by financial actors to be more directly actionable. For example, by cross-referencing the data with the location of operations (areas at risk of water stress, etc.), with pollutant emission thresholds (whether regulatory or not), and by making comparisons within the same sector.**

It should also be noted that the indicators useful for the management of financial institutions can vary significantly depending on the financial sector (banking, insurance, investment, etc.)[23] .

2. DESPITE A RELATIVE ABUNDANCE OF AVAILABLE DATA ON NATURE, THE TOOLKIT AVAILABLE FOR REPORTING BY STAKEHOLDERS IS STILL FAR FROM PERFECT, BOTH IN TERMS OF THE COVERAGE OF ISSUES AND ITS ROBUSTNESS.

For companies and financial institutions, the ability to develop indicators requires access to granular data on issues that are material to them, as well as appropriate tools. However, "environmental" data can cover a wide range of topics such as pollution, ecosystems, species, and water-related issues, which necessitates significant preliminary work to identify and prioritize these issues. **Furthermore, there remains a significant gap between many of the indicators defined in nature-related reporting frameworks and the actual capacity of companies and financial institutions to collect the data needed to meet these requirements (see chart below).**

23 For more information, please refer to the sector-specific guides produced by professional associations such as France Invest, the Agence Française de Gestion, or France Assureurs on this topic.

14 Core Global Indicators

Dependency & impact indicators

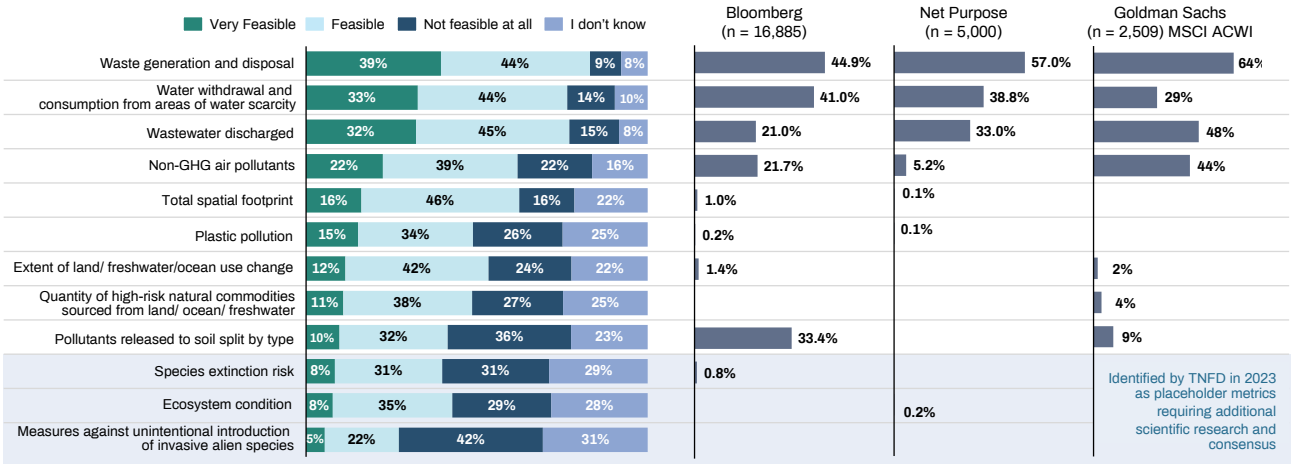
- Total spatial footprint
- Extent of land/freshwater/ocean-use change
- Pollutants released to soil, by type
- Wastewater discharged
- Waste generation and disposal
- Plastic pollution
- Non-GHG air pollutants
- Water withdrawal and consumption from areas of water scarcity
- Quantity of high-risk natural commodities sourced from land/ocean/freshwater

Risk indicators

- Value of assets, liabilities, revenues and expenses exposed to nature-related **transition risks**
- Value of assets, liabilities, revenues and expenses exposed to nature-related **physical risks**
- Description and value of significant lines/penalties or litigation in the reporting year due to negative nature-related impacts

Opportunities indicators

- Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type, with reference to a government, regulator or third-party taxonomy, where relevant
- Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature, with a description of impacts



Source: TNFD Metrics, Status Report, 2025

The TNFD's *Status Report 2025* highlights **varying levels of maturity in reporting on certain nature-related metrics**: **air pollution, water, and waste** are the indicators that companies believe can be reported on (in line with specific regulatory requirements on these topics). Conversely, metrics related to **measuring the spatial footprint and land-use changes** are still largely overlooked. Metrics related to monitoring **Invasive Alien Species** do not appear to be actionable within companies and financial institutions at this stage. In fact, non-financial companies report very little data on this metric, even though risks may exist for both companies and financial institutions[24] . This may be explained by the fact that data related to the risks of introducing Invasive Alien Species and the links to various economic sectors and activities remain scarce to date.

24 IPBES, Thematic Assessment Report on Invasive Alien Species and their Control, 2023. https://www.ipbes.net/ias

This is also the case for data on **PFAS-related** pollution **or water-related issues**, which remain complex. For example, **differences in how portfolio companies measure and report their water withdrawals and consumption complicate the aggregation of data at the portfolio level, thereby limiting financial institutions' ability to obtain a consolidated view of their exposure**. With this in mind, some financial institutions are beginning to use early-stage tools that allow them, for example, to measure their water footprint at the portfolio level — an approach that is still relatively innovative[25] .

In recent years, a growing number of tools have emerged that enable companies to measure their dependencies on and impacts on nature. While certain databases and assessment methodologies are already available, the toolkit available to stakeholders is still far from perfect, both in terms of the scope of the issues covered and its robustness. The accuracy and reliability of these tools are expected to improve over the next few years, in tandem with enhanced corporate reporting.

3. THERE IS NO SINGLE METRIC FOR NATURE, BUT IT IS POSSIBLE TO FOCUS ON A CORE SET OF RELEVANT INDICATORS FOR WHICH INFORMATION SOURCES ARE BEGINNING TO TAKE SHAPE. THE INSTITUTE FOR SUSTAINABLE FINANCE OFFERS A REFERENCE MATRIX TO HELP NAVIGATE THESE INDICATORS AND DATA.

The analysis of dependencies, impacts, risks, and opportunities (DIRO) related to nature cannot rely on a single indicator (IPBES, 2026). This exercise involves tracking multiple metrics that address the various pressures on nature and cover the entire value chain of the economic actor.

IFD has collaborated with the Paris financial centre to identify the most operational metrics by cross-referencing indicators from reporting frameworks with the tools and databases available for stakeholder reporting. Based on this work, a reference matrix was developed to navigate among these metrics along a pathway that enables stakeholders to assess their exposure to nature-related issues.

25 BBVA published its first water footprint in 2026: https://www.bbva.com/en/sustainability/bbva-publishes-its-organizational-water-footprint-for-the-first-time/

A. COMPLETE TABLE OF OPERATIONAL METRICS AND TOOLS FOR FINANCIAL ACTORS

GROSS EXPOSURE TO NATURE-RELATED ISSUES

01

Preliminary Question

WHERE
are the activities in my portfolio located?

WHICH SECTORS
in my portfolio are most dependent on and have the greatest impact on nature?

Relevant indicators for financial actors

Exposure to companies that own assets and/or operate in or near sensitive areas

FOR BANKS
percentage of total loan volume.

FOR ASSET MANAGERS
percentage of assets invested or held.

FOR INSURERS AND REINSURERS
percentage of gross premiums written (excluding external acquisition costs, if applicable) or of the total insured amount.

TNFD (FI.CO.1: additional metric for financial institutions) / former PAI No. 7 / related to ESRS E4

Exposure to a defined set of sectors considered to have significant nature-related dependencies and impacts on nature

FOR BANKS
absolute amount or percentage of total loans.

FOR ASSET MANAGERS
absolute amount or percentage of assets under management or held

FOR INSURERS AND REINSURERS
absolute amount or percentage of gross premiums written (excluding external acquisition costs, if applicable) or total insured amounts.

TNFD (FI.CO.0: additional metric for financial actors)

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Reports from companies in the portfolio can serve as sources of information on the location of assets.

2. Tools & Databases (selection, not exhaustive)

Asset localization tools
- MSCI
- S&P
- Asset Impact
- Nature Impact Platform, Kayrros

Ecosystem classification tools:
- IUCN Global Ecosystem Typology
- UN SEAA Ecosystem Accounting

Key maps of the most biodiversity-sensitive areas (non-exhaustive list):
- World Database on Protected and Conserved Areas
- Key Biodiversity Areas
- "High Carbon Stock" Forests
- Peatlands and wetlands covered by the Ramsar Convention
- Sites listed by Alliance Zero Extinction
- UNESCO World Heritage Sites
- UN Biodiversity Lab

Decision-support tools incorporating global biodiversity data:
- IBAT

1. Corporate reporting (CSRD / TNFD)

Reports from companies in the portfolio can serve as relevant sources of information (for example, for companies with multiple business lines).

2. Tools & Databases (selection, not exhaustive)

Tools for assessing key dependencies on and impacts of nature across business activities and economic sectors:
- Classification systems: NACE codes, GISC
- ENCORE
- SBTN Materiality Tool
- TNFD, sector-specific guides
- TNFD, nature-related financial risks database
- IPBES, Business and Biodiversity Report
- Biodiversity footprint measurement (Global Biodiversity Score, PBAF Standard)

SIGNIFICANT EXPOSURE TO NATURE-RELATED ISSUES

02

Preliminary Question

WHAT ARE, by theme, THE MAIN SIGNIFICANT PRESSURES on nature to which the companies in my portfolio are exposed?

Relevant indicators for financial actors

Share of companies in the portfolios with significant exposure to nature-related issues. Depending on the characteristics of the investors' portfolios, this may include issues such as ecosystem change, pressure on water resources, pollution, etc.

FOR EXAMPLE:

Percentage of companies whose activities lead to land degradation, desertification, or soil sealing.

Proportion of companies that cause significant pollution of the air, water, and soil, etc.

5 IPBES pressures, PAI, TNFD

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Indicators derived from corporate reporting frameworks can be used by financial actors at the portfolio level. For example, in the case of air pollution, (1) collect data on the quantities of air pollutant emissions reported by companies in the portfolio, (2) cross-reference this data with regulatory (or "materiality") thresholds for these pollutants, (3) aggregate at the portfolio level the proportion of companies exceeding these thresholds.

Examples of indicators derived from corporate reporting that are relevant based on the specific characteristics of financial institutions' portfolios:

Total disturbed area as a percentage of the land footprint (km^2)

- By ecosystem type (soil, freshwater, and ocean) TNFD, C1.0;
- By type of business activity TNFD, C1.1;
- Total water consumption in regions experiencing water stress ESRS E3.

Quantities of pollutant emissions to air, water, and soil resulting from the company's own activities, including those resulting from environmental incidents, during the reporting period. With regard to microplastics, the company must disclose:

- The quantities of primary microplastics manufactured or used in its products, and separately, those directly released into the environment;
- Information on secondary microplastics. ESRS E2.

2. Tools & Databases (selection, not exhaustive)

Assessment of companies' environmental issues: CDP questionnaire, WBA, NEC, Planet Tracker, Forest IQ

Thematic tools: identification of confirmed pollution risks:
+ The pollutants listed in Annex II of Regulation (EC) No. 166/2006 (E-PRTR),
+ Discharge thresholds set out in Annex II of Regulation (EU) No. 2024/1244.
+ Criteria for defining a water-stressed area, ESRS Application Requirement E3.
+ IFD guides on deforestation and blue finance

Thematic tools: identification of proven water risks:
+ WWF Water Risk Filter
+ WRI Aqueduct

Thematic tool portals:
+ TNFD Tool Catalog
+ UNEP-WCMC Nature Tool Compass

agricultural commodities ecosystems water finance pollution

POLICIES & COMMITMENTS TO NATURE

03

Preliminary Question

WHAT MEASURES

have the companies in my portfolio implemented to reduce their exposure and/or offer solutions for managing nature-related risks?

Relevant indicators for financial actors

Share of companies in the portfolios that have taken measures to reduce their exposure to nature-related issues

FOR EXAMPLE:

- Proportion of investments in companies with a policy to combat deforestation (former PAI No. 15).
- Proportion of investments in companies with sustainable land use or agricultural practices or policies (former PAI No. 11).
- Proportion of investments in companies whose sites are located in areas exposed to high water stress and that have a water management policy (former PAI No. 8).

Sources for data collection

1. Corporate reporting (CSRD / TNFD)

Indicators derived from corporate reporting frameworks can be used by financial actors at the portfolio level. For example, in the case of waste recycling: (1) collect the proportions of reused/recycled waste reported by companies in the portfolio; (2) cross-reference these with materiality thresholds; (3) aggregate at the portfolio level the proportion of companies reusing/recycling more than X% of waste.

Examples of indicators derived from corporate reporting that are relevant based on the specific characteristics of financial actors' portfolios:

- Total area rehabilitated/restored, by ecosystem type. (TNFD: C1.0, C1.1).
- Quantity of high-risk agricultural commodities sourced from a sustainable management plan or certification program (in metric tons). (TNFD: C3.1).
- Total volume of water recycled/reused; total volume of water stored. Water policies if the company has sites located in areas subject to water stress. (ESRS E3).
- Proportion of waste reused or recycled. (ESRS E5).
- Amount of capital expenditures and financing allocated to nature-related opportunities. (TNFD).

Etc.

2. Tools & Databases (selection, not exhaustive)

Assessment of companies' nature-related issues: CDP questionnaire, WBA, NEC, Planet Tracker, Forest IQ

- Tracking of commitments: SBTN for Nature, Act4Nature, ISO 17298:2025 standard, Companies Committed to Nature, Act Biodiversity, Biodiversity Diagnosis.

Tools for identifying raw materials/commodities that pose a risk to nature:

- SBTN High Impact Commodity List
- European Regulation on Critical Raw Materials
- European Regulation on Deforestation and Forest Degradation

Tools for verifying the traceability of raw materials/commodities posing a risk to nature:

- Supply chain / deforestation risk (Sourcemap, Trase, SPOTT, etc.)

Other labels and certifications: IFD guidelines on deforestation and blue finance

- Modeling / Life Cycle Assessment (ReCiPe, Globio, LC Impact, EcoInvent, etc.)

agricultural commodities ecosystems water finance pollution

Source: Paris Sustainable Finance Institute (IFD)

B. TABLE GUIDE

This framework, developed by the "Biodiversity and Natural Capital" working group at the Paris Sustainable Finance Institute (IFD), aims to support financial actors in accelerating and strengthening nature reporting. To this end, it offers:

→ **A framework enabling financial institutions to identify the levers for developing useful indicators at the portfolio level;**

→ **A clearer link between the needs of financial institutions and the reporting of non-financial companies (whose data is beginning to become actionable) in order to strengthen the dialogue between financiers and companies.**

The goal is not to define new nature metrics or to provide an exhaustive overview of existing indicators. Nor does it aim to directly address the requirements of a specific nature reporting framework. Rather, its aim is to **present, in an educational manner, various indicators relevant from the perspective of financial stakeholders**, which can then be adapted according to each stakeholder's specific context (topics covered, asset classes, sectors financed, etc.). The selected indicators are drawn exclusively from existing frameworks such as the ***Task Force on Nature-related Financial Disclosures*** **(TNFD)**, the ***Corporate Sustainability Reporting Directive*** **(CSRD),** and the ***Sustainable Finance Disclosure Regulation*** **(SFDR).**

Our assessment suggests that it is possible for financial actors to make progress in reporting on the various metrics identified in the framework. Indeed, some of the requested information is beginning to become operational among non-financial companies, as well as with tools and databases that are already available. However, it should also be noted that not all the requested information is yet available at this stage.

Regarding the chosen approach, this selection of indicators is only a first step, intended to be supplemented and refined according to the specific needs of the stakeholders. Managing environmental issues at the portfolio level also requires indicators for tracking objectives (such as indicators for reducing water consumption in water-stressed areas, reducing pollutant emissions, etc.).

Disclaimer

It should be noted that indicator classifications already exist (pressure, state, and response indicators, etc.). **The framework proposed by IFD is not intended to create a new typology of indicators and, certainly, is not intended to be prescriptive. Its purpose is to provide a structured, educational pathway for identifying the most relevant and operational metrics and indicators at the portfolio level.**

Regarding existing indicator typologies, stakeholders can, for example, refer to the work of the Fondation pour la recherche sur la biodiversité and l'Office Français de la Biodiversité.

1. READING GUIDE

This framework should be viewed as a roadmap for identifying the metrics best suited to each operational stage of financial actors' work — first identifying, then managing, nature-related issues. The indicators are organized into groups according to this same operational logic, with each group broken down into different metrics depending on the type of stakeholder (bank, investor, etc.) and each stakeholder's specific exposure to nature-related issues (exposure to water-related issues, soil-related issues, etc.). For each stage, the table provides suggestions for sources to collect the data needed to develop relevant indicators. Note that the stages are complementary and cannot be considered self-contained.

STEP 1: IDENTIFY POTENTIAL RISKS ("INDICATORS OF GROSS EXPOSURE TO NATURE-RELATED ISSUES")

Objective: This first step assesses a financial actor's potential exposure to nature-related issues, drawing in particular on an analysis:

→ Based on the location of assets in or near sensitive areas;

→ By level of exposure to economic sectors and activities considered to have significant dependencies on and impacts on nature.

To understand this first level, financial actors can ask themselves two preliminary questions:

→ ***Question 1: Where are the activities in my portfolio located?***

→ ***Question 2: Which sectors in my portfolio are most dependent on and have the greatest impact on nature?***

The groups of indicators associated with these questions are:

→ **Indicator Group No. 1: Exposure to companies that own assets and/or operate activities in or near sensitive areas.**

- **For banks: percentage of total loan volume.**
- **For asset managers: percentage of assets invested or held.**
- **For insurers and reinsurers: percentage of gross premiums written (excluding external acquisition costs, if applicable) or of the total amount insured.**

(Link to frameworks: TNFD (FI.C0.1: additional metric for financial actors) / former PAI No. 7 / related to ESRS E4)

→ **Indicator Group No. 2: Exposure to a defined set of sectors considered to have significant nature-related dependencies and impacts on nature.**

- **For banks: absolute amount or percentage of total loans.**
- **For asset managers: absolute amount or percentage of assets invested or held.**
- **For insurers/reinsurers: absolute amount or percentage of gross premiums written (excluding external acquisition costs, if applicable) or total insured amounts.**

(Link to frameworks: TNFD (FI.C0.0: additional metric for financial institutions))

Practical example

A significant portion of the assets in my portfolio is located in the Amazon, an area that is particularly vulnerable to deforestation, biodiversity loss, and other related issues. Furthermore, my portfolio has significant exposure to the agri-food sector, which is also vulnerable to these issues. These two observations lead me to move on to the second step to deepen the assessment and characterize, in greater detail, the exposure of the companies in my portfolio to these issues.

STEP 2: ASSESSING ACTUAL EXPOSURE ("INDICATORS OF SIGNIFICANT EXPOSURE TO NATURE-RELATED ISSUES")

Objective: This second step enables a more granular assessment of the financial institution's exposure to nature-related risks. It aims to refine the analysis of nature-related issues at the portfolio level, for example by identifying materiality thresholds for environmental impacts (whether regulatory or not), by comparing the company with peers in the same sector, or by specifying the location of the company's operations, including within its value chain.

To address this second level, the financial institution may ask itself this preliminary question:

→ ***What are, by theme, the main significant pressures on nature to which the companies in my portfolio are exposed?***

The set of indicators associated with this question is:

→ **Indicator Group No. 3: Share of companies in the portfolios with significant exposure to nature-related issues: ecosystem changes, pressure on water resources, pollution, etc.**

For example:

- **Proportion of companies whose activities lead to land degradation, desertification, or soil sealing (former PAI No. 10).**
- **Proportion of companies causing significant pollution to air, water, and soil, etc. (TNFD).**

Financial actors can, for example, use the following metrics by defining materiality thresholds and **comparing companies within the same sector** to identify those that are particularly exposed:

→ Total areas disturbed, **by ecosystem type and by type of economic activity**;

→ A company's water consumption **relative to its exposure to an area subject to water stress**;

→ A company's pollutant emissions **relative to thresholds (whether regulatory or not).**

Financial stakeholders can also draw on the sector-specific guides from the *Task Force on Nature-related Financial Disclosures*[26] and materiality matrices by sector or economic activity, which are beginning to take shape:

PRESSION	SOURCE DE PRESSION	Automobiles	Boissons	Produits chimiques	Consommation de base Commerce de gros et de détail	Services publics d'électricité	Produits alimentaires	Métaux et mines	Pétrole et gaz	Papier et produits forestiers	Produits pharmaceutiques
Changement d'usage des sols, de l'eau douce et des mers	▸ Usage des sols (superficie)	2	2	2	2	3	3	2	2	3	2
	▸ Usage d'eau douce (superficie)	ND	ND	4	ND	2	4	4	4	3	ND
	▸ Usage des mers (superficie)	ND	ND	4	ND	1	4	2	3	0	ND
Surexploitation des ressources	▸ Volume d'eau utilisé	2	3	3	3	2	4	3	3	3	3
	▸ Extraction d'autres ressources biotiques	ND	ND	ND	ND	3	ND	ND	1	2	ND
	▸ Extraction d'autres ressources abiotiques	ND	ND	3	ND	ND	ND	4	2	ND	ND
Changement climatique	▸ Émissions de GES	1	2	3	3	3	3	3	4	3	3
Pollution	▸ Émissions de polluants (hors GES)	2	2	3	3	3	3	3	4	4	3
	▸ Rejet de produits toxiques dans le sol et l'eau	3	2	5	1	3	3	4	4	3	3
	▸ Rejet de nutriments dans le sol et l'eau	ND	3	ND	3	3	2	0	4	3	3
	▸ Production et rejets de déchets solides	2	3	3	1	3	4	3	3	3	3
	▸ Empiétement (bruit, lumière, etc.)	4	2	4	1	4	3	4	4	4	3
Espèces exotiques envahissantes	▸ Introduction d'EEE	0	0	1	1	ND	2	2	1	2	0

ND = Non défini
Source : Moonshot à partir des données Encore scope 1 et 2. Le scope 3 n'est pas pris en compte.

Table created by Moonshot for the AFG guide "Biodiversity and Investment: A Practical Guide for Asset Management Firms," 2025.

26 https://tnfd.global/tnfd-publications/

The sector-based approach makes it possible, in particular:

→ to incorporate sector-specific pressures and value chains;

→ to use metrics better suited to operational realities;

→ to facilitate comparisons among actors within the same sector and identify areas for improvement;

and to better account for issues related to certain specific commodities (palm oil, metals, etc.), whose impacts and dependencies vary depending on the economic sectors involved.

Practical example

A company in my portfolio is located in a region experiencing water stress and has higher water consumption levels than other similar companies in the same area.

STEP 3: IDENTIFY COMPANIES COMMITTED TO MANAGING NATURE-RELATED ISSUES

Objective: This step involves identifying the actions implemented by portfolio companies to reduce their exposure to nature-related risks through policies, commitments, and other nature-friendly measures. Ultimately, this final step should lead financial actors to direct their financing toward companies that are implementing policies and measures to manage their environmental challenges. The objective is twofold:

→ To reduce the portfolio's overall exposure to nature-related risks;

→ To direct financing toward companies that contribute to solutions for these challenges.

To understand this final level, financial actors may ask themselves this preliminary question:

→ ***Question 4: What measures have the companies in my portfolio implemented to reduce their exposure and/or offer solutions for managing nature-related challenges?***

The set of indicators associated with this question is:

→ **Indicator Group No. 4: Share of companies in the portfolios that have taken measures to reduce their exposure to nature-related issues**.

For example:

- **Proportion of investments in companies that have a nature policy to protect biodiversity covering operational sites or sites located near a protected area or an area of high biodiversity value that is not a protected area (former PAI No. 14).**
- **Proportion of investments in companies with a policy to combat deforestation (former PAI No. 15).**
- **Proportion of investments in companies with sustainable land-use or agricultural practices or policies (former PAI No. 11).**
- **Proportion of investments in companies that follow sustainable practices regarding oceans and seas (former PAI No. 12).**
- **Proportion of investments in companies whose sites are located in areas exposed to high water stress and that have a water management policy (former PAI No. 8).**

To address this set of indicators, financial actors can, for example, examine the following metrics:

→ **The total area rehabilitated/restored** by the portfolio company by ecosystem type;

→ The **quantity of** high-risk **agricultural commodities** sourced from a **sustainable management plan or certification program**;

→ The **amount of water reused and the policies implemented regarding exposure to a water-stressed area**;

→ The proportion of **waste reused or recycled**;

→ The share of **funding directed toward nature-positive activities.**

Practical example

X% of the agricultural commodities from a company in my portfolio come from a sustainable management program. What percentage of commodities should I consider desirable, and what percentage target should I set for the number of companies in my portfolio that must meet this threshold? Furthermore, is it possible to set a funding target for companies with programs to restore degraded land?

2. AVAILABLE SOURCES OF INFORMATION:

To address indicator groups 1, 2, 3, and 4 identified above, financial actors can draw on three complementary levels of information sources that need to be cross-referenced:

Source 1 – Information from companies' initial nature reporting exercises, particularly the 2024 and 2025 CSRD reports and those of the TNFD.

→ For example, **to address indicator group No. 3,** financial actors can refer to the information disclosed in companies' reports on:

- Ecosystems (TNFD: C1.0, C1.1)
- Water (ESRS E3)
- Pollution (ESRS E2)

→ For example, **to address indicator group No. 4**, financial actors can refer to the information disclosed in companies' reports on:

- Total rehabilitated/restored areas, by ecosystem type (TNFD: C1.0, C1.1)
- The quantity of high-risk agricultural commodities sourced from land, oceans, and freshwater / and sourced from a sustainable management plan or certification program (TNFD: C3.1)
- Key measures and resources related to areas subject to water stress (ESRS E3)
- The proportion of waste that is reused, recycled, or otherwise recovered (ESRS E5)
- The amount of expenditures, investments, and financing allocated to nature-related opportunities (TNFD)

Source 2 – The use of databases and tools (in a context where nature reporting by portfolio companies remains in its early stages and does not cover all portfolio companies). We have identified more than 40 of these in the full version of the matrix. To facilitate the search for information, the various tools and databases have been classified, for informational purposes, by tool type:

→ *Asset location tools;*

→ *Ecosystem classification tools;*

→ *Mapping of the most biodiversity-sensitive areas;*

→ *Decision-support tools incorporating global biodiversity data;*

→ *Tools for assessing the main dependencies on and impacts of economic activities and sectors on nature;*

→ *Tools for identifying significant risks to water;*

→ *Tools for identifying significant pollution risks;*

→ *Cross-cutting tools for assessing companies' nature-related risks;*

→ *Tools for tracking corporate commitments;*

→ *Tools for identifying raw materials and commodities that pose a risk to nature.*

Among the most commonly used tools by indicator group are:

→ **Indicator Group No. 1** – For example, asset localization tools (MSCI**,** S&P**,** Asset Impact**, Kayrros'** Nature Impact Platform), the IUCN Global Ecosystem Typology, the World Database on Protected and Conserved Areas, and the IBAT tool;

→ **Indicator Group No. 2** – For example, the ENCORE tool, the SBTN Materiality Tool, or **biodiversity footprint measurement tools such as the** Global Biodiversity Score and the PBAF Standard**;**

→ **Indicator Group No. 3** – For example, tools for assessing companies' nature-related risks, such as the CDP questionnaire, the WBA benchmarks, or the NEC tool. More topic-specific tools, such as the WWF Water Risk Filter and the WRI Aqueduct for water, as well as tool portals such as the TNFD Catalog Tool or the Nature Tool Compass**;**

→ **Indicator Group No. 4** – For example, tools for tracking corporate commitments such as SBTN for Nature, Act4Nature, and Entreprises Engagées pour la Nature, or tools more specifically focused on raw materials and commodities that pose a risk to nature, such as the SBTN High Impact Commodity List, as well as the **sustainability labels and certifications** identified by IFD in its guide on deforestation and blue finance.

Source 3 – Engagement with clients (banks and insurance companies) and portfolio companies (investors) is also a very useful tool for collecting more accurate data. For example, this may be particularly relevant for private equity firms, for which reporting is not highly standardized.



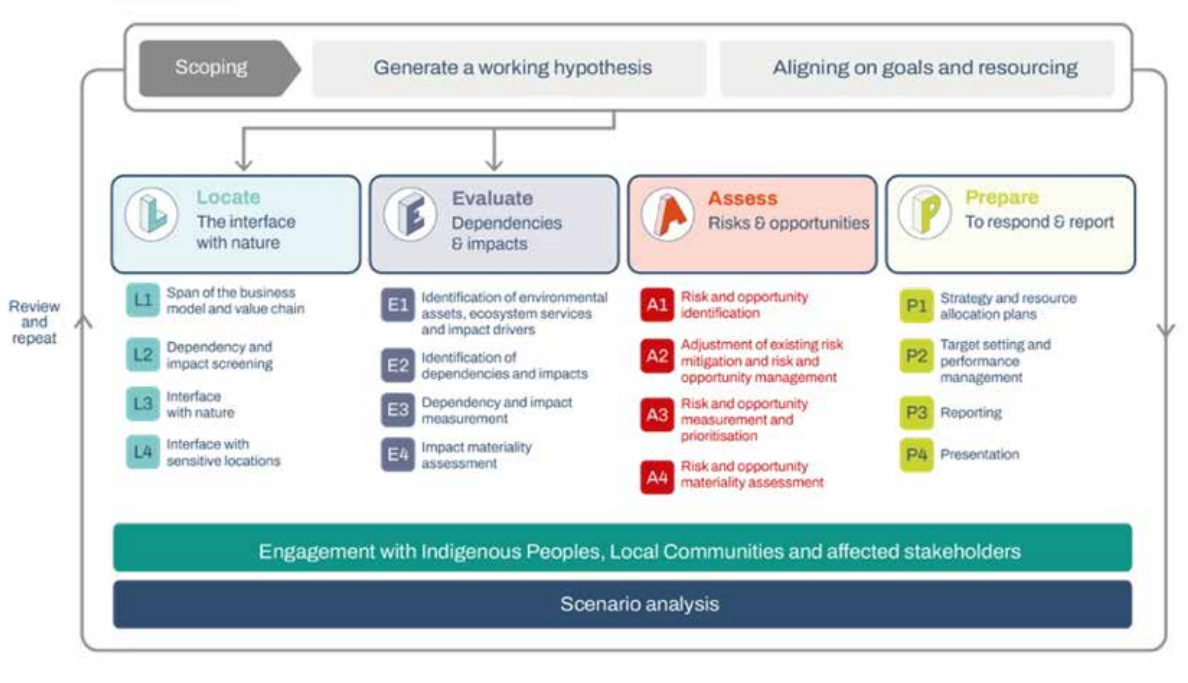
NATURE AND FINANCE:
METRICS AND TOOLS
FOR A COMMON LANGUAGE

II. STEPS PRIOR TO REPORTING: IDENTIFYING AND ASSESSING NATURE-RELATED CHALLENGES

Beyond the metrics and tools presented above, several steps prior to nature reporting are essential to enable companies and financial actors to understand and assess their nature-related challenges. In this context, interviews conducted with various stakeholders in the Paris financial centre reveal strong interest in TNFD's LEAP approach. The **LEAP** approach is a flexible and interactive assessment tool designed for both companies and financial institutions, consisting of several sub-steps. It forms the central pillar of the TNFD framework, which guides organizations in:

- *Identifying their interactions with nature;*
- *Assessing their dependencies on and impacts on nature;*
- *Analysing risks and opportunities;*
- *And finally, the development of strategic and operational responses.*

The LEAP approach brings consistency to nature reporting within institutions by facilitating the coordination of the various stages and helping to build a clear and understandable narrative. Feedback from the stakeholders interviewed indicates that this approach is increasingly being integrated into reporting exercises.



Source: TNFD Status Report, LEAP Approach, 2025.

The LEAP approach is also well aligned with the CSRD framework, as it is recognized as a relevant foundation for structuring the materiality analysis on nature-related issues[27] . Furthermore, a cross-reference table between the two frameworks has been published[28] .

27 See ESRS 1 – General Requirements, paragraph AR 15. "With regard to nature-related impacts and dependencies, the first three steps of the LEAP approach (locate, evaluate, assess) provide a valuable reference for how to: (a) identify where, within one's own operations and the upstream and downstream value chain, interactions with nature occur; (b) evaluate the related dependencies and impacts; and (c) assess the associated risks or opportunities." https://www.efrag.org/en/draft-simplified-esrs

28 https://www.efrag.org/en/news-and-calendar/news/tnfd-and-efrag-publish-correspondence-mapping

A. LOCATE YOUR INTERFACE WITH NATURE

In the **LEAP** approach developed by the Taskforce on Nature-related Financial Disclosures, **"identifying key interfaces with nature"** corresponds to the *"Locate"* step, which aims to **map and identify the areas of strongest interaction between a company's activities and ecosystems**. In fact, the "Locate" phase of LEAP encourages organizations to filter and prioritize potential nature-related issues using three criteria: sector, value chain, and geography. This first step enables companies and financial actors to identify **the assets and operational sites most exposed to nature-related issues**.

→ For a company, this involves identifying, within its own operations, those sites that are located near or within sensitive ecosystems, such as forests, wetlands, biodiversity hotspots, or areas experiencing water stress, etc. (*For example: agricultural sites in the Amazon, tourism activities near or within marine protected areas, and water-intensive sites located in areas of water stress.)* It should be noted that in its latest report, IPBES emphasizes that **companies' primary dependencies on and impacts on nature are concentrated within their value chains**[29] . It is therefore essential for companies to identify their potential interfaces with nature throughout the entire value chain (*upstream, in their direct operations, and downstream)* by combining "bottom-up" methods (*e.g., collection of site-specific information*) with **"top-down"** methods (*e.g., life cycle analysis for certain products*) in order to **prioritize the strongest connections to nature.**

→ For a financial institution, the "Locate" step involves identifying, within its portfolio, the main interfaces that its stakeholders have with nature. To ensure the most accurate identification possible, this requires financial institutions to determine the appropriate level of stakeholders to involve: ***financed companies, suppliers, distributors, retailers, consumers, etc.*** The more granular this exercise is, the better it will enable the financial institution to build a comprehensive picture of where nature-related issues lie. Furthermore, companies' initial non-financial reports serve as an important tool in this regard for refining stakeholder maps and identifying priority areas for dialogue for financial institutions.

29 See Appendix 3 for the action steps identified by IPBES to help companies and financial actors map their value chains.

The process of "localization" remains complex because financial institutions do not always have access to data on the location of assets within their portfolios. Stakeholders can combine various tools for asset localization, mapping of the most biodiversity-sensitive areas, and decision support that incorporates global data on the state of nature. Among the most widely used are, for example, the MSCI and S&P databases, the IUCN Global Ecosystem Typology, the World Database on Protected and Conserved Areas, and the IBAT tool, which market participants in Paris use to cross-reference data on their assets with the sensitivity of sites (***see Part I of the report for a list of operational tools and databases for reporting on nature***).

In summary, the "Locate" stage enables economic actors to prioritize the areas most at risk within their value chains. More broadly, **mapping is part of an ongoing process of operational management for companies and portfolio management for financial actors.**

Several stakeholders have begun to implement this exercise:

CRÉDIT MUTUEL ARKÉA – MAPPING THE DOWNSTREAM VALUE CHAIN: THE REAL ESTATE SECTOR

Mapping value chains was a crucial preliminary step in identifying material impacts, risks, and opportunities for the Crédit Mutuel Arkéa Group in 2024.

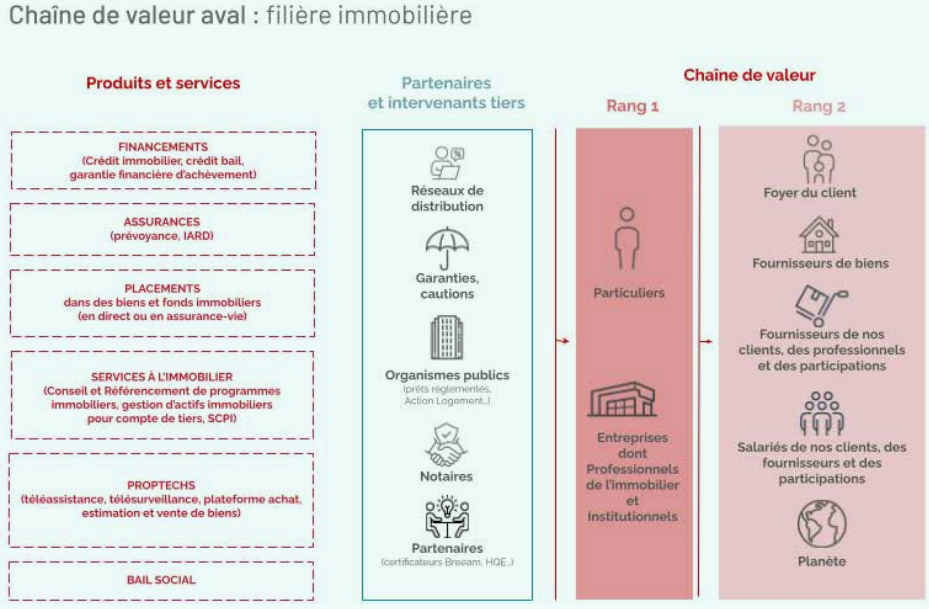
This mapping includes:

- **upstream activities**: procurement and financing for the Group[30];
- **downstream activities**: financing activities, non-financing banking activities, private equity, retirement planning, life insurance, non-life insurance, B2B activities, and asset management.

In total, there are **nine value chains**[31] , established **by bringing together all** the Group's **business lines**.

The value chains represent, as accurately as possible, the interactions, processes, products and services, and stakeholders of each of the Group's business segments. **Nature (here referred to as "Planet") appears in each of them as a stakeholder.**

Given **the importance of real estate activities for the Crédit Mutuel Arkéa Group**[32], a **specific representation of the downstream value chain for the real estate sector** has been developed.



30 The Group's financing depends on customer deposits, membership shares, cash on hand, and refinancing.

31 The mapped value chains represent the bulk of the Group's activities and correspond to the areas in which the Crédit Mutuel Arkéa Group can effectively influence the practices of stakeholders.

32 Housing financing totaled 91.1 billion euros in 2024, representing nearly half (47%) of the Crédit Mutuel Arkéa Group's outstanding loans.

CDC BIODIVERSITÉ – SUPPORTING THE AGRICULTURAL AND DAIRY COOPERATIVE SODIAAL IN MAPPING ITS UPSTREAM VALUE CHAIN

A major player in the agri-food sector, the Sodiaal cooperative has been pursuing an ambitious sustainable development initiative for several years. While its carbon and decarbonization strategy is now well-structured, the issue of biodiversity remained more difficult to address: where to start, and with what tools? The cooperative aims to go beyond impact reporting: the goal is to **identify the sources of impact in order to chart a course for progress**.

In 2024, the cooperative conducted an initial pilot study on one of its brands, with support from the BPI. The study aimed to **calculate the brand's biodiversity footprint using the Global Biodiversity Score (GBS), a tool developed by CDC Biodiversité**. The data used came from the existing carbon footprint assessment. While this approach identified that **most of the impacts occurred upstream, at the farm level, the level of detail in the data proved insufficient to define concrete courses of action**.

To adopt a more operational approach, the CSR teams decided to launch an assessment this time directly at the level of dairy farms. The goal was clear: to use existing data to avoid increasing the data collection burden on farmers, to analyze the diversity of practices across different livestock systems, and to use the results to drive a concrete biodiversity initiative. The study therefore involved **using data from a carbon reporting tool, SelfCO2®,** developed by the Institut de l'Élevage and already in use by farmers.

Thanks to this approach and the granularity of the data usable in the GBS, it was possible to calculate a **biodiversity footprint per farm**, incorporating **additional losses, cumulative impacts, and the state of ecosystems**. This work validated the compatibility of the SelfCO2® reporting tool with the GBS and provides a more comprehensive environmental perspective, complementary to carbon. It has helped confirm key challenges such as **climate change, land-use conversion, pollution, and the issue of animal feed traceability**. Building on this pilot test, the company is exploring ways to scale up the approach in order to better map biodiversity on farms across all its sourcing regions.

It also appears that financial institutions are beginning to structure some of their sector-specific policies around issues related to the location of economic activities. For example, increased consideration of geographic criteria — with increasingly frequent exclusions — targets activities or assets located in areas that are particularly sensitive from a nature conservation perspective. At the 3rd United Nations Ocean Conference (UNOC 3) in June 2025, **several banking institutions in the Paris financial centre committed to not financing projects related to *deep-sea mining*, due in particular to the sensitivity of these ecosystems**[33] **.**

33 Among these players are the Caisse des Dépôts Group, the Crédit Agricole Group, BNP Paribas, and Crédit Mutuel Arkéa.

Incorporating Location into the Paris Financial Centre's Deforestation Strategies

In its Overview of the Paris Financial Centre's Strategies for Combating Deforestation, the Institut de la Finance Durable identifies the key criteria that financial institutions can use to structure their commitments and exclusions regarding activities exposed to the risk of deforestation. Among these key criteria, location-related issues play a central role:

→ Exercise heightened vigilance or even exclude the activity if it is carried out in an area at high risk of deforestation (e.g., soybean cultivation or livestock farming in the Amazon and/or the Cerrado region, or palm oil production in Indonesia);

→ Exercise heightened vigilance or even exclude activities on lands of high biodiversity value, such as:

- Forests designated as "High Carbon Stock";
- Forests of High Conservation Value;
- "Key Biodiversity Areas";
- IUCN Category I through IV protected areas;
- Peatlands and wetlands covered by the Ramsar Convention;
- Sites listed by Alliance Zero Extinction;
- UNESCO World Heritage Sites;
- Etc.

→ The existence of clearly defined commitments and procedures to ensure respect for human rights and the rights of indigenous peoples;

→ The percentage of a commodity certified by responsible agriculture labels (e.g., requiring that 50% of a palm oil producer's land and all production operations for that commodity be certified).

More broadly, strengthening full and transparent traceability throughout the entire value chain — both direct and indirect — is essential to fully address these challenges. Indeed, policies to combat deforestation must be able to engage producers, distributors, and retailers, as well as processors and subcontractors of high-risk commodities. Furthermore, the requirements associated with stakeholders' "zero deforestation/conversion" targets may still lack transparency.

B. EVALUATE YOUR DEPENDENCIES AND IMPACTS ON NATURE

Once the step of identifying their main interfaces with nature has been completed, **companies and financial actors can embark on a more granular assessment of their dependencies on and impacts on nature. This is an essential step in understanding the risks and opportunities to which the organization is exposed. The goal is to better identify the organization's dependencies on nature and its potentially significant impacts on it.**

Note that **"dependencies** on nature" are defined here as: "the aspects of ecosystem services on which an organization depends to function (e.g., water, biomass, soil, etc.)"[34] .

"**Impacts** on nature" are defined here as "changes in the state of nature (in quality or quantity) that may alter nature's ability to fulfill its social and economic functions. Impacts can be positive or negative, they may result from the actions of an organization or another party, and may be direct, indirect, or cumulative"[35] .

→ For a company, this step requires **prioritizing the activities it carries out that have significant dependencies on and/or impacts on nature**.

→ For a financial institution, this step requires **prioritizing economic sectors within its investment portfolios that have significant dependencies on and/or impacts on nature**. Among the sectors most dependent on and impactful to **nature**, particular attention may be given, for example, to:

- The **agri-food** sector (risk of *water quality degradation, soil erosion, pollution, biodiversity loss, etc.*)
- The **real estate and construction** sector (*risk of soil sealing, habitat fragmentation, resource consumption, light pollution, soil and water pollution, risk of the conversion of natural areas into built-up areas in new construction projects, etc.*)
- The **mining** sector (*risks associated with the extraction of natural resources in sensitive areas such as tropical forests and wetlands; soil and water pollution linked to the handling of heavy metals and the use of chemicals, etc.*)[36] .
- Etc.

34 TNFD Glossary: https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures/#publication-content

35 TNFD Glossary: https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures/#publication-content

36 In 2021, the BGC report showed that four major value chains account for approximately 90% of the pressure on biodiversity. These include: the food and beverage value chain (including packaging), the infrastructure and mobility sector, the energy sector, and the fashion industry. BCG, "The Biodiversity Crisis Is a Business Crisis," 2021.

It should be noted that this prioritization step varies significantly from one company to another, as it depends on the company's core business and/or the sectoral composition of its investments. It is therefore an exercise specific to each institution and the economic activities it carries out and/or finances.

To implement this assessment, companies and financial institutions have tools available to identify priority economic activities and sectors from a nature perspective. Among the most widely used are, for example, the ENCORE tool, the SBTN Materiality Tool, and **biodiversity footprint measurement tools such as the** Global Biodiversity Score and the PBAF Standard (***see Part I of the report for a list of operational tools and databases for reporting on nature***).

These tools make it possible to break down various nature-related data, thereby providing an initial overview of the issues and facilitating a **better** understanding of the subject within institutions. **However, several dimensions remain insufficiently covered, and certain methodological limitations persist due to the still-fragmented and non-homogeneous nature of nature-related data**. More broadly, aggregated nature indicators do not allow for effective management of these issues at the portfolio level. As highlighted in the latest IPBES report[37] , **there is no single indicator that can capture the state of nature. Monitoring multiple complementary metrics, tailored to specific sectors and the various pressures exerted, is necessary**. Chapter 4 of the IPBES report, "Approaches for measuring business dependencies and impacts on biodiversity," outlines the various possible approaches for measuring a company's dependencies on and impacts on nature at the portfolio level. In particular, this report identifies four options:

→ **Screening**: identifying priorities within the portfolio that require further analysis or action with regard to nature;

→ **Comparisons between options**: assessing the potential impacts and dependencies of portfolio companies compared to alternatives;

→ **Monitoring changes in pressures or dependencies**: assessing and reporting on the pressures and progress of portfolio companies regarding nature, in line with pressure-reduction targets;

→ **Monitoring changes in nature**: demonstrating that there is a positive or negative change in nature attributable to the investor's actions or investments.

Although best practices have been identified in the Paris financial centre regarding the first three approaches, prioritization analysis remains the most mature approach at this stage. To this end, stakeholders are beginning to conduct targeted mapping, spatial analyses, and life-cycle assessments on certain products. Some are combining qualitative approaches with initial, more targeted quantitative analyses. **The planning and monitoring of nature-related transition goals, as well as the identification of nature-related opportunities, remain marginal at this stage.**

37 IPBES (2026). Summary for Policymakers of the Methodological Assessment Report on the Impact and Dependence of Business on Biodiversity and Nature's Contributions to People. Jones M., Polasky S., Rueda X., Brooks S., Carter Ingram J., Egoh B. N., von Hase A., Kohsaka R., Kulak M., Leach K., Loyola R., Mandle L., Rodriguez-Osuna V., Schaafsma M., and Sonter L. J. (eds.). IPBES Secretariat, Bonn, Germany. DOI: https://doi.org/10.5281/zenodo.15369060

Table SPM.3 Suitability of methods for assessing impacts and dependencies by level of decision-making and purposes of measurement (IPBES)

Business decision-making level	Purpose of measurement	Method categories: Location-based observation (Involves using direct measurements at specific locations, including field observations and remote sensing)	Participatory mapping and monitoring (Involves collaboration with external stakeholders, rights holders or communities, including Indigenous Peoples and local communities)	Spatial analysis (Includes overlays of spatial data layers, and ecological and hydrological modelling)	Life-cycle approaches (Includes full life-cycle assessments and various forms of environmental footprinting)	Macro-scale environmental economic models (Includes qualitative and quantitative approaches)
Operations — Business operations carried out at sites under the direct control of the business entity	Screening	Available and applicable	Available and applicable	Proceed with caution	Proceed with caution	Not applicable
	Comparing options	Available and applicable	Available and applicable	Proceed with caution	Proceed with caution	Not applicable
	Tracking potential changes in impacts/dependencies	Available and applicable	Available and applicable	Proceed with caution	Proceed with caution	Not applicable
	Observing change in biodiversity	Available and applicable	Available and applicable	Proceed with caution	Not applicable	Not applicable
Value chain — Activities beyond the direct control of an individual business entity, involving suppliers, manufacturers, distributors, retailers and customers	Screening	Not currently feasible	Not currently feasible	Proceed with caution	Available and applicable	Not applicable
	Comparing options	Not currently feasible	Not currently feasible	Proceed with caution	Proceed with caution	Not applicable
	Tracking potential changes in impacts/dependencies	Proceed with caution	Proceed with caution	Proceed with caution	Proceed with caution	Not applicable
	Observing change in biodiversity	Proceed with caution	Proceed with caution	Proceed with caution	Not applicable	Not applicable
Corporate — A business or group of business entities, typically within an industry, governed as a single organization	Screening	Not currently feasible	Not currently feasible	Proceed with caution	Available and applicable	Available and applicable
	Comparing options	Not currently feasible	Not currently feasible	Proceed with caution	Proceed with caution	Proceed with caution
	Tracking potential changes in impacts/dependencies	Not currently feasible	Not currently feasible	Proceed with caution	Proceed with caution	Not applicable
	Observing change in biodiversity	Not currently feasible	Not currently feasible	Not currently feasible	Not applicable	Not applicable
Portfolio — A group of investments owned by a financial institution, or a group of business units owned by a conglomerate	Screening	Not currently feasible	Not currently feasible	Proceed with caution	Available and applicable	Available and applicable
	Comparing options	Not currently feasible	Not currently feasible	Proceed with caution	Proceed with caution	Not currently feasible
	Tracking potential changes in impacts/dependencies	Not currently feasible	Not currently feasible	Not currently feasible	Proceed with caution	Not applicable
	Observing change in biodiversity	Not currently feasible	Not currently feasible	Not currently feasible	Not applicable	Not applicable

Purpose of measurement

Screening: identifying priorities requiring further analysis or action

Comparing options: evaluating potential impacts and dependencies of business activities relative to alternatives

Tracking potential changes in impacts/dependencies: measuring change in pressures over time as part of an impact assessment, or the change in reliance of business activities on nature's contributions to people over time as part of a dependency assessment

Observing change in biodiversity: showing positive or negative changes in biodiversity and nature's contributions to people that can be attributed or linked to business activities or action on biodiversity

Level of applicability

Available and applicable

Proceed with caution: methods can be applied provided sufficient accuracy, coverage and responsiveness

Not currently feasible

Not applicable

LBP AM – ENGAGEMENT WITH COMPANIES MOST EXPOSED TO NATURE-RELATED RISKS

LBP AM relies on a coherent set of measures, tools, and policies to address nature-related risks —whether operational or financial — within the companies in which it invests.

The first step is to **reduce exposure to companies that exert significant pressure on biodiversity, through a qualitative analysis of the policies implemented by those whose biodiversity footprint (measured using the MSAppb metric) is particularly high**. This analysis may lead to **the exclusion** of issuers that have not taken sufficient steps to reduce their impacts on nature. This is accompanied by additional thematic exclusions, notably regarding *deforestation, pesticides, and deep-sea mining,* along with enhanced due diligence for companies exposed to these risks, which combines internal criteria and external frameworks for analyzing the management of material issues.

LBP AM also implements **a shareholder engagement policy targeting major biodiversity issues — the circular economy, sustainable agriculture, deforestation, and water — as well as the sectors with the greatest impact, such as chemicals, textiles, and the automotive industry.** In addition to a risk-based approach, this is also in line with a responsible approach to supporting companies in adopting sustainable practices. In certain cases, this approach is enhanced by **monitoring PAI (Principal Adverse Impacts — SFDR) to assess the presence of water management and deforestation policies.**

Finally, in the selection of securities within the listed assets portfolio, biodiversity analysis is systematically integrated and evaluated using a proprietary model, including the **BIRD (Biodiversity Impact Reporting Disclosure) score**, which, since 2023, has assigned an **internal biodiversity management quality rating to portfolio companies and is based primarily on data from the CDP**. For real assets and private debt, an in-depth study is systematically conducted prior to financing using an internal mapping tool that incorporates data from **the WWF's *risk filter*** tools — to identify potential material physical and transition risks, analyze how they are managed, and request any additional information — and plays a crucial role in determining whether to proceed with a financing deal.

BNP PARIBAS

BNP PARIBAS–RESEARCH BY DATA SCIENTIST TEAMS TO ASSESS DEPENDENCIES AND IMPACTS RELATED TO NATURE

BNP Paribas has published a series of four scientific research articles dedicated to quantifying biodiversity risk in financial portfolios. These articles focus on ecosystem integrity indices, species metrics, modeling pressures on marine biodiversity, and the various uncertainties associated with calculating the biodiversity footprint. By publishing this work as open-source, the Group promotes the dissemination of knowledge and contributes to research and methodological developments that can be used by academic and financial institutions.

For further information, please refer to the following four articles:

→ Ecosystem Integrity Indices: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4888492

→ Species metrics: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5104245

→ Modeling the marine biodiversity footprint: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5283456

→ Uncertainties in modeling the biodiversity footprint: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5681162

TARGETED SUPPORT FOR COMPANIES IN AN EQUITY FUND

On December 16, 2024, the Caisse des Dépôts Group, the Banque de France, and its subsidiary BDF Gestion launched a **fund dedicated to supporting the transition of major French companies on biodiversity issues** (press release, 2024). In this context, **CDC Biodiversité was commissioned to propose a framework for analyzing the integration of biodiversity-related issues into corporate strategies**. CDC Biodiversité thus developed an innovative analytical methodology, following the recommendations of the *Taskforce on Nature-related Financial Disclosures* (TNFD). This methodology also draws on the quantitative footprint assessments of **the Global Biodiversity Score (GBS)**, which identifies each company's most material issues (pressures, commodities, dependencies, etc.).

These analyses, applied to **60 of France's largest companies**, aim to **assess the companies' level of commitment and their degree of maturity in addressing biodiversity challenges, taking into account their entire value chain**. These results have been summarized in **qualitative fact sheets** that include **scores on various aspects of biodiversity**, accompanied by detailed analyses conducted by experts at CDC Biodiversité. In addition, **intra-sector rankings** were established to compare companies with one another and highlight those that are lagging behind in their transition toward biodiversity. Details on the results can be found in the publication "Integration of Biodiversity by Private Sector Actors: Between Reporting and Voluntary **Approaches"** (CDC Biodiversité, 2025).

Based on these profiles, the fund managers have initiated a shareholder dialogue with the companies in question. This analysis makes it possible **to prioritize key issues and identify the main drivers of transition specific to each company, thereby ensuring a structured, comprehensive shareholder dialogue grounded in sound scientific principles**. Regular updates to these analyses are planned to track how companies' consideration of biodiversity issues evolves over time.

C. ASSESS YOUR NATURE-RELATED RISKS AND OPPORTUNITIES

After identifying interfaces with nature (i) and assessing the associated dependencies and impacts (ii), the organization can proceed to identify its key risks and opportunities (iii). Identifying these risks and opportunities requires adapting existing risk management systems to ensure that nature-related issues are fully taken into account. This involves adjusting assessment methods, drawing on new approaches as necessary to better prioritize and analyze them. It is also important to estimate their potential financial impacts on the organization in order to identify those significant enough to be included in the materiality analysis and to be the subject of dedicated disclosure.

1. NATURE-RELATED RISKS

With regard specifically to the analysis of nature-related risks, companies and financial institutions must assess and prioritize the risks affecting their value chain. For financial institutions, nature-related issues primarily involve portfolio companies or clients. Risk assessment can thus **draw on shareholder engagement initiatives, qualitative and/or quantitative analyses**[38] **, supplemented in some cases by scoring tools.**

The analysis of nature-related risks is gradually being integrated into companies' risk catalogs, as well as into the ESG risk management frameworks of companies and financial institutions.

However, it should be noted here that efforts to integrate nature-related risks into financial decisions are, at this stage, largely in their infancy and not yet standardized.

38 For example, Crédit Agricole Corporate & Investment Bank announced in February 2026 the launch of its "Country Biodiversity Risk Index (CBRI)," an open-source framework designed to assess biodiversity-related risks at the national level. Based on 43 indicators divided into four dimensions (ecosystem health, species conservation status, human pressures, and conservation measures), this methodology offers a structured approach for assessing nature-related risks in real time across different regions of the world. https://www.ca-cib.com/en/news/new-tool-understanding-biodiversity-risks

CAISSE DES DÉPÔTS – A TOOL FOR ASSESSING INTERNAL NATURE-RELATED RISKS

For the past three years, Caisse des Dépôts has been measuring its nature-related risks on a strictly sector-based approach, without taking into account the geographic location of its assets. This analysis has been gradually supplemented with **geolocated data on ecosystem health** and **stressors**, as well as **geolocated data on biodiversity significance**. For each project, it is now possible to gain **a clear understanding of transition risks at the time of decision-making and to incorporate this analysis into the ESG assessment**. At the portfolio level, it is also possible to obtain a comprehensive overview of transition risks associated with the portfolio's primary negative impacts on nature. Ultimately, the goal is to better identify negative impacts in order to reduce them (while simultaneously pursuing a net positive approach).

For **physical risks**, a specific module has been developed that incorporates geolocated data on the state of ecosystems in addition to sector-specific analysis.

This module **will provide an overview of portfolio risks related to the degradation or collapse of ecosystem services**, with a focus on financial stability. The goal is not to reduce dependence on ecosystem services, but **to** fully **assess the environmental risks and contribute to restoring ecosystems.** These tools are shared with Group subsidiaries that wish to use them.

Assessment of its nature-related risks: La Banque Postale, supported by CDC Biodiversité

In 2024, La Banque Postale published its first Climate-Nature Report, in accordance with TNFD's recommendations. This report, produced in partnership with CDC Biodiversité, utilized methodologies developed *specifically* to **assess nature-related risks based on measures of impact, dependencies, and the importance of local biodiversity**. This Climate-Nature Report was very well received by the financial community and civil society, and the risk calculation methodologies developed for this report have since informed numerous other studies.

Building on this initial effort, the La Banque Postale Group has committed to updating and expanding this work by 2026 to include all group entities (*La Banque Postale, CNP Assurances, Louvre Banque Privée, LBP AM*).

With the support of the Caisse des Dépôts Group, **innovative methodologies are being developed to provide the four entities with a comprehensive, operational, and autonomous natural risk scoring tool**. **This tool will enable the full integration of nature-related issues into the La Banque Postale Group's processes and activities**, as part of an effort to transform its business models. The report detailing the methodologies developed for this tool, as well as the results obtained, will be published by the La Banque Postale Group in the fall of 2026.

2. OPPORTUNITIES RELATED TO NATURE

More broadly, institutions could further explore the identification of new economic and financial opportunities related to nature. Among the economic opportunities are:

→ The development of offerings to help the most vulnerable sites to reduce the pressures they face (for non-financial companies);

→ The creation of new financial tools geared toward the protection and restoration of biodiversity (funds, innovative insurance models, carbon and nature credits — for financial institutions).

These offerings help steer economic activities toward more sustainable models and serve as mechanisms for managing nature-related risks for institutions.

Focus on the "France Biodiversity Credits" program, a national initiative led by the French government based on the work of *the International Advisory Panel on Biodiversity Credits (IAPB).*

Since May 2026, "France Biodiversity Credits" sites have been the new name for the natural compensation, restoration, and renaturation sites (SNCRR) introduced by the Green Industry Act and operational since November 2024. These credits enable the restoration of degraded ecosystems while offering companies "turn" restoration solutions to meet their regulatory obligations or voluntary commitments to biodiversity. For more information, please refer to the informational brochure.

AÉMA GROUPE – FROM IDENTIFYING NATURE-RELATED CHALLENGES TO BUILDING A RESILIENCE STRATEGY

Aéma Groupe and its brands — Abeille Assurances, Macif, AESIO mutuelle, and Ofi Invest AM — apply a **dual materiality** approach.

The Group relies on benchmark methodologies and indicators to analyze the impacts, risks, and dependencies of its investment portfolios with respect to biodiversity:

→ **Impact measurement:** The **MSA** (*Mean Species Abundance*) quantifies ecosystem integrity by linking economic activities to environmental pressures.

→ **Measuring Dependency:** The **CDS** (*Critical Dependency Score*) indicates what portion of the portfolio is critically dependent on at least one natural service.

→ **In real estate, the Group tracks the number of properties that feature greening initiatives.**

Planetary boundaries: Ofi Invest AM has developed an analytical framework inspired by the work of the Stockholm Resilience Centre. This framework makes it possible to apply planetary boundaries at the portfolio level and to track alignment with four of the five major pressures identified by IPBES.

→ Macif analyzed its directly managed bond portfolio using the **Forest IQ** database. Forest IQ compiles data to assess how more than 2,000 large companies address issues related to deforestation. The platform provides open-source data and indicators on these companies' management of deforestation-related risks to facilitate the transition of financial actors toward portfolios free of deforestation-related activities. It was created by an alliance of nonprofit organizations with expertise in approaches to combat deforestation. At Macif, the study identified the main issuers exposed to deforestation risk within its investments and assessed their related policies.

To determine our DIROs, we cross-reference these two indicators:

→ The impact measurement indicator, which is the **Mean Species Abundance (MSA) per km²**. The MSA is based on the EXIOBASE and GLOBIO models and expresses the average relative abundance of native species compared to their abundance in undisturbed ecosystems.

→ The biodiversity dependency indicator, which is the **Critical Dependency Score (CDS).** The CDS is based on ENCORE data and identifies the proportion of direct and indirect activities that are critically dependent on biodiversity.

Positive Contribution and Engagement Strategy

While Aéma Groupe and its brands have adopted **sector-specific policies** to **combat deforestation, biocides, and neonicotinoids**, they prioritize **thematic investments aimed at preserving biodiversity** and engage in dialogue with companies to encourage them to improve their practices. Aéma Groupe's brands are notably partners in the following funds:

→ **The Ofi Invest Biodiversity Global Equity Fund**, which aims to invest in companies committed to managing and reducing their negative impacts on biodiversity, as well as those providing solutions for its preservation;

→ **The SWEN Blue Ocean impact fund series**, launched by SWEN Capital Partners, which aims to revitalize the oceans by investing in startups that develop solutions to combat overfishing, pollution, and the effects of climate change on marine ecosystems;

→ **The Macif Terre et Vivants fund**, which aims to finance innovative projects in five key areas: sustainable food, sustainable water management, ecological sanitation, sustainable housing, and sustainable urban planning;

→ **The SWEN Terra fund**, launched by SWEN Capital Partners, which aims to support regenerative agriculture.



***** The logos shown are from the initiative's latest press release (September 2025)

"OBJECTIF BIODIVERSITÉ" INITIATIVE

Modeled after "Objectif Climat", the initiative was launched in Q1 2024 with the goal of **promoting biodiversity in financial investment portfolios**, **developing effective methodologies for institutional investors to address these issues**, and ultimately driving progress among portfolio companies.

Two funds were launched: one dedicated to **listed equities**, primarily targeting small – and mid-cap companies, mostly European; and a **private fund for private equity segments** (innovation capital, growth capital, succession capital), targeting primarily French and European companies. Institutional investors selected Mirova in late 2024 to manage the listed fund, and Starquest-Montefiore in Q3 2025 to manage the unlisted fund.

Two years later, more than twenty investors are currently participating in the initiative to combine applied research with performance. **The two funds have raised more than €400 million, with just over €200 million for each fund**. Both funds are supported by a Scientific Committee comprising six researchers and experts in sustainable finance, with diverse and complementary backgrounds, whose goal is to contribute to the robustness and continuous improvement of practices for integrating biodiversity considerations.

For the listed fund, a partnership has been established with **CDP** to help improve biodiversity data and enhance the assessment of companies' exposure and risks.

One of the fund's objectives is to share lessons learned and best practices with the entire investment community to help improve and expand the integration of biodiversity considerations into investment decisions.

For example, investors are already working on **developing an investment methodology that includes the creation of a sector-specific materiality matrix**; efforts have also been launched to develop **new data and indicators**; and **Weefin is currently developing** an **engagement platform based on the module co-developed with the CDC.**

D. PREPARE YOUR REPORT

This final step involves the organization defining how it will address the key environmental challenges identified during the first three phases of the LEAP approach (*Locate, Evaluate, Assess*). Preparing the report entails ensuring transparent, consistent, and structured communication of nature-related risks.

Several outcomes are expected: first, the organization is prompted to conduct an internal review of its governance and risk management frameworks based on an analysis of its dependencies and impacts. On this basis, it then establishes targets that are both relevant and actionable, thereby setting transition objectives.

1. RELY ON ROBUST GOVERNANCE

Governance of nature-related issues is essential within companies and financial institutions to ensure effective nature reporting. **Strengthened governance enables the effective integration of nature-related risks into the strategies of economic actors**. This can, for example, take the form of active monitoring of the biodiversity strategy by all decision-making bodies, including **Boards of Directors**, as well as **ongoing dialogue with shareholders and long-term management of action plans. Some stakeholders also engage in closer discussions with the scientific community or representatives of civil society.**

AÉMA GROUPE – IMPLEMENTATION OF NATURE-BASED GOVERNANCE

At Aéma Groupe, nature-related issues are overseen by the **Board of Directors** through the *Mutual Commitment and Non-Financial Performance Committee*, which provides strategic oversight.

At the operational level, nature-related investment policies are managed by the **SRI Steering Committee** (which meets quarterly) and the **SRI Working Group** (which meets weekly), bringing together the investment and CSR departments responsible for developing, guiding, and monitoring commitments related to natural capital.

As a signatory to the Finance for Biodiversity Pledge, Aéma Groupe aims to train all employees on biodiversity.

Further reading: Several initiatives aimed at strengthening governance of transition issues have emerged in recent years. In 2024, **Paris Sustainable Finance Institute (IFD) formulated proposals to strengthen climate transition governance within companies**, focusing in particular on the role of boards of directors, shareholder dialogue, and executive compensation policies[39] . More recently, as part of **the "governance" working group of the Roquelaure Biodiversity Initiative**, ten recommendations were formulated by stakeholders in the Paris financial community to improve governance of nature-related issues. Among the key proposals are the formalization of **employee training** objectives related to nature and the integration of **non-financial criteria into executive compensation policies and dividend distribution policies**[40] .

2. DEVELOP A NATURE TRANSITION PLAN

Businesses and financial actors can already look ahead to the next step by developing "Nature Transition Plans" now. These plans serve as tools to initiate a profound transformation of economic models, shifting toward activities with a lower environmental impact ("transition") or even those that contribute to ecosystem regeneration ("solutions"). **Identifying DIROs through actionable indicators and developing a Transition Plan are mutually reinforcing processes: thinking now about a transition strategy for one's activities and their interactions with nature can lead to a better understanding of and response to one's dependencies on and impacts on nature — and vice versa.**

For example, these transition strategies can be structured around emerging Climate Transition Plans as well as international and national frameworks, such as the targets of **the Kunming-Montreal Global Biodiversity Framework**[41] or the **National Biodiversity Strategy 2030**[42]. Although the concept is still in its infancy, guidelines for defining and supporting these plans have been taking shape in recent years and are converging, such as the work of the TNFD[43] and the WWF[44] .

39 IFD, Climate Transition Governance in Businesses, 2024.

40 Roquelaure on Biodiversity: https://www.ecologie.gouv.fr/actualites/roquelaure-entreprises-biodiversite-250-entreprises-mobilisees. In 2026, the Roquelaure "Business and Biodiversity" edition was renewed: https://www.ecologie.gouv.fr/presse/roquelaure-entreprises-biodiversite-nouvelle-impulsion-accelerer-transition-ecologique

41 https://www.unep.org/fr/resources/cadre-mondial-de-la-biodiversite-de-kunming-montreal

42 https://www.ecologie.gouv.fr/politiques-publiques/strategie-nationale-biodiversite-2030

43 https://tnfd.global/publication/guidance-on-nature-in-transition-plans/

44 https://www.wwf.org.uk/our-reports/wwf-nature-transition-plans

Examples of initiatives to identify and assess nature-related challenges in the Paris financial centre

Source: Paris Sustainable Finance Institute (IFD)

Locate your interface with nature	**Mapping the downstream value chain in the real estate sector (a sector with significant nature-related challenges for the group)** Stakeholders identified include: individuals, businesses (including real estate professionals and institutional investors), customers' households, suppliers of goods, suppliers to customers and professionals, employees of customers and suppliers, etc.	*Crédit Mutuel Arkéa*
Locate your interface with nature	**Mapping the upstream value chain of an agricultural cooperative** Tools used: GBS and biodiversity footprints, and Self CO2 carbon footprints by farm.	*Sodiaal Dairy Agricultural Cooperative – supported by CDC Biodiversité*
Locate your interface with nature	**Integrating location-based criteria into financial institutions' strategies to combat deforestation** (e.g., BNP Paribas, Crédit Agricole, LBP AM, HSBC, Société Générale, etc.)	Overview of the Paris Financial Centre's Practices in Combating Deforestation
Evaluate your dependencies and impacts on nature	**Engaging with clients most exposed to nature-related risks**	*LBP AM*
	Research conducted by data scientist teams to assess dependencies on and impacts on nature Articles on: ecosystem integrity, species metrics, and the biodiversity footprint.	*BNP Paribas*
Evaluate your dependencies and impacts on nature	**Targeted monitoring of companies in an equity fund** Tools: Biodiversity footprints by company Targeted qualitative and quantitative analyses Sector-specific analyses	*Banque de France Gestion (BDF Gestion) – in partnership with CDC Biodiversité*
Assess your nature-related risks and opportunities	**Tool for scoring nature-related physical and transition risks**	*Caisse des Dépôts Group (including La Banque Postale, CNP Assurances, Louvre Banque Privée, and LBP AM)*
Assess your nature-related risks and opportunities	**Nature-related fund portfolio**	*Aéma Groupe and its brands (Abeille Assurances, Macif, AESIO mutuelle, Ofi Invest AM)*

Assess your nature-related risks and opportunities	**"Objectif Biodiversité" initiative** Listed and unlisted equity funds for the private equity segment, development of investment methodologies and a sector-specific materiality matrix.	*20 institutional investors from the Paris financial centre, including: Abeille Assurances (Aéma Groupe), BNP Paribas Cardif, BPCE Assurances, Caisse des Dépôts, CNP Assurances, EDF Gestion, Maif, Macif (Aéma Groupe), Malakoff Humanis, Société Générale Assurances, Crédit Agricole Assurances, Axa, Allianz France, Aésio Mutuelle (Aéma Groupe), Pro BTP, Carac, and the Caisse Générale de Prévoyance des Caisses d'Epargne (partners in the initiative as of September 8, 2025).*
Prepare your report	**Nature-related governance** (Board of Directors, SRI Steering Committee, dedicated working group, etc.)	*Aéma Groupe and its brands (Abeille Assurances, Macif, AESIO mutuelle, Ofi Invest AM)*
Preparing your report	**Double materiality exercise on ESRS E4 under the CSRD**	*Crédit Mutuel Arkéa*
Preparing your report	**Nature reporting exercise under Article 29 of the LEC**	*Société Générale Investment Solutions (SG IS)*
Preparing your Report	**TNFD Reporting**	*Veolia*
Preparing your Report	**TNFD Reporting**	*Renault*

III. LESSONS LEARNED FROM EXISTING NATURE REPORTING FRAMEWORKS



A. OVERVIEW OF EXISTING NATURE REPORTING FRAMEWORKS

CSRD – Corporate Sustainability Reporting Directive

(currently under review[45])

European regulation

Scope:

→ For EU entities: Revenue > 450 M€ and Number of employees > 1,000;

→ For non-EU companies: the threshold is raised to €450 million in group revenue within the EU and €200 million for a subsidiary or branch.

Specific Feature:

The principle of **dual materiality**. Affected companies assess **the impact of their activities on the environment and society**, as well as **the effects of sustainability issues on financial performance**, with requirements tailored to the materiality identified by the company (IRO analysis: impacts, risks, and opportunities).

Disclosure requirements regarding nature:

ESRS E4 directly addresses biodiversity and ecosystem. Other thematic standards also address nature: **E2 – Pollution**, **E3 – Water and Marine Resources**, **E5 – Circular Resources**. The requirements of E4 include:

E4-1: Biodiversity and Ecosystems Transition Plan;

E4-2: Policies Related to Biodiversity and Ecosystems;

E4-3: Actions and resources mobilized;

E4-4: Objectives and targets related to biodiversity and ecosystems;

E4-5: Metrics.

SFDR – Sustainable Finance Disclosure Regulation

(currently under review[46])

European Regulation

Scope:

ESG transparency framework applicable to financial market participants (FMPs) and financial advisors (FAs), with obligations at both the entity and product levels. The SFDR does not establish a binding categorization regime at Level 1: Articles 6, 8, and 9 are disclosure regimes that have, in practice, become market categories.

Specific Feature:

Applies to financial products defined in Article 2(12) of the SFDR: UCITS, AIFs, investment-based insurance products (IBIPs as defined by the IDD), occupational pension products (IORP II) and personal pension products (PEPPs), as well as individual portfolio management mandates. The SFDR covers both product design (*manufacturers*) and distribution/advice.

Disclosure requirements regarding nature:

The SFDR's ESG scope is broad and not specific to nature-related issues. The PAI are predefined by Level 2 (Delegated Regulation (EU) 2022/1288 — RTS), Annex I:

→ 14 mandatory indicators for investments in companies, including **PAI No. 7, "activities that harm areas sensitive from a biodiversity perspective"**;

→ additional mandatory indicators for sovereign and real estate exposure ;

→ at least one *opt-in* indicator to be selected from Table 2 (climate/environment, including several biodiversity/water items) and one from Table 3 (social/governance).

Disclosure is required at the entity level (Art. 4 SFDR) and at the product level (Art. 7 SFDR), on a "comply or explain" basis for asset management firms with fewer than 500 employees.

It should be noted, however, that the SFDR is currently undergoing a revision process. In the new version proposed by the Commission, asset management firms are required to report PAI without these having been previously defined, depending on the nature of the fund. This will be clarified in Level 2.

45 Thresholds derived from the Omnibus Revision Directive, which were still being transposed into national law at the time of the report's publication

46 The presentation below is based on the previous version of the SFDR. Among the many aspects of the ongoing reform, a new categorization system will be implemented, and the framework for PAI is set to evolve.

Article 29 of the Energy and Climate Act

French Regulations

Scope:

Asset management firms, insurers, institutional investors, pension funds, etc., with more than €500M in assets under management.

Specific Feature:

Assessment of the ESG impacts of financial portfolios.

Disclosure requirements regarding nature:

→ **Indicators and methodologies**: quantitative and qualitative metrics to measure impacts on ecosystems, deforestation, biodiversity loss, etc., with transparency regarding the methodology used. The biodiversity footprint indicator may be used;

→ **Reporting frequency and transparency**: regular publication, at least annually, accessible to investors and stakeholders.

TNFD – Task Force on Nature-related Financial Disclosures

Voluntary

Scope:

Companies, financial institutions, and voluntary organizations worldwide.

*More than **700 adopting companies by 2026 (including asset managers with $22,400 billion in assets under management and publicly traded companies with a total market capitalization of $9,416 billion).***

Specific Feature:

An approach focused on identifying the highest-risk activities (**LEAP: Locate – Evaluate – Assess – Prepare**).

Disclosure requirements regarding nature:

Disclosure requirements regarding governance, strategy, risk and impact management, metrics, and biodiversity targets;

14 core metrics, optional metrics, sector-specific guidelines, and 2 additional metrics for financial institutions: **exposure to the most material sectors and exposure to companies whose assets and/or operations are located in sensitive areas.**

Beyond the frameworks presented in the table below, other international initiatives are developing their own nature reporting requirements. For example, the **Global Reporting Initiative**[47] (a voluntary framework in France) offers standards that can be used by any organization — regardless of its size, sector, or geographic location — wishing to report on its dependencies on and impacts on nature. For its part, **the International Sustainability Standards Board** is developing specific nature-related guidance to be released by the end of 2026, which will be based on the TNFD's recommendations, metrics, and guidelines. Other international coalitions focused on nature-related issues also require their members to publish monitoring reports. This is the case, for example, with **the Principles for Responsible Investment**[48] and more thematic initiatives such as the **Sustainable Blue Economy Finance Principles**[49] **, which have been joined by several players in the Paris financial market**. More recently, **Finance for Biodiversity,** in partnership with the EU Business & Biodiversity Platform, published a guide for financial institutions to help them identify and select appropriate approaches for assessing their dependencies on and impacts on nature[50] . These frameworks can also help stakeholders set targets that are science-based and validated. This is, for example, the goal of **Science Based Targets for Nature**[51] and the **Act for Nature International** initiative[52] and its French counterpart, **"Entreprises engagées pour la nature"**[53] . These frameworks support companies in structuring and implementing concrete action plans directly linked to their business activities throughout their value chain.

Far from being contradictory, these various frameworks are becoming increasingly interoperable. They reflect a nature reporting landscape that is taking shape, with requirements that are gradually converging toward harmonized practices[54] . These frameworks provide a common framework for interpretation and are essential for facilitating the identification and collection of relevant information on nature-related issues within companies and financial institutions.

47 See GRI Standard 101: Biodiversity, 2024: GRI – GRI Standards English Language

48 https://public.unpri.org/investment-tools/stewardship/spring/about-spring

49 https://www.unepfi.org/blue-finance/the-principles/

50 Finance for Biodiversity & EU Business & Biodiversity Platform, "Biodiversity Measurement Approaches Guide (5th Edition)," 2026. https://www.financeforbiodiversity.org/publications/biodiversity-measurement-approaches-guide-5th-edition/

51 https://sciencebasedtargetsnetwork.org/how-%20it-works/the-first-science-based-targets-for-nature/

52 https://act4nature.com/

53 https://ofb.gouv.fr/entreprises-engagees-nature

54 See, in particular, the interoperability between the CSRD and TNFD frameworks: https://tnfd.global/publication/tnfd-esrs-correspondence-mapping/

CDC BIODIVERSITÉ

CDC BIODIVERSITY – INTEGRATING BIODIVERSITY INTO THE FIRST CSRD SUSTAINABILITY REPORTS OF COMPANIES IN THE EURO STOXX 50 INDEX

Since the disclosure of non-financial data is now mandated by regulations (CSRD, Green Taxonomy, SFDR), it is now possible to analyze industry sectors, companies, and financial products with a level of rigor comparable to that of traditional financial analysis. The disclosure of non-financial data enables companies to identify their environmental challenges and promote a transition aimed at better managing them.

In 2025, the **Mission Economie de la Biodiversité** conducted a multi-sector benchmarking study on **the integration of biodiversity into the sustainability reports of companies comprising the Euro Stoxx 50 index**[55] . Several key findings emerged from this study:

→ Although climate remains the environmental issue most frequently reported as material by companies subject to the CSRD, across the Stoxx 50, 70% of the companies in the sample also consider biodiversity to be material. It is evident that nature-related issues have been increasingly integrated into corporate sustainability reports since 2022.

→ However, despite this progress, 58% of companies in the Euro Stoxx 50 do not yet identify biodiversity as a development opportunity. This means they still struggle to view nature as a potential source of economic value creation, innovation, or new markets.

→ This situation is reflected in the alignment of financial flows, as our analysis suggests that the alignment of revenue, CAPEX, and OPEX with the European taxonomy on biodiversity is close to zero.

Sometimes, there remains a significant gap between the ambitions and objectives stated by economic actors regarding nature and the information actually published in their reports**.** More broadly, **assessing companies' maturity regarding nature remains complex in the absence of harmonized reporting practices, as the format and content of these reports vary considerably**[56] .

Thus, the exercise in transparency is only a first step toward transforming business models. The challenge now lies in companies' ability to base their strategic directions on this data, as well as on data produced by their competitors.

55 CDC Biodiversity (2025), Integration of Biodiversity by Private Actors: Between Reporting and Voluntary Approaches, BLÉRY, C., ECLIMONT, B., GEADAS, L., GUÉNON, V., LAJOYE, É., PETIOT, A., PRADERE, V., MEB Report No. 59, Mission Economie de la Biodiversité, Paris, France. https://www.cdc-biodiversite.fr/publications/integration-de-la-biodiversite-par-les-acteurs-prives-entre-reporting-et-approche-volontaire/

56 European Financial Reporting Advisory Group (2025) *Ibid.*

B. THE DOUBLE MATERIALITY ASSESSMENT FOR ESRS E4

The identification of impacts, risks, and opportunities (IRO) is carried out in accordance with the CSRD's requirements for the various ESRS themes, based on the principle of double materiality. For each ESRS theme (environmental, social, and governance), a company subject to the CSRD analyzes its activities across its entire value chain to identify positive and negative impacts, as well as associated risks and opportunities. This analysis helps determine the material issues as defined by the ESRS, which form the basis for the scope and content of CSRD reporting[57].

When applied to biodiversity, this principle distinguishes between **impact materiality** — which assesses a company's impacts (positive or negative, actual or potential) on biodiversity — and **financial materiality**, which analyzes the risks and opportunities for the company related to biodiversity loss (physical, transition, and regulatory risks, or economic opportunities).

Only biodiversity issues deemed material according to one or the other of these two criteria must be reported, in accordance with the requirements of ESRS E4.

57 ESRS E1, General Requirements, November 2025.

CRÉDIT MUTUEL ARKÉA – DUAL MATERIALITY ASSESSMENT FOR ESRS E4

Based on the value chain mapping (see box on page 35), Crédit Mutuel Arkéa identified potentially material impacts, risks, and opportunities using the following approach:

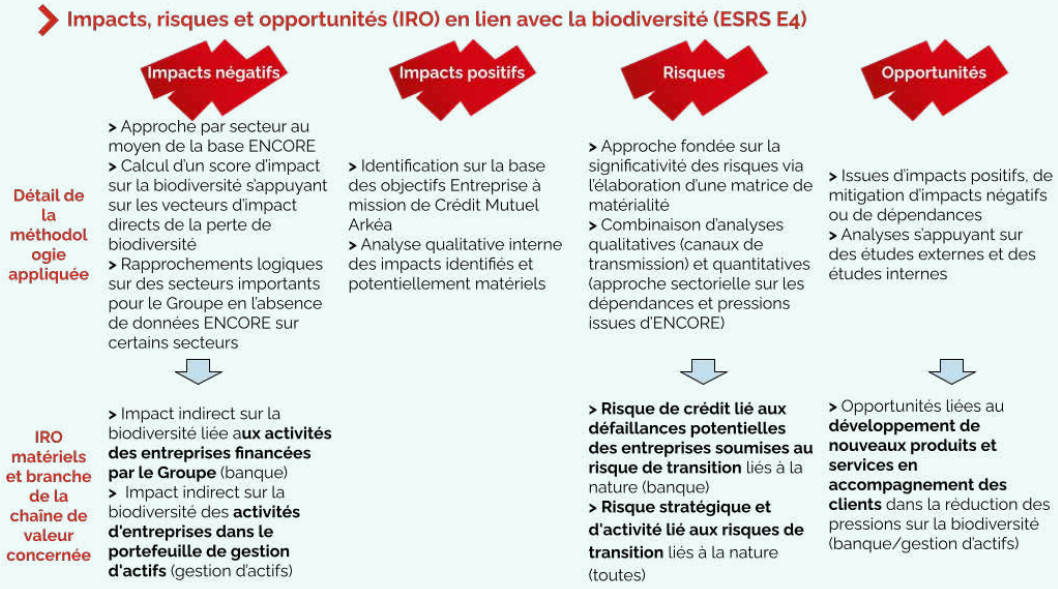
1 – **Identification of a list of theoretical IROs** by **creating matrices** that cross-reference the following: the list of **sustainability issues** (ESRS 1 Application Requirement); the **Group's activities**; and **general categories of impacts, risks, or opportunities by sector**.

2 – **Identification of additional sustainability issues** by **taking into account internal Group studies and policies** (notably work related to the duty of care, risk matrices, strategic studies, and Group publications).

3 – **Analysis of the links between impacts, risks, and opportunities** and their **consistency**[58] .

4 – **Additional interviews conducted with experts** (particularly given the Group's specific business model): on the **agricultural** and **wine** sectors and on the **cross-cutting theme of territories** (meeting with representatives of local governments).

The materiality analysis was then conducted using **multidimensional matrices: negative impacts** — magnitude, scope, irreversibility, and, where applicable, probability; **positive impacts** — magnitude, scope, and, where applicable, probability; **risks** — probability of occurrence (frequency), severity; **opportunities** — probability of occurrence, magnitude.



58 Positive impacts can create opportunities for the Group (and vice versa), while negative impacts can create financial risks for the Group. Policies or action plans implemented to manage an impact, risk, or opportunity may potentially give rise to others.

Key findings include:

→ **Impacts**: Impacts on biodiversity are primarily indirect, as they are linked to the activities of companies financed by or in which the Group has invested. The use of the ENCORE database, combined with the calculation of an internal biodiversity impact score, made it possible to identify the sectors with the greatest negative impacts on nature;

→ **Opportunities**: The opportunities identified for the Crédit Mutuel Arkéa Group relate to the development of new products and services to support clients in reducing pressures on biodiversity;

→ **Risks**: Credit risk related to potential defaults by companies exposed to nature-related transition risks, as well as strategic and business risks related to nature-related transition risks, were identified as material. These risks were identified in particular through the development of a materiality matrix (see diagram in the box), supplemented by quantitative analyses (sector-based approach using the ENCORE database) and qualitative analyses (examination of transmission channels).

Matrice de matérialité des risques liés à la nature

Objectifs

> Évaluer l'incidence des risques liés à la nature sur les différentes catégories de risques du Groupe Crédit Mutuel Arkéa
> Identifier les risques matériels (+++) qui constituent les principales zones de risque pour le Groupe
> Analyser précisément la matérialité des risques permet de bâtir un dispositif de gestion des risques adéquat et une stratégie résiliente

Méthodologie

> Fondée sur des analyses quantitatives (approche sectorielle) et qualitatives (canaux de transmission)
> Analyse en risque brut (sans considération de dispositif d'atténuation)
> Révision annuelle

Résultats

	Risques physiques liés à la nature			Risques de transition liés à la nature		
Catégorie de risque / Horizon	Court terme < 3 ans	Moyen terme 3 - 10 ans	Long terme > 10 ans	Court terme < 3 ans	Moyen terme 3 - 10 ans	Long terme > 10 ans
Risque de crédit	+	+	++	+	+++	++
Risques opérationnels	+	++	++	+	++	++
Risque stratégique	+	+	++	+	+++	++
Risque d'assurance	+	++	++	+	++	++

For **financial institutions** subject to the CSRD, the double materiality analysis focuses primarily on **the downstream impacts of financed counterparties and clients.** The analysis may, for example, cover **investment, lending, asset management, and private equity portfolios to identify business sectors with a high potential impact on sustainability issues, including nature-related issues**. It should be noted that the impacts and risks that can be identified are primarily indirect, as they are linked to the activities of the companies financed by the financial institution; this may help explain the difficulty in analyzing the level of materiality at this stage[59] .

59 For more information, see the WWF study "The NAT 40 Index: CAC 40 Companies Put to the Test by Nature," which assesses companies' maturity regarding the nature-related aspects of European reporting standards (pollution, water, biodiversity, and the circular economy) based on an analysis of their 2024 CSRD reports.

C. ARTICLE 29 OF THE ENERGY AND CLIMATE ACT

Article 29 of the Energy and Climate Act (LEC) is a French provision introduced by the law of November 8, 2019, aimed at strengthening ESG transparency among financial actors, particularly regarding **climate** and **biodiversity** issues. It is often referred to as "Article 29 LEC" or "Decree 29 LEC."

Article 29 requires French financial actors (asset management firms, insurers, institutional investors, pension funds, etc.) to publish an annual report detailing: the consideration of ESG criteria, climate risks, biodiversity risks, strategies for aligning with climate and biodiversity objectives, and the integration of these risks into governance and risk management[60] .

ADEME has developed a guide to help organizations comply with the biodiversity component of the "Article 29 LEC" framework[61] . ADEME has also published an analysis of the 2025 "Article 29 LEC" submissions covering the 2024 fiscal year[62] .

60 For more information: https://www.tresor.economie.gouv.fr/Articles/2021/06/08/publication-du-decret-d-application-de-l-article-29-de-la-loi-energie-climat-sur-le-reporting-extra-financier-des-acteurs-de-marche

61 https://climate-transparency-hub.ademe.fr/wp-content/uploads/2024/12/guide-biodiversite-art-29lec.pdf

62 For more information: https://climate-transparency-hub.ademe.fr/ressource/analyse-des-remises-article-29-lec-2025-portant-sur-lexercice-2024/

SOCIETE GENERALE
Investment Solutions

SOCIÉTÉ GÉNÉRALE INVESTMENT SOLUTIONS

Since joining the **Finance for Biodiversity** initiative in June 2022, the portfolio management firm Société Générale Investment Solutions (SG IS) has structured its approach to better integrate biodiversity considerations into its activities. This approach is based on the initiative's guidelines, which now serve as a reference framework for organizing its work and reporting.

1. Strengthening Internal Expertise

SG IS has made strengthening internal expertise a priority to foster cross-functional ownership of biodiversity issues. All teams (management and leadership) have been educated through the "Fresque de la Biodiversité" and a dedicated training program with Carbon4 Finance, a specialist in climate and environmental data for the financial sector.

2. Measuring Impacts and Dependencies

SG IS has developed a framework for measuring impacts on and dependencies on biodiversity, using the BIA-GBS tool developed by CDC Biodiversité, to identify the sectors most exposed to pressures on natural capital.

3. Setting and tracking progress priorities

SG IS has defined a monitoring framework ("monitoring targets") focused on two priority issues within its investment universe: combating deforestation and sustainable water management, which now serve as key pillars for steering its business.

4. Integrating biodiversity into investment decisions

Biodiversity-related issues, including associated controversies, are integrated into the ESG analysis within a dedicated Environment/Natural Capital pillar. They contribute to issuers' ESG scores, which are used to define the investable universe, and may also be factored into the ESG performance targets of certain funds.

5. Engaging Companies and Collaborating

Shareholder engagement is a key driver of SG IS's approach. Combining direct dialogue and collective action — carried out notably through the **CDP**, **Nature Action 100**, and **FAIRR** initiatives — shareholder dialogue helps encourage companies to enhance the transparency and maturity of their practices.

6. Contributing to nature restoration

Finally, SG IS complements this approach with concrete actions through partnerships with **the ONF (French National Forest Office)** and **Coral Gardeners**, aimed at supporting projects to preserve or restore natural areas.

This entire roadmap is presented in the Energy and Climate Act report, which is updated annually.

D. CSRD–TNFD INTEROPERABILITY

Beyond regulatory reporting requirements, voluntary nature reporting initiatives have also been taking shape in recent years, particularly through the TNFD framework launched in 2021[63] .

The TNFD framework can help companies better understand and structure their analysis of interactions with nature across their entire value chain, by incorporating a **strong focus on the geographic location of their key impacts**. Some market participants are reporting in accordance with TNFD requirements to facilitate reporting under the CSRD, given the interoperability between these frameworks[64] .

To explore this further, the TNFD **case studies** present concrete examples of how the LEAP methodology and the TNFD framework are being used, as well as illustrations of internal processes implemented to identify and assess related risks. These case studies provide inspiring early examples that can serve as a foundation for building upon[65] .

63 In a 2019 report, AXA—in partnership with the WWF—proposed a set of recommendations, including the launch of a "Task Force on Nature-related Financial Disclosure (TFIN)" to lay the groundwork for the transition toward the protection, restoration, and promotion of biodiversity," which came to fruition in 2021 with the launch of the Task Force on Nature-related Financial Disclosures (TNFD), of which AXA is a member. The Institute for Sustainable Finance and Enterprises for the Environment coordinate the TNFD's French consultation group.

64 https://tnfd.global/publication/tnfd-esrs-correspondence-mapping/#publication-content

65 https://tnfd.global/knowledge-hub/case-studies/

VEOLIA – FROM THE TNFD TO THE CSRD: A JOURNEY TO IDENTIFY NATURE-RELATED DIROS

Through its activities, Veolia actively contributes to the preservation of natural environments (water, air, soil) and to reducing three of the five main drivers of biodiversity loss linked to the activities of its municipal and industrial clients: *the overexploitation of natural resources (including water), climate change, and pollution*. However, **these same activities are closely dependent on ecosystem services, particularly the water cycle and microbiological activity**. Aware of this interdependence and the local impacts its operations may generate (*resource use, land use, proximity to sensitive areas*), Veolia applies the mitigation hierarchy to minimize its environmental footprint.

Using the TNFD Framework to Better Structure the Group's Nature Policy

To better analyze and structure its interactions, **Veolia adopted the TNFD framework in 2023**, in response to stakeholder expectations and as part of its ongoing efforts to strengthen its biodiversity commitments (with the publication of its first dedicated report in 2026). The **LEAP** methodology enabled Veolia to analyze its key impacts on and dependencies on nature, highlighting policies already aligned with the framework as well as additional work to be carried out. The management of risks and impacts associated with the Group's activities was found to be largely aligned with TNFD requirements.

This approach made it possible to prioritize key issues and conduct **a more in-depth analysis of the Group's significant dependencies within its upstream value chain**. This led to a dialogue with the procurement department about integrating biodiversity criteria into our supplier charter. Furthermore, dependence on biomass was identified as a material issue. Veolia has therefore established traceability and certification targets for the wood used in its energy operations, with a goal of achieving 100% certified wood by 2027. At the same time, nature-related risks have been integrated into the Group's risk management framework.

Thus, for its biomass-based energy production activities, the Group's goal is to achieve 100% "zero deforestation" certified wood by 2027. Nature-related risks have also been incorporated into the Group's risk mapping.

As early as 2019, Veolia identified its sites posing particularly significant challenges for biodiversity in order to implement a biodiversity footprint and action plans; this process was repeated in 2024 for approximately 150 sites. The goal is to achieve an average implementation rate of 85% for these plans by 2027. Furthermore, across all the operational sites it manages (approximately 2,000), Veolia has committed to adopting **eco-friendly green space management practices and phasing out the use of pesticides**. The company aims to implement these measures at 95% of its facilities by 2027.

In terms of opportunities, the TNFD has enabled **the Group to more systematically integrate nature-related opportunities into its strategic thinking**, both with regard to its current offerings (*decarbonization, pollution remediation, and resource protection and regeneration*) and the development of new commercial offerings (*site biodiversity management services, nature-based solutions, and biomonitoring*).

A CSRD exercise facilitated by preliminary work on the TNFD

This work **facilitated the dual materiality assessment and the identification of impacts, risks, and opportunities (IROs)**, as required by the CSRD. ESRS E4, relating to biodiversity and ecosystems, was thus identified as a material issue for the Group, and the TNFD exercise helped identify the items to be disclosed.

Renault Group

RENAULT GROUP: TNFD REPORTING – A VALUABLE EXERCISE

In 2025, Renault Group published its first biodiversity report[66] following the TNFD framework[67] and the IPBES definition of biodiversity[68] . **The added value** of a TNFD-format report:

→ A **comprehensive and understandable organization** of information scattered throughout the universal registration document, the due diligence plan, or the responsible procurement guidelines;

→ New **data based on industry-standard methods**: dependencies calculated using the ENCORE® tool, the Group's biodiversity footprint, and the distribution of impacts measured using the BFS® metric in $^{km^2}$MSA.yr, as well as ecosystem-related risks based on the LEAP® approach;

→ Highlighting the new **international Act4nature commitments**;

→ This **transparency** is useful for illustrating the scope and complexity of the subject.

Indicators and Insights

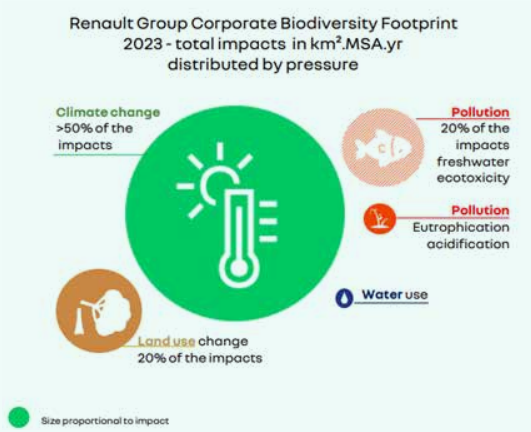
→ Renault tracks 30 IROs and indicators (climate, water, water and air pollution, recycled waste, materiality, and proximity of sites to protected natural areas) in accordance with the CSRD format.

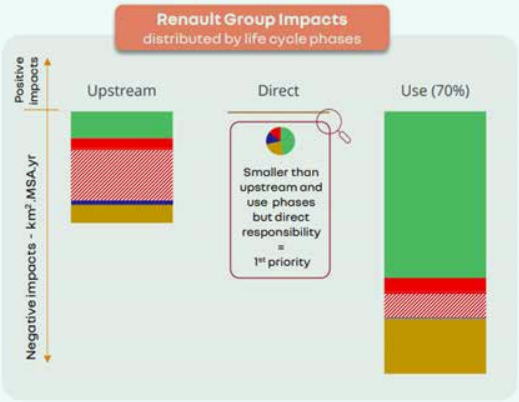
→ Calculating the biodiversity footprint allows Renault Group to compare and prioritize its impacts on biodiversity based on the four main drivers of biodiversity loss identified by IPBES.

66 TNFD Biodiversity Report https://assets.renaultgroup.com/uploads/2025/11/RG_Biodiversity_TNFD_report_2025vf.pdf

67 Task Force on Nature-related Financial Disclosures

68 The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services





Distribution of impacts by pressure:

> 50% for climate change (GHGs)

> 20% for pollution and land-use change

Distribution of impacts by phase:

> 50% for the product use phase (GHGs)

> 20% for upstream supply (pollution in material processing)

→ **Climate change remains the primary and top priority issue**. Taking simultaneous action on climate and nature will maximize co-benefits for both climate change and natural ecosystems. Reducing water withdrawal volumes is also a priority due to our dependence on water.

→ CSRD and TNFD reporting provide a **sufficient**, albeit imperfect, **overview of the major challenges**. Rather than multiplying the information on the sources of our pressures, the real challenge lies in defining and implementing action levers to reduce the Group's impacts on biodiversity and ecosystems. The challenge is all the greater because these impacts are, almost without exception, indirect.

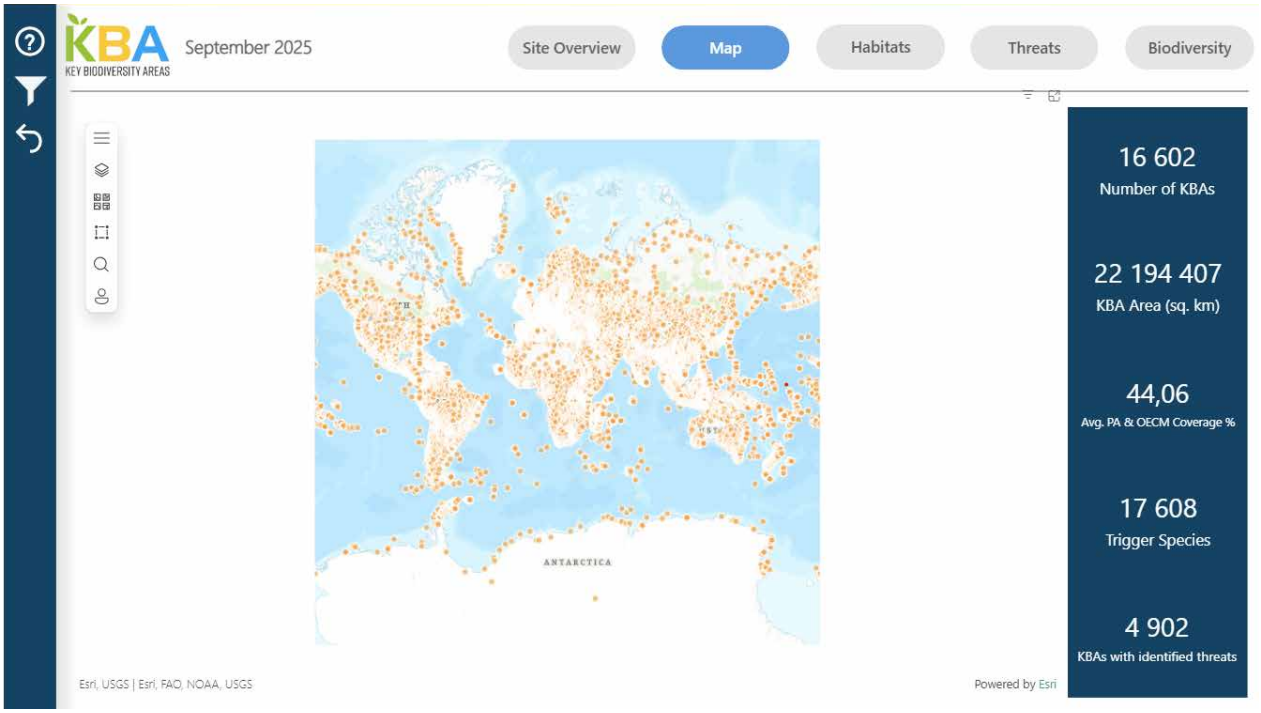
NATURE AND FINANCE:
METRICS AND TOOLS
FOR A COMMON LANGUAGE

APPENDICES

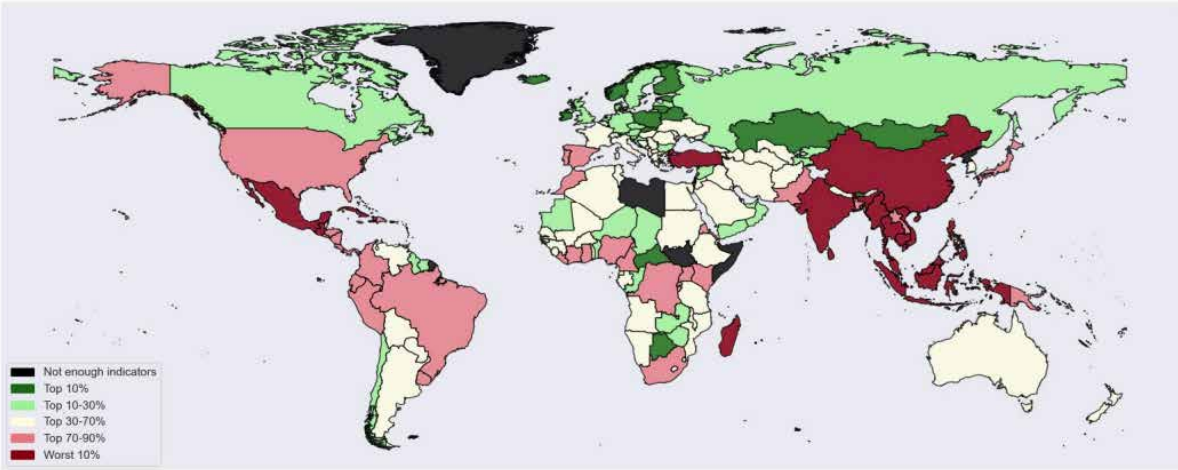


APPENDIX 1: IDENTIFYING INTERFACES WITH NATURE

To identify their sites or activities that are most sensitive to nature, economic actors can use various geolocation tools to pinpoint the most sensitive areas — that is, areas where ecosystems are particularly rich, where large populations of protected species are concentrated, or where conservation measures are already in place, etc. Here, too, stakeholders can combine various tools such as the **World Database on Protected and Conserved Areas**, the **IBAT** tool**, or Key Biodiversity Areas,** etc.



Source: Key Biodiversity Areas



Source: Crédit Agricole CIB, Country Biodiversity Risk Index

APPENDIX 2: ASSESSING DEPENDENCIES AND IMPACTS ON NATURE

Table SPM.5 Example of applications of methods for assessing business dependencies and impacts (IPBES)

Method categories	Dependency assessment examples {Table 2.2}		Impact assessment examples {Table 3.1}	
Location-based observations	Primary data from smallholder farms in South America was used to assess how natural pollination affects coffee fruit set.		Satellite imagery was used to quantify the direct and indirect impacts of industrial mines on deforestation across the global tropics.	
	Small-scale farmers and fishers used visual surveys to gauge the richness, evenness and relative dominance of species.		Field sampling was used to measure the abundance and diversity of birds, plants, insects and spiders across crop fields of varying sizes in North America.	
Participatory monitoring and mapping	Local fishing communities in West Africa, as key stakeholders representing Indigenous Peoples and local communities, collaborated with researchers to map and assess fisheries, revealing how artisanal fishing businesses depend on healthy coastal and mangrove habitats.		Participatory mapping identified potential impacts of offshore wind farms on local fisheries and marine biodiversity in South America.	
	In South-East Asia, Indigenous Peoples and local communities and a mariculture enterprise co-mapped marine nature's essential contributions to people in order to demonstrate their shared reliance on healthy reefs and mangroves, guiding more inclusive and sustainable resource management.		Community monitors and scientists collaborated to assess water pollution and its impacts downstream of a coal mine in Southern Africa.	
Spatial analysis	The acreage of medicinal plant resources in North-East Asia was identified and classified to illustrate industry dependence on specific plant habitats and ecosystem productivity.		Different potential power line routes were overlaid with environmental and social data layers to measure the routes' impacts on ecologically sensitive and socially complex areas in Southern Africa.	
	Machine-learning models project shifting areas for grape cultivation in Central and Western Europe, highlighting the wine sector's reliance on biodiversity-driven climatic and soil conditions.		Global modelling of biodiversity and nature's contributions to people was combined with asset locations to quantify the direct impacts of corporate assets from over 2,000 businesses.	
Life-cycle approaches	Dependency of rice production systems on water provisioning, as well as dependencies on carbon sequestration, water quality and air quality regulation in South Asia, North-East Asia and North America.		Life-cycle assessment and environmentally extended multi-regional input-output models were combined to estimate biodiversity impacts across a global set of 3,000 businesses.	
			Life-cycle assessment was integrated with spatial modelling to assess the impacts of alternative feedstock sources for bioplastics from South and North America on biodiversity and nature's contributions to people.	
Macro-scale environmental economic models	Agricultural dependency on pollination was estimated to outweigh the abatement costs of several measures to protect pollinators in Central and Western Europe.		Nested multi-regional input-output models were used to quantify the impacts of beef production on threatened animal species in Oceania through local and global supply chains.	

Purpose of measurement

Screening: identifying priorities requiring further analysis or action.

Tracking potential changes in impacts/dependencies: measuring change in pressures over time as part of an impact assessment, or the change in reliance of business activities on nature's contributions to people over time as part of a dependency assessment.

Comparing options: evaluating potential impacts and dependencies of business activities relative to alternatives.

Observing change in nature: showing positive or negative changes in biodiversity and nature's contributions to people that can be attributed or linked to business activity or action on biodiversity

BIBLIOGRAPHY & USEFUL RESOURCES FOR OPERATIONALIZING NATURE REPORTING

ADEME, Analysis of "Article 29 LEC" 2025 submissions covering fiscal years 2024 and 2026.

ADEME, Developing a Biodiversity Strategy, 2024.

Agence France Gestion, Biodiversity and Investments: A Practical Guide for Asset Management Firms, 2025.

BL Evolution and ORSE, Overview of Financial Actors' Commitment to Biodiversity, 2024.

BL Evolution, CSRD and SBF 120 Study, 2025.

BL Evolution, Review of CAC 40 Companies' Biodiversity Commitments, 2025.

Capital Coalitions, Natural Capital Protocol.

Carbon Cutter, The Nature & Biodiversity Corporate Playbook, The Nature & Biodiversity Investment Playbook, The Nature & Biodiversity Banking Playbook.

Climate & Change, "Making Deforestation Due Diligence Work in Practice," 2024.

EFRAG – Simplified Version of E4.

EFRAG, State of Play.

EY, Biodiversity: Lessons Learned from Corporate Reporting, 2025.

Finance for Biodiversity, publications.

Finance for Biodiversity & EU Business & Biodiversity Platform,

Guide to Biodiversity Measurement Approaches (5th Edition), 2026.

Foundation for Biodiversity Research and French Office for Biodiversity, Indicators and Measurement Tools: Assessing the Impact of Human Activities on Biodiversity?, 2025.

France Assureurs, Insurance and Biodiversity – Challenges and Prospects, 2025.

France Invest, Tools for Understanding Biodiversity as an Unlisted Investor, 2025.

France Invest, Biodiversity Pre-Due Diligence Questionnaire.

Green Finance Institute, TNFD: Getting Started with Data and Metrics, 2025.

I care, Insight | CSRD, TNFD, SBT for Nature: How Do These Frameworks Complement Each Other?, 2024.

IPBES Business and Biodiversity Assessment: "https://www.ipbes.net/bba-report/media-release," 2026.

IPBES, Thematic Assessment Report on the Interlinkages among Biodiversity, Water, Food, and Health, 2024.

MSCI, Identifying Nature-Related Risks: From Global Portfolios to Local Risks, 2026.

Mission on the Economics of Biodiversity, Financial Risks Related to Biodiversity (3 volumes), 2024.

Mission Economie de la Biodiversité, "Integration of Biodiversity by Private Actors: Between Reporting and Voluntary Approaches," 2025.

Nature Positive Initiative, Nature Metrics.

NGFS, Conceptual Framework for Nature-Related Financial Risks, 2023.

NGFS, Note on the Supervision of Nature-Related Financial Risks, 2026.

NGFS, "Navigating Nature-Related Data: Metrics, Sources, and Uses," 2026.

Orée's Business and Biodiversity Platform, Mapping of Tools and Databases for the Financial Sector (IFD), 2024.

TNFD, University of Oxford, Global Canopy, Evidence Review on the Financial Effects of Nature-Related Risks, 2025.

TNFD, Discussion paper on nature-related opportunities, 2025.

TNFD, Discussion Paper on the Identification, Assessment, and Disclosure of Dependencies and Impacts on Nature in Financial Portfolios, 2025.

TNFD, Additional Guidelines for Financial Institutions, 2025.

TNFD, Example of TNFD reporting.

TNFD, TNFD's Metrics Architecture in Practice.

TNFD, 2025 Status Report.

TNFD, Guidance on Nature in Transition Plans, 2025.

University of Cambridge, Integrating Nature: The Case for Action on Nature-Related Financial Risks, 2022.

UN WCMC, Nature Tool Compass

World Economic Forum, Global Risks Report 2025.

WWF, "Catalysing Change: The Urgent Need for Nature Transition Plans," 2024.

WWF, Corporate Nature Targets, 2024.

WWF, The NAT40 Index, 2026.

WWF, Tackling Biodiversity Risks: A Biodiversity Risk Assessment Guide for Companies and Financial Institutions, 2023.

LIST OF MEMBER INSTITUTIONS OF THE "BIODIVERSITY AND NATURAL CAPITAL" WORKING GROUP OF THE INSTITUTE FOR SUSTAINABLE FINANCE

Aéma Groupe

AFD

Afep

AFG

AMF

Amundi

ANC

Aspim

AXA Climate

AXA Group

Bank of America

BlackRock

BL Evolution

Blunomy

BNP Paribas

BNP Paribas Asset Management

BPCE

Caisse des Dépôts

Carbone 4

CDC Biodiversity

CDP

Commissariat Général au Développement Durable

Confédération Nationale du Crédit Mutuel Arkéa

CNP Assurances

Crédit Agricole

Crédit Agricole Corporate & Investment Bank

Crédit Mutuel Arkéa

Deloitte

Direction Générale du Trésor

EDF

ENGIE

EthiFinance

French Banking Federation

France Assureurs

France Invest

Greenflex

Groupama AM

HSBC Continental Europe

Infranity

JP Morgan

La Banque Postale

LBP AM

MACIF

MAIF

MEDEF

Natixis

Nexialog

ODDO BHF Asset Management

Ofi Invest

ORSE

Pernod Ricard

Printemps des Terres

Proparco

Removall

SCOR SE

Scor Investment Partners

Sienna IM

Société Générale

S&P Global

SWEEP

SWEN Capital Partners

Veolia

WWF

ACKNOWLEDGMENTS

The Paris Sustainable Finance Institute (IFD) would like to thank the institutions that contributed to the preparation of this report, in particular:

AXA: Benoît Galaup

BNP Paribas: Sarah Colombie, Julie Miller

CDP: Jérôme Taraska

Crédit Agricole: Thao Fabregas, Marine Regagnon

Crédit Mutuel Arkéa: Amadou Diop, Aurore Verrier, Margot Le Menager, Sandra Pellen, Elisa Plouidy, Pauline Guianvarc'h

HSBC: Thuy-Tien Gluck, Sophie Brucale

EthiFinance: Julia Bres, Jaime Riano Sanchez, Lucie Gourdon-Berwick, Xavier Leroy

France Assureurs: Ludivine Azria, Nina Comin

Aéma Group (Aésio Mutuelle, Abeille Assurances, OFI Invest, La Macif): Déndo Azema, Jean-François Coppenolle, Julia Bertuzzi, Michael Caro, Christophe Picamilh, Anne-Sopie Musset, Luisa Florez

Caisse des Dépôts Group (including CDC, La Banque Postale, LBP AM): Marguerite Culot, Camille Laurens-Villain, Fanny Dieval, Simona Rizzuto

"Objectif Biodiversité" Initiative: Anne-Sophie Musset, Jean-François Coppenolle, Elisabeth Cassagnes, Guillaume Wahl, Pauline Levillain

The French Banking Federation: Sébastien Soleille, Aliénor Camp

Renault: Dominique Lucas

Société Générale and Société Générale Investment Solutions (SG IS): Aurore Le Chatelier, Thibaud Delplancke, Camille Boespflug, Nurcan Ilhan, Diana Paola Triana Cadena

Veolia: Tiphaine Déas, Jean-Pierre Maugendre

WWF: Antoine Pugliese, Guillaume Wahl

The Paris Sustainable Finance Institute (IFD) would also like to extend special thanks to:

To the teams at BL Evolution: Eugénie Fraisse, Lucie Lambreth, and Quentin Girard for their invaluable support on the report's metrics and tools section.

To the teams at CDC Biodiversité: Mathieu Douziech, Vincent Guénon, Léopoldine Geadas, Bastien Eclimont, Felix Evain, and Amandine Kemmel for their contributions regarding biodiversity footprint measurement as well as the various sidebars included throughout the publication.

CONTACTS: PARIS SUSTAINABLE FINANCE INSTITUTE (IFD)

This report was coordinated and written at IFD by Lucie Pecqueur, Head of Biodiversity and Adaptation, under the supervision of Nicolas Lancesseur, Head of Climate and Environment.

For more information on the Paris Sustainable Finance Institute (IFD)'s work on biodiversity: https://institutdelafinancedurable.com/groupe-travail/biodiversite-capital-naturel/

ABOUT THE PARIS SUSTAINABLE FINANCE INSTITUTE (IFD)

Founded in October 2022, theParis Sustainable Finance Institute (IFD), a division of Paris EUROPLACE, aims to coordinate, unite, and accelerate the Paris financial centre's efforts to achieve the ecological transition and transform the economy toward a low-carbon and inclusive model, in line with the objectives of the Paris Agreement and the Sustainable Development Goals. It brings together all private, public, and institutional stakeholders in the Paris financial centre and represents the financial centre's positions at the European and international levels. The Paris Sustainable Finance Institute (IFD is chaired by Yves Perrier.


INSTITUT
DE LA FINANCE
DURABLE
PARIS EUROPLACE