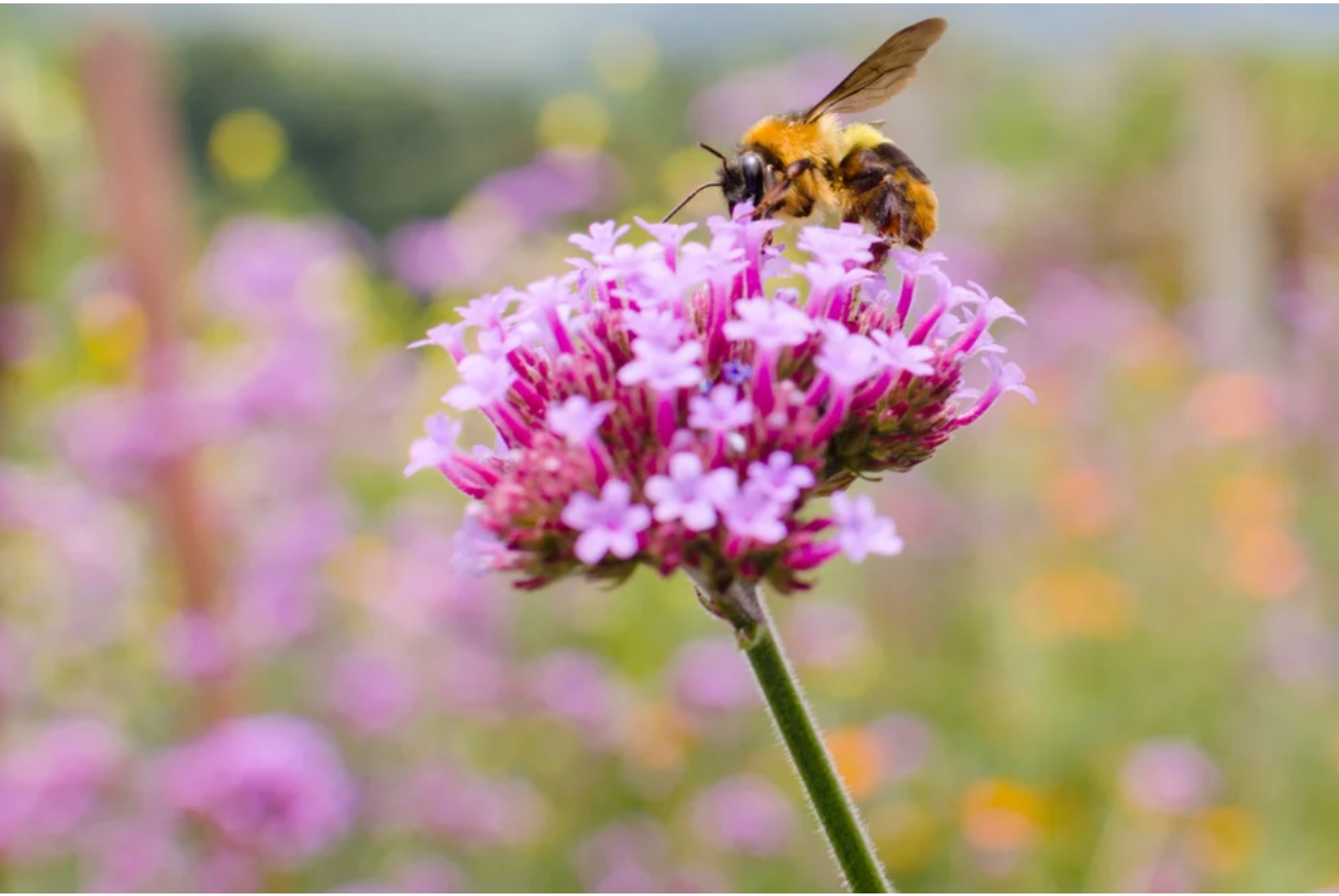
LSFI
Luxembourg Sustainable Finance Initiative

How to Integrate Biodiversity into Investment Decisions

Summary Report from the Masterclass on ***How to Integrate Biodiversity into Investment Decisions***, delivered at the LSFI Summit 2024.

March 2025



Executive Summary

This report is the outcome of the Masterclass on ***How to Integrate Biodiversity into Investment Decisions***, delivered on September 19, 2024, at the LSFI Summit – Finance for a Sustainable Future.

This masterclass brought together financial professionals and sustainable finance experts to enhance their understanding of biodiversity integration into investment decisions. The session explored the current state of biodiversity, emphasised its critical importance for our future, and examined key frameworks and standards, including the Kunming-Montreal Global Biodiversity Framework (GBF) and the Taskforce on Nature-related Financial Disclosures (TNFD).

Disclaimer

The insights in this summary report aim to provide an initial roadmap for financial professionals to navigate the complex landscape of how to integrate biodiversity into investment decisions. However, this report is not intended to be comprehensive or be used as financial or business advice by the reader.

The report has been produced by the LSFI for information purposes only.

Table of Contents

1. An Introduction to Biodiversity

1.1. What biodiversity and nature are

The Convention on Biological Diversity (CBD)[1] defines biodiversity as "every species and all the genetic differences within each species. It encompasses the variety of ecosystems: forests, drylands, wetlands, mountains, lakes, rivers, agricultural lands and islands where living creatures, including humans, animals, insects and plants, form a community, interacting with one another and with the air, water and soil around them."[2] In this regard, biodiversity englobes the full spectrum of life - from species diversity to genetic variation within species and the diversity of entire ecosystems.

This rich variety of nature underpins and sustains human quality of life, providing essential ecosystems and their services. In other words, nature is all life on Earth (i.e. biodiversity), together with the geology, water, climate and all other inanimate components that comprise our planet.

Biodiversity preservation and nature are key in the transition towards sustainability. However, 1 million species are currently at risk of extinction - most of them in the near future, and animal populations have fallen by 70% since 1970[3].

1.2. The connection between nature and businesses

Beyond their close link with the sustainability transition, biodiversity loss and ecosystem degradation pose significant economic risks as around 50% of the global economy relies on nature[4].

The global economy is deeply intertwined with natural resources, relying on them for essential inputs like raw materials, energy, and food. However, according to the report *The Economics of Biodiversity: The Dasgupta Review,* nature's goods and services are not adequately accounted for in market systems[5]. Most of nature's invaluable offerings - clean air, water, and fertile soils - are free, leading to their disregard for economic decisions. This means that the value of nature is invisible in economic terms, so there's little incentive to protect it. As a result, some economic activities are depleting natural resources at an unsustainable rate. Yet, our economy depends on nature, it's a vital form of economic capital. Furthermore, many ecosystems are assigned a negative price, where economic activities are subsidised despite causing ecological harm.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) also warned that rising environmental risks correspond to increasing business risks[6]. Biodiversity loss, increased by factors like climate change, pollution, and invasive species, threatens both ecosystems and economic stability.

The economic risks associated with biodiversity loss are significant. Nearly $3 trillion could be lost from global GDP by the end of this decade without action to protect ecosystems. For example, a quarter of all natural habitats in Luxembourg are in poor condition. Lenders in

[1] https://www.cbd.int
[2] https://www.cbd.int/youth/biodiversity
[3] https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/
[4] https://www.eib.org/en/press/all/2023-339-eib-announces-implementation-of-new-measures-at-margins-of-unga-to-address-biodiversity-loss
[5] https://assets.publishing.service.gov.uk/media/602e92b2e90e07660f807b47/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf
[6] https://www.ipbes.net/news/Media-Release-Global-Assessment

countries such as Luxembourg, Germany, France, and Spain could face higher default risks as borrowers are increasingly exposed to biodiversity-related risks, including physical and transition risks. Recognising nature as a critical asset for economic resilience is crucial for effective risk management and long-term financial stability[7].

2. Regulation, Frameworks & Policy

2.1. The Kunming-Montreal Global Biodiversity Framework

Adopted at the Fifteenth Conference of the Parties (COP15) in 2022, the Kunming-Montreal Global Biodiversity Framework (GBF) is a transformative global agreement aimed at halting biodiversity loss and advancing the Sustainable Development Goals (SDGs). The GBF envisions a world where biodiversity is valued, conserved, and sustainably managed by 2050.

This framework outlines four key goals[8] for 2050: *Protect and Restore*, *Prosper with Nature*, *Share Benefits Fairly* and *Invest and Collaborate*, along with 23 actionable targets to be achieved by 2030, including:

- Conserving 30% of Earth's terrestrial and marine ecosystems;
- Reducing harmful government subsidies by $500 billion;
- Mobilising at least $200 billion of public and private funding;
- Mandating transparent reporting of nature-related risks, dependencies and impacts for the private sector.

The 196 signatory countries are expected to create a National Biodiversity Strategy and Action Plans (NBSAPs) aligned with the GBF, such as the EU's "Bringing Nature Back into Our Lives"[9] initiative and Luxembourg's "Plan National concernant la Protection de la Nature."[10] Financial institutions aligning with these strategies can better manage biodiversity-related risks, leverage opportunities in nature-based investments, and support the global biodiversity agenda.

By promoting ambitious 2030 targets, the GBF serves as a roadmap to reinforce ecosystem resilience and address biodiversity loss. Recognising the intrinsic link between biodiversity and economic well-being, the framework encourages businesses and policymakers to prioritise nature protection as a foundation for sustainable economic growth.

Learn more:

The Global Biodiversity Framework Fund (GBFF)[1] was designed to scale up financing for the implementation of the Kunming-Montreal Global Biodiversity Framework (GBF). Ratified by 186 countries and launched at the Seventh GEF Assembly in Vancouver, Canada, in August 2023, the GBFF provides strategic support to help countries meet the GBF goals and targets. It focuses on enhancing national biodiversity management through improved planning, policy development, governance, and financial strategies. The GBFF streamlines access to resources, channeling public, private, and philanthropic funding to bolster biodiversity efforts worldwide.

[7] https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.202011finalguideonclimate-relatedandenvironmentalrisks~58213f6564.en.pdf
[8] https://www.cbd.int/gbf/goals
[9] https://ec.europa.eu/commission/presscorner/api/files/attachment/865560/factsheet-EU-biodiversity-strategy_en.pdf
[10] https://environnement.public.lu/fr/natur/biodiversite/pnpn.html

2.2. The Taskforce on Nature-related Financial Disclosures (TNFD)

The Taskforce on Nature-related Financial Disclosures (TNFD)[11], established in 2021, is a science-based, market-led initiative designed to develop a comprehensive risk management and disclosure framework for biodiversity. The TNFD enables companies and financial institutions to systematically identify, assess, manage, and disclose nature-related risks and dependencies. Its framework supports transparency and accountability while encouraging reduced negative impacts on biodiversity across sectors.

The TNFD's framework is structured around the LEAP (Locate, Evaluate, Assess, and Prepare) approach[12]. This step-by-step risk management model supports organisations through the entire process, from initial scoping to detailed assessment and disclosure. The LEAP approach is complemented by a "Getting Started Guidance," which offers practical advice grounded in the United Nations Environment Programme Finance Initiative (UNEP FI)'s pilot projects with banks and investors. This pilot work has tested the framework's feasibility across financial institutions, supporting nature-positive financial practices globally.

The Taskforce comprises 40 senior executives from financial institutions, corporates, and market service providers, representing over USD 20 trillion in assets. It aims to ensure a globally inclusive approach to biodiversity management in finance by involving stakeholders from both developed and emerging economies.

In 2023, the TNFD issued the Disclosure guidance for financial institutions, including its final recommendations and setting a standard for financial institutions and companies of all sizes to incorporate nature-related disclosures into their governance and reporting structures. The ongoing partnership with UNEP FI also includes an implementation program to support further financial institutions in understanding and mitigating their biodiversity impacts. Through this work, the TNFD aims to foster sustainable economic growth by embedding nature-positive considerations into global financial practices.

2.3. Other standards and frameworks for the financial sector[13]

In addition, other initiatives are being developed worldwide to guide companies, financial institutions and states in integrating biodiversity into decisions, as well as assessing nature-related risks and opportunities. Among others:

- Organisation for Economic Co-operation and Development (OECD) has published a Methodological Supervisory Framework[14] for evaluating nature-related risks.
- Network for Greening the Financial System (NGFS) has developed a conceptual framework to guide actions by supervisors and central banks and address the twin crises of environmental degradation and climate change[15].
- Principles for Responsible Banking (PRB) has recently introduced its PRB Nature Guidance[16], aligning the financial sector with the Kunming-Montreal Global Biodiversity Framework (GBF).

[11] https://tnfd.global/
[12] https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/
[13] Additional frameworks and further information can be found here: https://lsfi.lu/wp-content/uploads/2024/05/LSFI-Biodiversity-Summary-Report-1.pdf
[14] https://www.oecd.org/en/publications/a-supervisory-framework-for-assessing-nature-related-financial-risks_a8e4991f-en.html
[15] https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf
[16] https://www.unepfi.org/industries/banking/nature-target-setting-guidance/

3. Case Studies

3.1. Biodiversity integration in banking

For a financial institution like a bank, integrating biodiversity into investment decisions presents a twofold opportunity: positioning itself as a leader in biodiversity-conscious finance, driving positive impacts and managing nature-related risks across its portfolios.

Key steps in a bank's biodiversity strategy would include:

1. Risk Assessment Framework: incorporate biodiversity risks into the bank's ESG framework, as well as integrate biodiversity into the core strategy. This includes mapping out projects with high biodiversity sensitivity and using tools like the Taskforce on Nature-related Financial Disclosures (TNFD) to guide assessments.
2. Setting Targets and Transparency: In alignment with the TNFD and the Science-Based Targets for Nature[17], set biodiversity targets and report progress. This transparency helps stakeholders understand the bank's nature-positive objectives.
3. Green Financing: offer incentives such as green bonds and sustainability-linked loans for projects that promote biodiversity, like urban greening initiatives. This approach encourages developers to adopt biodiversity-friendly practices.
4. Partnerships for Expertise: partner with specialised firms to manage complex biodiversity assessments. These collaborations improve its ability to conduct accurate impact assessments and set relevant metrics.

Challenges

In the process of integrating biodiversity into investments decisions, there are some challenges banks might face.

- Data challenges: Up to now, only broad, high-level top-down estimates have been possible. However, the biodiversity issue is a local issue. Below are some of the key challenges related to the sourcing of data that are present today:
  - Location data of all company assets and asset types.
  - External data on biodiversity condition.
  - Economic activity data (input/output).
  - Value chain data.

- Getting upper management on board with a convincing strategy: Biodiversity is less tangible than climate and, therefore, its impact is more complex to understand. Next steps for a bank in this regard are:
  - Align with the company's mission.
  - Limit economic losses (short-term).
  - Raise awareness.
  - Replicability.

[17] https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf

Looking for tips for your biodiversity integration?

1. **Don't get lost in details**

To start, there is no need to know everything your customers do, just enough to take relevant action in the relevant step to best reduce indirect impacts and dependencies. Use your leverage as a financial institution for the wellbeing of society and your company. Don't do on site measurements.

2. **Use strength and knowledge to help clients**

Your clients are your connection to nature: direct operations are often very limited for FI's , therefore, use your helicopter view of the situation to help them. A win-win is formed where clients can better act on their biodiversity issues, and you become a more trusted partner who is more likely to be considered for a long term relationship.

3. **ENCORE**

It is good to complete your own tool assessment and find the best fit for your company. However, ENCORE is an excellent tool for getting the first overview. Not only it gives the materiality scores to find hotspots, but also it helps explaining the nature of the problem within these hotspots.

4. **Maturing on biodiversity is getting local**

If you find the biodiversity crisis to be very relevant for your company, it is imperative for you to cover the data gap.

5. **Don't wait for legislation**

Large banks are feeling the effects of the environemental crisis and are moving on their own. If you wait for legislation, you will face constrains such developing expertise to understand your risks and impacts on time.

3.2. Biodiversity integration in asset management

For an asset manager to effectively integrate biodiversity, the initial step is to align the overarching investment strategy, while setting specific impact objectives in line with global climate and nature goals, as well as EU regulations. In the context of biodiversity, these objectives may include managing land for nature conservation, improving ecosystem conditions, or minimising the use and risks associated with pesticide application.

Additionally, two essential activities can support institutions in biodiversity investments: adopting an Impact Measurement and Management Framework (IMM) and utilising screening tools.

- Impact Measurement and Management Framework (IMM): through an IMM, each asset is assessed for its potential to meet minimum thresholds and contribute to strategy impact objectives. The methodology can assess impact across 4 impact categories which are Biodiversity, Climate, Water and Community, and classify the potential impact of each asset based on two elements:
  - Impact Intensity: Measured by the percentage increase relative to a baseline before the project.
  - Impact Scope: Based on the extent of landscape or population scale affected.

- Investment Screening Tools: Desktop tools can also be used in the screening and due diligence process: They are complemented by location-specific datasets and informatio and targeted studies where potential issues are identified. These tools include IBAT – Integrated Biodiversity Assessment Tool[18], UNEP WCMC's Global habitat screening scale data layer[19], or Ecoregion Intactness Index[20].

Challenges

Nevertheless, asset managers encounter several challenges in the biodiversity field, some of them apply to the overall process, while some are specific to risk mitigation, compliance, and impact.

General challenges:

- Data availability: quality of datasets globally differs significantly.
- Resourcing/Expertise: there is limited pool of experts and local knowledge to perform evaluations.
- Company disclosures: currently only a few companies are adequately disclosing their biodiversity risks, changes will materialise through regulation and TNFD applications.

Challenges related to risk mitigation and compliance:

- Mitigating risks: the tools exist to perform high-level portfolio or project risk assessments with little information. Demonstrating risk mitigation (beyond risk avoidance) requires more in-depth analysis.
- Cost: survey and ongoing monitoring costs (as well as restoration costs, if relevant) need to be factored into investment decisions from the start.

Impact:

- Timescales: biodiversity improvement and protection initiatives take time to generate results, e.g. 15-year close-ended fund are being set up.
- Permanence: guaranteeing permanent impact is challenging and increases the compliance burden.

Case Study Example:

Project P – Biodiversity Corridor in Australia

Project P aims to create a 115-hectare biodiversity corridor between Australia's Bingera and Burrum Coast National Parks. Over five years, a joint venture will restore degraded land with 23,600 native plants, engaging local Indigenous groups for a sustainable, community-focused outcome.
Key challenges and proposed solutions:

1. Data Quality: Data is retrieved through multi-source datasets, risk of variabilty affecting data accuracy.
2. Cost of Monitoring: High monitoring costs are integrated into investment plans.
3. Local Expertise: The joint venture collaborates with ecological experts, though qualified professionals are limited.

[18] https://www.ibat-alliance.org/
[19] https://www.unep-wcmc.org/en/news/screening-for-critical-habitat
[20] https://www.nhm.ac.uk/our-science/services/data/biodiversity-intactness-index.html

4. Conclusion

Integrating biodiversity into investment decisions is no longer a choice but a necessity, given the intrinsic link between nature and economic stability. Over half of the global GDP—approximately $58 trillion—depends directly on natural ecosystems, underscoring the critical role of financial institutions in safeguarding biodiversity. Emerging frameworks such as the Kunming-Montreal Global Biodiversity Framework (GBF) and the Taskforce on Nature-related Financial Disclosures (TNFD) provide valuable guidance for embedding biodiversity into financial strategies, enabling risk mitigation, and showcasing nature dependencies, while unlocking sustainable growth opportunities.

However, significant challenges remain, particularly regarding the availability of reliable data, specialised expertise, and impact measurement methodologies. Addressing these gaps will require collaboration among policymakers, financial institutions, and standard-setting bodies. Ultimately, integrating biodiversity into financial decision-making is both a responsibility and a strategic imperative for fostering long-term economic resilience and ecological sustainability.

5. Annexe

Bibliography

- Convention on Biological Diversity (CBD). (n.d.). Homepage. Retrieved from https://www.cbd.int
- Convention on Biological Diversity (CBD). (n.d.). Kunming-Montreal Global Biodiversity Framework goals. Retrieved from https://www.cbd.int/gbf/goals
- Convention on Biological Diversity (CBD). (n.d.). Youth and biodiversity. Retrieved from https://www.cbd.int/youth/biodiversity
- Dasgupta, P. (2021). The Economics of Biodiversity: The Dasgupta Review (Full Report). HM Treasury. Retrieved from https://assets.publishing.service.gov.uk/media/602e92b2e90e07660f807b47/The_Economics_of_Biodiversity_The_Dasgupta_Review_Full_Report.pdf
- European Central Bank (ECB). (2020). Guide on climate-related and environmental risks. Retrieved from https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.202011finalguideonclimate-relatedandenvironmentalrisks~58213f6564.en.pdf
- European Commission. (n.d.). EU Biodiversity Strategy for 2030. Retrieved from https://ec.europa.eu/commission/presscorner/api/files/attachment/865560/factsheet-EU-biodiversity-strategy_en.pdf
- European Investment Bank (EIB). (2023). EIB announces implementation of new measures at margins of UNGA to address biodiversity loss. Retrieved from https://www.eib.org/en/press/all/2023-339-eib-announces-implementation-of-new-measures-at-margins-of-unga-to-address-biodiversity-loss
- Integrated Biodiversity Assessment Tool (IBAT). (n.d.). Homepage. Retrieved from https://www.ibat-alliance.org/
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (n.d.). Media release – Global assessment report on biodiversity and ecosystem services. Retrieved from https://www.ipbes.net/news/Media-Release-Global-Assessment
- Luxembourg Sustainable Finance Initiative (LSFI). (2024). Biodiversity summary report. Retrieved from https://lsfi.lu/wp-content/uploads/2024/05/LSFI-Biodiversity-Summary-Report-1.pdf
- Ministère de l'Environnement, du Climat et du Développement Durable (Luxembourg). (n.d.). Plan National de Protection de la Nature (PNPN). Retrieved from https://environnement.public.lu/fr/natur/biodiversite/pnpn.html
- Natural Capital Finance Alliance & UN Environment Programme Finance Initiative (UNEP FI). (n.d.). ENCORE – Exploring Natural Capital Opportunities, Risks and Exposure. Retrieved from https://encorenature.org/en
- Natural History Museum. (n.d.). Biodiversity intactness index. Retrieved from https://www.nhm.ac.uk/our-science/services/data/biodiversity-intactness-index.html
- Network for Greening the Financial System (NGFS). (n.d.). Conceptual framework on nature-related risks. Retrieved from

https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf

- Organisation for Economic Co-operation and Development (OECD). (2024). A supervisory framework for assessing nature-related financial risks. Retrieved from https://www.oecd.org/en/publications/a-supervisory-framework-for-assessing-nature-related-financial-risks_a8e4991f-en.html
- Science Based Targets Network (SBTN). (2020). Science-Based Targets for Nature: Initial guidance for business. Retrieved from https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf
- Taskforce on Nature-related Financial Disclosures (TNFD). (n.d.). Homepage. Retrieved from https://tnfd.global/
- Taskforce on Nature-related Financial Disclosures (TNFD). (n.d.). Additional guidance on assessment of nature-related issues: The LEAP approach. Retrieved from https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/
- UNEP-WCMC. (n.d.). Screening for critical habitat. Retrieved from https://www.unep-wcmc.org/en/news/screening-for-critical-habitat
- United Nations Environment Programme Finance Initiative (UNEP FI). (n.d.). Nature target-setting guidance for financial institutions. Retrieved from https://www.unepfi.org/industries/banking/nature-target-setting-guidance/
- United Nations. (2019, May). Nature's dangerous decline 'unprecedented'; species extinction rates 'accelerating'. Retrieved from https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

Speakers

We would like to express our gratitude to the masterclass speakers for their insights and for sharing their in-depth expertise in this matter with the masterclass audience and the LSFI:

Gabriela Andrea Hermosilla Goncalves, Technical Officer, UNEP FI
Gabriela is a Technical Officer on the TNFD GEF project, where she supports financial institutions in understanding nature-related risks and opportunities and assists with communication and partnership efforts. Gabriela brings a diverse background, working in the public, private, and international sectors. Previously, she served as a foresight analyst for AXA Group, assessing long-term societal and environmental risks. She also contributed to a GEF project with the Brazilian Ministry of Environment, where she supported the national implementation of policy frameworks for chemicals (SAICM) and the Minamata Convention on Mercury. Gabriela holds a Master's in Finance for Development from Sciences Po Paris, focusing on financial inclusion and gender. Her undergraduate studies in International Relations and Business Economics were completed at the University of Brasilia (UnB) and Aarhus University.

Oliver Johnson, Head of ESG, Climate Asset Management
Oliver brings over 15 years of experience in ESG, impact assessment, and management. As Head of ESG at Climate Asset Management, he leads the ESG and Impact Team, integrating the platform's climate and nature objectives into investment portfolios. Before joining Climate Asset Management, Oliver developed and implemented advanced ESG management frameworks at ARCH Emerging Markets Partners, an infrastructure asset manager, and eleQtra, an infrastructure developer. His expertise spans both developed and emerging

markets, where he has applied a wide range of international ESG and impact standards and norms.

William Laureys, Young Pro: ESG Insurance, Communications, and ESG Belins, Belfius

William is actively engaged in ESG initiatives at Belfius, a Belgian integrated bank-insurer. With an academic background in Biology and Business Studies from the universities of Leuven and Leiden, he focuses on aligning business objectives with natural impacts and risks. His experience spans ESG roles within banking, insurance, and risk teams, where he has primarily concentrated on integrating biodiversity into the company's overall strategy. William's work centers on understanding tools and regulatory landscapes, setting priorities for Belfius, and keeping internal stakeholders informed on ESG developments.

ABOUT THE LUXEMBOURG SUSTAINABLE FINANCE INITIATIVE (LSFI)

The LSFI is Luxembourg's coordinating entity on sustainable finance, driving change across the whole ecosystem as a Centre of Excellence and Knowledge Hub, supporting the financial sector to accelerate the financing of the transition, and measuring progress.

The LSFI was founded in January 2020 by the Luxembourg Ministry of Finance, Ministry of the Environment, Climate and Biodiversity, Luxembourg for Finance and the High Council for Sustainable Development (Conseil Supérieur pour un Développement Durable).

The Luxembourg Sustainable Finance Initiative is funded by the Luxembourg Ministry of Finance and the Luxembourg Ministry of Environment, Climate and Biodiversity.

THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of Finance

THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Environment,
Climate and Biodiversity

Find out more by visiting www.lsfi.lu.

LSFI
Luxembourg
Sustainable Finance
Initiative

Luxembourg Sustainable Finance Initiative
12, rue Erasme
L-1468 Luxembourg