

Unlocking finance and investments in nature

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The crucial role of risk, return and data – Insights for the financial sector

The success of the Kunming-Montreal Global Biodiversity Framework, agreed upon at COP15 in December 2022, will depend on actions taken by governments, financial institutions and corporates (CBD, 2022). While this agreement is a milestone, its impact could be limited unless there is a significant increase in finance and investments that benefit nature, and unless biodiversity is considered in decision-making processes in key institutions. This page presents outcomes from an event co-hosted by the European Investment Bank (EIB) and the EEA at COP15 on risk, return and the role of data in unlocking investments which support nature.

Key messages

- Governments must ensure strong policy coherency on sustainability and financing, including the removal of disincentives like fossil fuel subsidies, while supporting measures such as ecosystem payments, taxes and offsets. Governments also need to create tools for evaluating and quantifying societal and socio-economic benefits from nature.
- Investments in data standardisation, collection and monitoring are necessary to efficiently target financial allocation and evaluate success. Standardised data formats can help financial decision-makers to make informed decisions when evaluating the risks and opportunities of nature-related investments.
- The active involvement of local communities in financing and land management is essential for nature-positive outcomes and sustainable land management.
- Blended finance needs to be expanded to projects that have a net positive impact on nature and the environment along with co-designed approaches and partnerships with financial institutions and market players.
- A systemic mispricing of biodiversity risk in the financial sector needs to be addressed through capacity building and the further development of risk-based approaches and valuation methodologies.

- Biodiversity and finance experts need to collaborate to build expertise, knowledge and capacity, in order to integrate biodiversity conservation with financial decision-making.

Redirecting economic support towards biodiversity

Governments worldwide currently spend billions of euros every year on economic initiatives that ultimately harm biodiversity (OECD, 2019). Economic incentives that prioritise the short-term exploitation of natural resources over the long-term conservation and restoration of nature further exacerbate the problem.

These trade-offs between immediate economic gains and the long-term health of ecosystems lead to biodiversity loss, habitat degradation and ecosystem services decline. Policy interventions are crucial to address these issues and reconcile such trade-offs. Policies need to ensure that economic activities are conducted in a sustainable and responsible manner that safeguards biodiversity and supports nature restoration.



Regulations such as the proposal for an [EU law on nature restoration](#) are a positive step towards preserving nature within the EU. However, additional measures are needed to fully address the challenges and ensure comprehensive protection and restoration of ecosystems globally. These include the development of policy instruments that recognise and account for the societal and socio-

economic benefits of nature and improve the efficiency, effectiveness, tracking and reporting of capital flows related to biodiversity conservation.

The metrics for measuring economic success also need to be expanded beyond relying solely on traditional measures such as gross domestic product (GDP) to include other dimensions in what is commonly referred to as the 'inclusive wealth' approach. This considers not only production capital and human capital but also natural capital.

The [2021 Dasgupta Review](#) highlights the importance of transitioning to inclusive wealth as a crucial step toward sustainable growth within the limits of our planet. This need is further emphasised by the fact that agricultural, fishery and forestry subsidies alone cause flows of nearly EUR540 billion globally each year that have negative impacts on the environment ([Paulson Institute, 2019](#)).

Redirecting these subsidies towards actions that also deliver nature restoration and conservation will increase the resilience of natural ecosystems. This shift towards inclusive wealth and redirected subsidies is crucial for ensuring that economic systems operate within the limits of our planet and contribute to the well-being of current and future generations.

To achieve effective governance, governments must develop and implement new fiscal policies, enhance the effectiveness of existing policies, and create incentives for financial flows and investments that benefit biodiversity restoration and conservation. Simultaneously, governments must make efforts to discourage activities that have a detrimental impact on biodiversity and ecosystems.

Government policies need to promote national development policies in which natural capital is valued and considered. With these frameworks in place, financial institutions and public authorities can align their efforts, leading to outcomes that better prioritise sustainable development and the conservation of natural resources.

Developing a biodiversity risk management approach in the financial sector

Understanding and assessing potential threats to the stability and resilience of financial systems is crucial for understanding the risk to financial stability. In the financial sector, understanding and managing risk is an inherent part of the system.

Nature-related risks are gaining recognition in financial stability assessment frameworks as they are a risk to the financial system. In the euro area alone, approximately 72% of companies (corresponding to around three million individual companies) are highly dependent on at least one ecosystem service, according to a recent study published by the [European Central Bank \(ECB\)](#). Additionally, 75% of bank loans to companies in the euro area are granted to companies with a high dependency on at least one ecosystem service.

Therefore, the development of a risk-based approach for investments that impact biodiversity is required because the financial system can substantially impact nature degradation and loss. It is essential to identify and address the principal drivers of such degradation and loss, such as pollution and land use changes, alongside the links with specific investments (EEA, 2022).



This understanding would allow actors to recognise the pressure that different economic activities put on biodiversity and would raise awareness of the need to transition towards an economic system that does not put nature at risk. The ECB, for example, recognises that it has to take nature-related risks into account, ensuring that its financial activities align with biodiversity conservation goals (ECB, 2023). This approach will help the bank avoid unintentional support for projects that degrade nature and encourages its clients to adopt more sustainable practices.

There is an abundance of data available on impacts and risks related to biodiversity and ecosystems. While it is difficult to use the information in a harmonised and aggregated manner across balance sheets due to its localised nature, effective impact and dependency measurement approaches exist. Some central banks have started to take ground-breaking steps in this direction. For instance, the central banks of the Netherlands, France, Malaysia and Brazil have assessed both impacts and dependency to understand the impacts of nature depletion on the financial system (INSPIRE, 2022). They illustrate to which degree various economic sectors have a direct reliance on or influence over specific natural assets and ecosystem services.

The next potential step involves translating impacts and dependencies into risk in a language that resonates with financial actors. The lack of value-at-risk tools is a challenge. However, institutions such as the Organisation for Economic Co-operation and Development (OECD) are working to develop

a methodological framework to translate specific biodiversity risk into risks at both micro and macro levels.

For example, the World Wildlife Fund has also developed a Biodiversity Risk Filter ([WWF, 2023](#)). This corporate and portfolio-level screening tool assists companies and investors in prioritising actions to address biodiversity risks, thereby enhancing business resilience and contributing to a sustainable future. It enables organisations to understand, assess and respond effectively to biodiversity risks.

Prioritising ecosystem services and ecosystems can be daunting, but models like the Earth-economy model developed by the World Bank and the University of Minnesota are helpful ([World Bank, 2021](#)). This model considers the interactions between the natural environment and the economy, allowing for the assessment of the impacts of economic activities on ecosystems and the valuation of ecosystem services. It helps policymakers and researchers understand the complex relationships between the environment and the economy, and supports informed decision-making for sustainable development and the preservation of natural resources.

Avoiding greenwashing is of utmost importance, especially when setting targets and developing meaningful impact metrics and indicators that genuinely address the underlying causes of biodiversity risk. Collaboration between stakeholders is a key element in preventing greenwashing and false risk analysis. Equally important is taking prompt action. Even while relevant technical assessments are ongoing, action to understand the systemic challenges associated with biodiversity loss is vital.

The finance sector can further benefit from the United Nations Environment Programme Finance Initiative's Principles for Responsible Banking (PRB), which outline the significance and consequences for the sector of the Kunming-Montreal Global Biodiversity Framework. This resource examines risks, opportunities, dependencies and impacts. PRB enables the finance sector to proactively manage risks, capitalise on relevant opportunities and prepare for forthcoming policy changes. It highlights the essential implications of the Kunming-Montreal Global Biodiversity Framework's goals and targets for banks, while offering practical examples of immediate actions that can be implemented across various departments within a bank ([UNEPFI, 2023](#)).

Data to understand nature-related risks for financial stability

Understanding nature-related risks to financial stability requires the identification and analysis of a range of data sets. One [important area](#) of focus is biodiversity, as the availability of data on biodiversity footprints is crucial for risk assessment.

In addition to biodiversity data, a systemic risk assessment framework involves analysing data on industries and their actual business risk and responses to nature-related risks. When assessing nature-related risks it is important to consider the environmental pressures that arise from economic activities. These pressures include greenhouse gas emissions, soil and water pollutants, the destruction of ecosystems, and raw material extraction.

By integrating such diverse types of data, it is possible to develop a more comprehensive understanding of nature-related risks to financial stability and effective strategies for managing them. Such strategies may involve investments in nature-based solutions, such as sustainable agriculture and ecosystem restoration, or implementing policies and regulations that incentivise sustainable practices and mitigate environmental risks.

Meanwhile, the [TNFD – Taskforce on Nature-related Financial Disclosures](#) has introduced the concept of data stacks. This includes data on impacts or pressures on natural ecosystems and biodiversity resulting from an organisation’s activities, as well as dependencies involving resources and ecosystem services on which the organisation relies.

By combining contextual information on assets, geolocation, sourcing regions and supply chain assessments, nature-related risks for companies and financial institutions can be evaluated. Understanding nature-climate feedback cycles is important for a systemic approach towards analysing nature-related risks. Nature-climate feedback cycles are interactions between nature and the climate that either amplify or mitigate the effects of climate change. For example, when melting ice exposes darker surfaces, it absorbs more heat, causing more ice to melt – a cycle that worsens warming. These feedback cycles can either make global warming worse or help balance its impact.

The relationships between nature and climate are not static. A dynamic approach to analysing these feedback cycles is relevant for understanding the temporal dimension of biodiversity-related data. In other words, as the interactions between nature and climate evolve, it’s essential to use an adaptable approach to comprehend these changes.

It is important to continue gathering primary data to [monitor](#) biodiversity and to understand how nature-related risks can have cascading effects on financial stability. Incorporating biodiversity considerations into financial decision-making and making them actionable requires capacity building and transformative change by financial institutions. For example, the EIB now offers financial products that support conservation, restoration, management and enhancement of natural capital for biodiversity and adaptation benefits, including ecosystem-based solutions to challenges related to land, soil, forestry, agriculture, water and waste in the EU ([NCOFF, 2023](#)). EIB staff undergo capacity building to help them evaluate the biodiversity impact of projects and ensure alignment with conservation goals. The Dutch Central Bank (DNB) is actively involved in promoting sustainable finance practices in the Netherlands ([Sustainable finance strategy 2021-2025](#)). The bank also provides training and guidance to financial institutions to incorporate ESG factors, including biodiversity, into their risk management and investment processes.

Such processes include enhancing knowledge, particularly in areas such as ecology, and the interface between nature and economics. It should also address resource constraints. Many financial institutions lack the expertise, tools and methodologies to appropriately evaluate biodiversity risks and impacts at the project level. Therefore, efforts to build capacity and expertise within financial institutions are essential.

Standardised and applicable data is key to understanding biodiversity and the risks biodiversity loss poses to the financial system. Additionally, simple yet relevant measures that enable the comprehension of ecosystem dynamics are necessary. Although current models and tools may not be

perfect, taking action immediately is imperative. By prioritising capacity building and acknowledging the importance of existing yet imperfect models, financial institutions can begin to integrate biodiversity considerations into decision-making and mitigate associated risks.

Recognising the data gap as a significant obstacle in comprehensively addressing biodiversity risks in financial decisions, the EU has taken proactive steps through the EU's Sustainable finance framework (COM, 2023). It includes a transparency initiative that outlines classifications, disclosure requirements and tools. At its core is the [EU's Taxonomy Regulation \(2020/852/EU\)](#), which categorises economically sustainable activities. The initiative enables financial market actors to assess the biodiversity risks associated with different economic activities.

Another aspect of the framework is disclosure, with the EU expanding and specifying reporting obligations for large companies and listed small and medium-sized companies. These reporting obligations, derived from the [Corporate Sustainability Reporting Directive \(2022/2464/EU\)](#), aim to make corporates' impacts on ecosystems more visible. Overall, transparency plays a vital role in redirecting financial flows towards sustainable purposes and achieving a comprehensive understanding of ecologically and financially risky investments, as well as how to avoid them.

In the spotlight: challenges for financing marine restoration

Restoring marine ecosystems on a global scale through financing involves addressing several challenges. These include the availability and harmonisation of data; a better understanding of the interconnections between the marine environment and the services it offers, and establishing effective governance structures.

Available information is often limited, if present at all, for vast maritime areas. These limitations arise due to various factors. Firstly, it is costly to collect *in situ* data in the marine environment, especially the further you move away from the coast.

Secondly, 61% of the ocean is known as 'global commons' or 'high seas' where governments may be less inclined to allocate funds. This poses a challenge for various initiatives, including data collection. Furthermore, the lack of a tenure system, one that regulates how individuals and groups gain access to high seas and determines the rights and duties associated with ownership, makes it a challenge to incentivise data collection.

The lack of such a system is also prevalent in the majority of Exclusive Economic Zones (EEZs) and is a real barrier to area-based measures in marine areas. Without clear ownership or rights over marine areas, it becomes challenging to establish and enforce measures for data collection and conservation in these regions.

Thirdly, governance structures need to be improved in order to, for example: harmonise existing data and meta-data; provide better access to collected information; and establish interoperability across all

levels of the digital ecosystem allowing information to be easily exchanged and used across different systems.

A good illustration of this would be the recent [discovery of approximately 5,000 new species in the Clarion-Clipperton Zone](#) between Mexico and Hawaii when the area was investigated as a potential deep-sea mining zone. Such limited knowledge around the presence or absence of species in a given area complicates our understanding of the complex linkages between marine environments and the potential services human communities could receive from them. Some services are still not well understood. These include food provision and the role oceans play in mitigating climate change.

There is a lack of awareness of the specific challenges which exist within the marine environment, particularly among financial institutions. Therefore, it is important to tackle the challenges associated with data availability, both for marine financing and restoration. This work entails creating a heightened awareness of the significance of data in the marine context, allocating adequate resources to overcome data collection and interpretation challenges, and fostering collaborative efforts among various stakeholders. A proactive approach like this ensures that data-driven decision-making processes for marine financing and restoration are well-informed, effective and contribute to the preservation and sustainable management of marine ecosystems.

Combined, these challenges make it difficult, especially for private actors, to properly assess the risk/reward proposition of investing in the restoration of marine ecosystems. As such, it may remain with governments to take the initiative to both fund specific restoration projects and to initiate the necessary governance structures. Such actions could further encourage private actors to invest in meaningful measures supporting the long-term recovery of marine ecosystems.

The role of finance and investment institutions in facilitating progress

[Finance](#)^[1] and [investment](#)^[2] institutions play a crucial role in driving change by encouraging financing and investment that aligns with a framework that has a net positive impact on nature. They [provide](#) loans, investment and equity in sectors where biodiversity losses occur, and where they can act to reduce the negative impacts.

To effectively address biodiversity losses and reduce impacts, it is important to recognise that different methodologies and indicators are [required](#) for the private sector and their clients. For instance, the private sector focuses on financial returns and therefore requires indicators that [demonstrate](#) and account for the socio-economic benefits of biodiversity conservation. On the other hand, clients may prioritise social and environmental responsibility, and thus require indicators that show the positive impacts of conservation on local communities and ecosystems.

Therefore, it is important to develop biodiversity metrics and indicators that are relevant to the specific needs of stakeholders, as they provide data and insights about the health of – and changes in – biodiversity over time, thereby helping to monitor and manage ecosystems effectively.

This approach will encourage greater participation and investment in biodiversity conservation efforts, leading to more effective and sustainable outcomes. Investment banks need to shift their financing and investment models towards resilience, recirculation and regeneration. By aligning their financing and investment activities with the objectives of the global biodiversity framework and committing to nature-positive financing, they can make a significant impact.

The aim should be to measure progress and trends using robust scientific data to define ecological integrity and threshold values. For example, financial institutions can play a key role in supporting initiatives for the development of ecological integrity thresholds. They can collaborate with organisations such as the EEA to develop tools and methodologies that make complex data easy to understand for the private sector and financial institutions.

This collaborative effort should get to the heart of the issue, focusing on what needs to be measured and why, and highlighting the implications for financial institutions. Such efforts should also consider ways to engage financial institutions in biodiversity conservation, particularly in the context of meeting the targets of the Kunming-Montreal Global Biodiversity Framework.

By becoming more engaged, financial institutions can make biodiversity conservation efforts actionable and implementable. Investment banks have a responsibility to help shift approaches towards nature-positive financing.

Understanding the complexity of nature is key to unlocking the power to address risks and preserve biodiversity. Financial institutions can also contribute to good governance, sustainable societies and healthy economies by recognising that biodiversity underpins the economy, and that nature-positive financing is critical for the future of the generations to come.



Overcoming challenges and seizing opportunities for nature-positive financing

Achieving nature-positive outcomes presents significant challenges. One key issue is the importance of involving local communities in the ownership and management of land for effective pricing of environmental externalities, particularly in relation to biodiversity. While innovative financial instruments such as [blended finance](#) have potential, these must empower local communities and align incentives if activities are to be both just and sustainable.

Governments play a crucial role in creating favourable and enabling conditions for investment in nature-positive activities. This role includes eliminating fossil fuel subsidies and aligning incentives to promote positive environmental outcomes. However, delivering at scale requires a more comprehensive approach, with lessons to be learned both from initiatives that have been implemented in real situations with their resulting impacts, and from the use of blended finance for commercially [viable](#) projects.

Nature-positive financing also presents both challenges and opportunities in terms of standardisation, as nature cannot be treated as a traditional physical asset in financial terms. Unlike physical assets, nature possesses unique characteristics and values that extend beyond monetary considerations.

While biodiversity is already a part of many investors' portfolios, there is a need to shift from unsustainable to sustainable activities across key sectors. Alignment is needed between government policies, responsible business practices and incentives relating to competitiveness, pollution, land ownership and land rights.

Moving towards nature-positive financing requires a new social contract that empowers local communities and aligns incentives towards sustainable activities. While challenges exist, such as standardisation and how to scale blended finance, opportunities also exist for innovative financial instruments that can be both bottom-up and grounded in local communities. With the right approach and collaboration, nature-positive financing can become a reality.

Opportunities for advancing nature-positive financing

- 1 Engaging local communities: ensuring the participation of local communities in nature-positive financing initiatives for sustainable land management and community ownership.
- 2 Aligning incentives and disincentives: governments ensure coherency between policies by removing fossil fuel subsidies and implementing positive incentives like ecosystem payments, taxes and offsets to promote greater sustainability.
- 3 Scaling blended finance: ensuring research and collaboration with finance and investment institutions to expand the use of blended finance for commercially viable nature-positive projects in climate resilience and biodiversity conservation.
- 4 Standardising nature-positive financing: developing standardised approaches to treat nature itself as an asset class, encouraging investors to shift to sustainable activities while respecting environmental goals and the intrinsic value of nature.
- 5 Leveraging robust biodiversity data: the EEA and other institutions offer valuable biodiversity indicators, tools and spatial data to support the financial sector in assessing ecosystem services and identifying areas of high biodiversity value. Collaboration between finance sector services and data providers can enhance the accessibility and usability of data for informed decision-making.

Overall, achieving nature-positive financing will require a collective effort from governments, investors, and local communities to align incentives, deliver financing at scale, and standardise nature-positive financing.

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References



Dasgupta, P., 2021, '[The Economics of Biodiversity: The Dasgupta Review](#)', HM Treasury, London, UK.

EC, '[EU taxonomy for sustainable activities](#)' accessed 30 June 2023.

EC, 2022, '[Corporate Sustainability Reporting](#)' accessed 30 November 2022.

ECB, 2023, '[The economy and finance need nature to survive](#)' accessed 22 August 2022.

EEA, 2022, '[Financing nature as a solution](#)' accessed 22 August 2023.

European Investment Bank, 2022, '[Risk, return and the role of data in unlocking investments into nature](#)', Luxembourg.

OECD, '[Blended Finance](#)' accessed 22 August 2023.

OECD, 2019, '[Biodiversity: Finance and the Economic and Business Case for Action](#)', Organisation for Economic Co-operation and Development, Paris, France.

Paulson Institute, '[Financing Nature: Closing the Global Biodiversity Financing Gap](#)' accessed 11 May 2023.

Taskforce on Nature-related Financial Disclosures, (<https://tnfd.global/>) accessed 11 May 2023.

LSE, The INSPIRE sustainable central banking toolbox. '[Policy briefing paper 09](#)'. accessed 22 August 2023.

UNEP Finance Initiative, 2023, '[Banking on nature: What the Kuming-Montreal Global Biodiversity Framework means for responsible banks](#)', United Nations Environment Programme Finance Initiative, Geneva, Switzerland.

World Bank, 2021, '[The Economic Case for Nature](#)', World Bank Group, Washington DC, USA.

World Wildlife Fund, '[Biodiversity Risk Filter](#)' accessed 22 August 2023.