
Bridging the Biodiversity Financing Gap

Why Green Bonds Are Not Enough

The planet's rich web of life is unravelling, with ecosystems deteriorating at an alarming pace due to human-driven pressures. The UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) reports that 75% of terrestrial environments and 66% of marine ecosystems have been significantly altered by human actions, driven by deforestation, pollution, climate change and unsustainable resource extraction (Natixis, 2024).

The loss of biodiversity threatens the very foundation of human survival, as ecosystems provide us with our essential services of clean water and air, climate regulation and food security— things we often take for granted. More than 75% of global food crops depend on animal pollination and over 2 billion people rely on wood fuel to meet their primary energy needs (IPBES, 2019). The economic stakes are equally staggering, with the World Economic Forum estimating that \$44 trillion, which is over half of global GDP, is moderately or highly dependent on nature. (Deutz A, et al, 2020). Despite the urgency of the crisis, current biodiversity financing falls extremely far short of what is needed to reverse ecosystem degradation.



Despite significant progress being made in climate and sustainable finance, with green bonds channelling nearly \$600 billion in 2023 alone into environmental projects (Popoola et al. 2024), they have largely focused on climate mitigation projects, such as renewable energy and carbon reduction and majorly overlooked biodiversity. In response to this imbalance, the financial industry is evolving beyond traditional green bonds and to a new generation of financial instruments, biodiversity bonds. These bonds are specifically designed to direct capital towards reforestation, ecosystem system regeneration and wildlife protection. A key milestone in this shift occurred on 12 July 2024, when BBVA and the International Finance Corporation (IFC) issued the world's first biodiversity bond. With an initial \$15 million issuance expected to scale up to \$70 million (IFC, 2024), this bond signals a crucial step towards addressing biodiversity loss through targeted financial mechanisms.

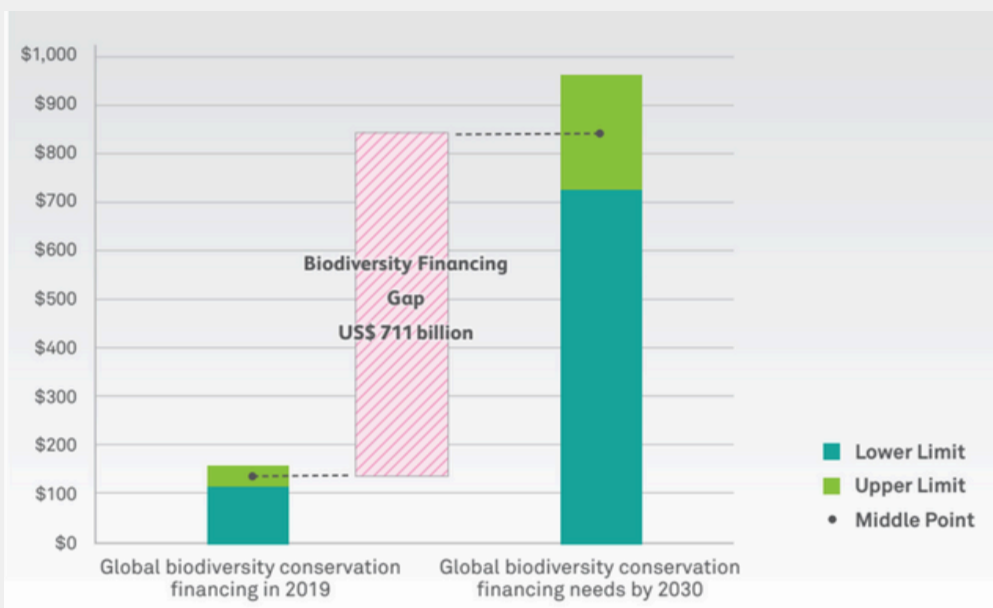
This article examines the role of green bonds in sustainable finance, explores why they are insufficient on their own to halt biodiversity decline and highlights the growing importance of biodiversity bonds in financing a nature positive future.

The Role and Limitations of Green Bonds in Sustainable Finance

In order to reverse the global decline in biodiversity by 2030, the world must bridge a staggering financing gap. The Paulson Institute estimates that between \$722 billion and \$967 billion must be invested annually in biodiversity conservation and restoration efforts, yet current funding efforts fall short by an average of \$711 billion per year (Deutz A, et al, 2020). These figures showcase how underfunded biodiversity remains. While green bonds have been instrumental in tackling climate change and funding environmental projects, their impact on biodiversity has been minimal.

A study by Barclays found that while 13% of index-eligible corporate green bonds and 24% of sustainability bonds include biodiversity in their frameworks, only 11% of the funds raised were actually allocated to biodiversity projects (Webb, 2023).

This discrepancy highlights a fundamental challenge—issuers often include biodiversity as an eligible category to retain flexibility in their spending, but very few have concrete plans for nature-specific projects. Although the figure of green bonds issued in 2023 featuring biodiversity conservation has risen, it remains significantly low at 16% (Sustainable Fitch, 2023), showcasing the insufficiency of green bonds alone to bridge the biodiversity finance gap.



Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability. Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., and Tobinde la Puente, J. 2020.

However, a major issue is that biodiversity projects often involve longer investment horizons and non-linear returns, which can make them less attractive to traditional green bond investors. Unlike climate projects where the financial benefits of reducing carbon are more easily quantified, biodiversity lacks immediate financial incentives. For example, renewable energy projects such as wind or solar farms typically start generating revenue within 5 years (Shasta Power, 2023) and once operational, they produce consistent cashflows for investors. In contrast, biodiversity projects like forest restoration, which aim to restore degraded land and increase carbon sequestration, often require decades to fully restore ecosystems and deliver tangible benefits (EOS Data Analytics, 2021). Also, unlike carbon reduction which can be measured in quantified CO₂ equivalents, biodiversity lacks a standard or universally accepted

measure for reporting. This creates uncertainty for investors who seek out quantifiable returns and as a result, many green bond issuers lack a structured pipeline of biodiversity-specific projects, further limiting their impact.

Biodiversity-Focused Green bonds example: The Bank of China

While the issuance of biodiversity-focused green bonds remains limited, China has taken significant strides in biodiversity financing by issuing two biodiversity-focused green bonds, directing capital directly towards critical conservation and ecosystem restoration, which highlight the value of these targeted initiatives and showcase why explicit biodiversity bonds will be so helpful.

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The Bank of China (BOC) issued the Macau Biodiversity Green Bond in 2021 for CNY 806 million, allocating its proceeds to forest conservation, wetland restoration and marine ecosystem protection in Macau and surrounding regions. A year later, in 2022, the Paris Branch Biodiversity Green Bond was issued for CNY 2.85 billion by the BOC. (Bank of China, 2024)

This bond funded a CNY 665 million project toward environmentally sustainable management of living natural resources and land use, and 2.1 billion into three terrestrial and aquatic biodiversity conservation projects. One of these comprehensive projects is focused in Eastern China, and includes river dredging, river interception pipeline construction and river ecosystem restoration. This project has been and will continue to significantly improve water quality, revitalising 128 river channels that have been previously polluted or degraded. (Bank of China, 2024) By restoring these ecosystems, this project will not only create healthier environments for aquatic species, but will also strengthen natural flood defences, reducing the risk of extreme weather impacts on surrounding communities.

These biodiversity-focused green bonds reflect the shift needed in the financial sector towards targeted investments in nature conservation. China has set a precedent for how financial instruments can be leveraged to restore nature and showcase the long-term value of biodiversity investment, not just for environmental protection, but for economic stability and resilience.

If majority of green bonds addressed these issues, we would be on the road to bridging this \$711 billion annual biodiversity financing gap, ensuring that the natural world will be protected for future generations. Unfortunately, as mentioned over 80% of green bonds do not specifically address the biodiversity crisis and it is clear a dedicated financial instrument is required. We need one that explicitly prioritises nature-positive outcomes rather than treating biodiversity as a secondary concern within climate-focused frameworks and we need governments and policy makers to incentivise them. Biodiversity bonds provide this solution.

Explicit Biodiversity Bonds: A Targeted Solution

Biodiversity bonds build upon the green bond framework but are specifically designed to finance ecosystem restoration, conservation and sustainable land use. The BBVA-IFC biodiversity bond issued in July 2024 is a groundbreaking example directly financing wildlife habitat restoration, climate-smart agriculture, reforestation and regenerating natural forests. These projects will not only protect nature but also reduce long-term business risks associated with environmental degradation.

The Role of Double Materiality in Biodiversity Financing

A key principle driving the shift toward biodiversity bonds is double materiality, which is the concept that businesses must consider both how their activities impact the environment and how environmental risks impact their financial performance (EY, Keaveny, 2024). Over half of global GDP depends on natural capital and ecosystems (Steiner and Rosito, 2024) as sectors like tourism, real estate and insurance are influenced by the health of natural landscapes and climate stability while industries such as agriculture and pharmaceuticals depend directly on biodiversity for raw materials. Biodiversity loss presents financial risks through supply chain disruptions, regulatory changes and reputational damage and at the same time businesses contribute to this decline through pollution and unsustainable resource use. On the other hand, businesses that invest in biodiversity not only support ecosystem restoration but also gain competitive advantages as companies with strong ESG profiles enhance supply chain resilience and attract investors. As financial markets increasingly integrate nature-related risks, prioritising biodiversity is becoming a strategic necessity rather than just an ethical choice.

Next steps: Scaling biodiversity bonds

While biodiversity bonds represent a promising evolution in sustainable finance, several challenges must be addressed to ensure their success.

This begins with needing financial institutions and policy makers to educate investors on biodiversity loss risks. Investors may be unaware of how little funding is going towards biodiversity within green bonds and therefore do not notice that a shift is needed.

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By integrating biodiversity risks into credit ratings and investment analyses, this can help shift capital towards nature-positive projects. We also need governments to implement supportive policies like tax incentives for biodiversity bond issuers and for them to mandate biodiversity disclosures under ESG reporting frameworks. With more awareness surrounding the need for these investments and the financial incentives, biodiversity bonds will gain their well-needed recognition.

Conclusion: A Call to action

The rapid decline threatens both ecosystem stability and economic prosperity. While green bonds have played a transformative role in sustainable finance, these instruments alone prove insufficient. Biodiversity bonds represent the next frontier in sustainable investment, providing a targeted approach to financing ecosystem restoration and conservation. With the financing gap exceeding \$700 billion annually; investors, businesses and policy makers must embrace biodiversity bonds as a critical step, ensuring that capital markets not only reduce carbon emissions but also restore and protect the natural ecosystems upon which a truly nature-positive future depends.

The financial industry must seize this moment to transition from green to biodiversity bonds, as a thriving planet relies on it.

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