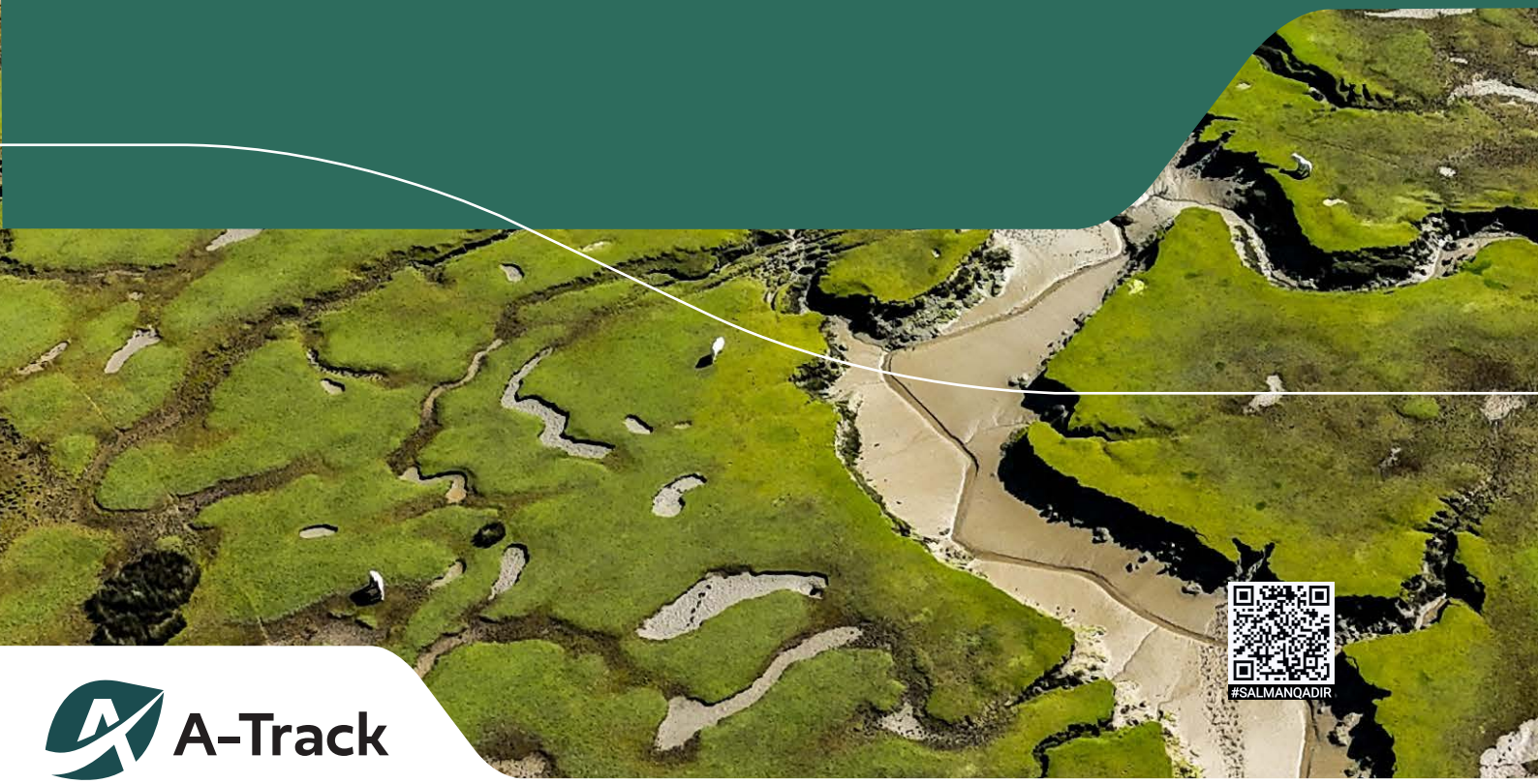
UNIVERSITY OF CAMBRIDGE | CISL Cambridge Institute for Sustainability Leadership

Scaling finance for nature: Barrier breakdown



A-Track

Authors

Sara Taaffe
Dr Corinne S. Martin
Rob Barker

Contributors

Jessica Attard
Elizabeth Clark
Laura Deltenre
Edmund Dickens
Harry Greenfield
Anum Sheikh
Gwyn Rhodes
Eliot Whittington
Dr Nina Seega

Additional Contributions

Catarina Braga and Jorge Hinojosa (UNEP-WCMC)

Daniel Whitaker (IDEEA)

Lenka Moore, Guy Duke and Martin Lok (Capitals Coalition)

Marco Bianchi (Tecnalia)

Marie Hennings and Joy Williams (GFANZ)

Expert Advisory Steering Group:
Simon Connell (Baringa), Christoph Baumann (Swiss State Secretariat for International Finance), Qingfeng Zhang (Asian Development Bank), Prof Rachael Garrett and Tom Bunting (University of Cambridge), Jessica Smith (UN Environment Programme Finance Initiative), Katie Kedward (University College London), Julen Gonzalez and Natacha Boric (Finance for Biodiversity Foundation), Catarina Braga (UNEP-WCMC) and Lenka Moore (Capitals Coalition).

Acknowledgements. The authors are grateful to the following, whose insights on finance, nature, biodiversity and policy greatly supported the work from the onset:

Nature-related Finance Steering Group:
Mette Charles (AON), Daniel Hochman and Jeremy Ng (Bridgewater Associates), Joanne Lee (First Sentier), Peter Mennie and Eric Nietsch (Manulife Investment Management), Erwin Houbrechts (PGB Pensioendiensten), Max Richardson (Rathbones), Laura Bosch and Rashila Kerai (Robeco), Devika Kaul and Milena Lefèvre (SSGA), Özgür Göker and Victoria Leggett (UBP), Danielle Brassel (Zurich), Andre Jakobs and Sonny Duijn (ABN AMRO Bank), Afif Chowdhury (Deutsche Bank), Marine de Bazelaire and Regina Kahl (HSBC), Rhona Turnbull (NatWest), Etienne Butruille and Christopher Vernon (Santander), Oliver Withers, Belle Tan and Audrey Lim (Standard Chartered).

The authors thank interviewees from 18 financial institutions that form the industry-leading Banking Environment Initiative (BEI) and Investment Leaders Group (ILG), for sharing their insights on the current state of nature financing during interviews. The authors are also grateful to the EU-funded Naturance project and the ClimateWise members for productive discussions during the March 2024 Innovation Lab which they organised.

Finally, the authors appreciated the input from participants of the July 2024 Business transformation for nature recovery event.

Copyright

The contents of this publication excluding photographic images are shared under a Creative Commons CC BY 4.0 license. They are adapted from deliverable D6.1 of the A-Track project (https://a-track.info), which has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101082268, as well as from the UK' Research and Innovation (UKRI) and Switzerland's State Secretariat for Education, Research and Innovation (SERI). This deliverable is pending formal approval by the European Commission, hence the contents are subject to changes.

Disclaimer

Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Citing this report

This publication should be cited as: University of Cambridge Institute for Sustainability Leadership (CISL), Capitals Coalition, UNEP-WCMC, IDEEA Group and Tecnalia. (2024). *Scaling Finance for Nature: Barrier Breakdown.* A-Track. Cambridge, UK: University of Cambridge Institute for Sustainability Leadership.

A-Track is a four-year, €11 million project that will accelerate action for nature by business, financial institutions and government.

A-Track brings together leading thought leaders and practitioners who have been driving change in the measurement and valuation of natural capital and biodiversity in business, finance and government. Partners have led the development or implementation of guidelines and standards for measurement of nature impacts and dependencies for improved decision-making, including: biodiversity footprinting, natural capital assessment and accounting, and business models and finance that contribute to nature positive outcomes.

Project partners:

A-Track

CAPITALS COALITION

tecnalia
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

oppla

Fraunhofer

IDEEA Group

University of Stuttgart
Institute for Acoustics and Building Physics
Life Cycle Engineering GaBi

UN environment programme WCMC

vito

ICAEW

WBCSD World Business Council for Sustainable Development

Project funded by:

Co-funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under the grant agreement number 101082268.

UK Research and Innovation

This work was funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee [101082268].

Project funded by

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI

The University of Cambridge Institute for Sustainability Leadership

CISL is an impact-led institute within the University of Cambridge that activates leadership globally to transform economies for people, nature and climate. Through its global network and hubs in Cambridge, Cape Town and Brussels, CISL works with leaders and innovators across business, finance and government to accelerate action for a sustainable future. Trusted since 1988 for its rigour and pioneering commitment to learning and collaboration, the Institute creates safe spaces to challenge and support those with the power to act.

The Centre for Sustainable Finance (CSF)
Our mission is for private financial institutions to accelerate the transition to a global economy that is sustainable and resilient. As part of CISL, we work with a range of stakeholders to achieve this, including academics, policy-makers, NGOs and private financial institutions. We bring together a unique combination of academic rigour and deep industry collaboration to produce research publications which help financial institutions to play a leading role in building a more sustainable economy. Our primary route to engagement with private financial institutions is through our three membership groups – the Banking Environment initiative for banks, ClimateWise for insurers and the Investment Leaders Group for investors.

The Investment Leaders Group (ILG) is a global network of pension funds, insurers and asset managers with over US$ 9 trillion under management and advice. The ILG's vision is an investment chain in which economic, social and environmental sustainability are delivered as an outcome of the investment process. The ILG is a voluntary initiative, driven by its members, convened by CISL and supported by academics in the University of Cambridge.

The Banking Environment Initiative (BEI) is a group of global banks committed to pioneering actionable pathways towards a sustainable economy. The BEI co-produces horizon-scanning applied research, develops leadership tools and convenes academic and industry collaborations. It is a member-led, not-for-profit group convened by CISL and initiated in 2010 with the support of His Majesty King Charles III.

UNIVERSITY OF CAMBRIDGE | CISL Cambridge Institute for Sustainability Leadership

Investment Leaders Group

AON
BRIDGEWATER
RATHBONES
First Sentier Investors
PGB pensioendiensten
UBP Union Bancaire Privée
ROBECO The Investment Engineers
STATE STREET GLOBAL ADVISORS
Manulife Investment Management
ZURICH

Banking Environment Initiative

ABN·AMRO
Deutsche Bank
HSBC
NatWest Group
Santander
standard chartered

Contents

Executive summary

Nature is fundamental to societal and economic function, yet it is in decline. In 2023, six of nine planetary boundaries, representing the safe operating space of various earth functions, were surpassed.[1] A partial collapse of ecosystem services could reduce global gross domestic product (GDP) by US$2.7 trillion by 2030.[2] Conversely, opportunities arise from investments in conserving natural resources. For example, impacts linked to water stress risk were estimated at US$301 billion (in 2020), whereas addressing these risks would cost just US$55 billion.[3]

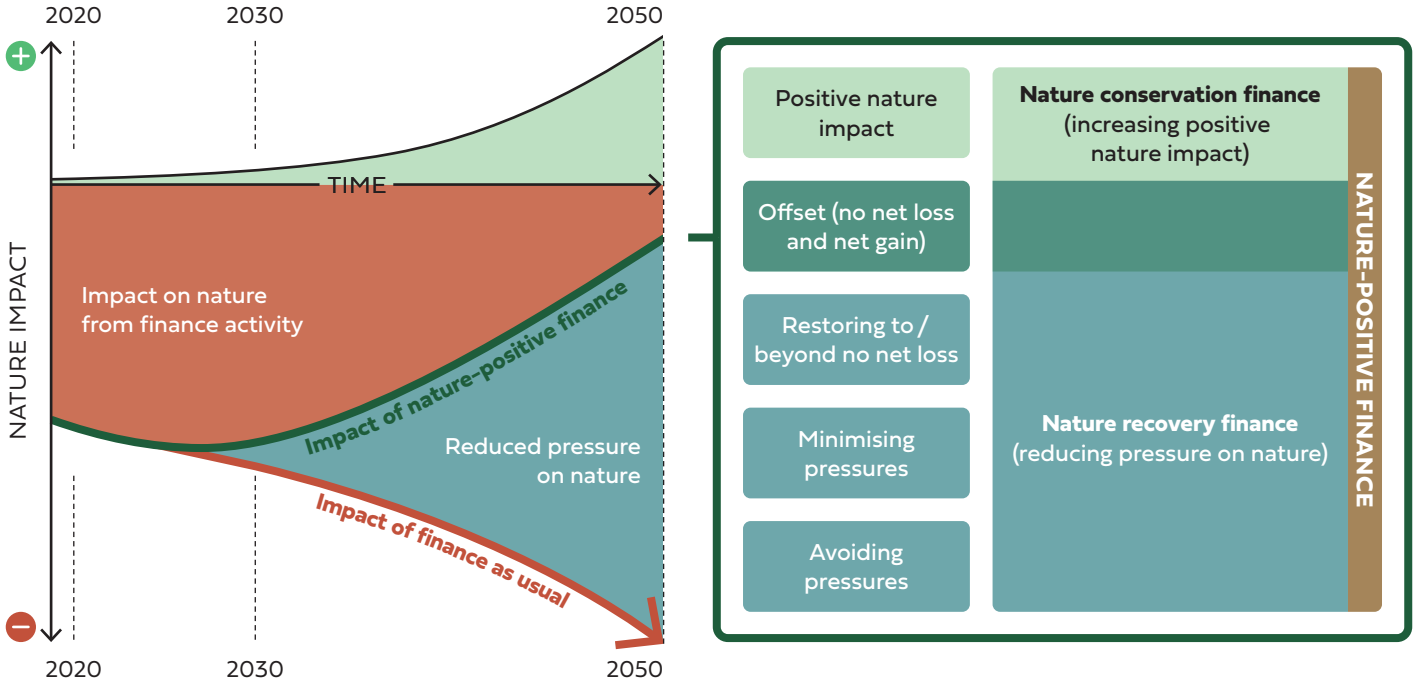
The Global Biodiversity Framework (GBF) recognises the need to mobilise action across all stakeholders who influence, and are influenced by, the nature loss crisis. Of particular importance is the need to close the biodiversity finance gap of US$700 billion per year, through redirecting capital that is having a negative impact and scaling that which is having a positive impact. As the intermediaries of the real economy through financing and investment to corporations globally, financial institutions are poised to create substantial positive impacts on nature. Yet, private finance's contribution towards nature is minimal.[4]

To investigate this misalignment between capital flows today and international goals, the University of Cambridge Institute for Sustainability Leadership (CISL) engaged with members of the Banking Environment Initiative, Investment Leaders Group and ClimateWise to better understand the barriers to close, and ultimately surpass, this biodiversity finance gap. Limited capacity and knowledge, drawn-out timelines and high perceived risk, nascent regulatory and political landscape, and confusion on measuring impact were all noted as themes that created inaction. However, the main theme that emerged from nearly every conversation was that **nature finance is often narrowly perceived as conservation finance with low returns, making it unsuitable for private commercial capital at scale.** Though, private commercial capital must be part of the solution – not only to reduce the current US$5 trillion in finance flows linked to negative impacts, but also to align financial strategies with the goals of the GBF, unlocking the estimated US$10.1 trillion in opportunities.[5]

To scale private capital's meaningful contribution to a nature-positive economy, it must focus on both halting and reversing nature loss.

To illustrate this, the publication uses the mitigation hierarchy as a lens through which to view how nature finance can contribute towards the goals of the GBF. Nature-positive financing consists of two distinct branches: (1) avoiding and minimising pressures on nature and (2) restoring and conserving nature. This report clarifies that achieving nature-positive outcomes requires both halting existing damage to nature while also contributing to reversing nature loss, with financing and investments structured to achieve both objectives.

To galvanise action to close this biodiversity financing gap, this publication explores: (1) what nature finance is, (2) the role and influence of private commercial capital in achieving a nature-positive future (noting limitations and barriers to be considered) and (3) how private commercial capital can be part of the solution, including evidence of momentum through various financial mechanisms.



1 A-Track project overview

As key decision-makers worldwide, businesses (corporates), financial institutions and governments are increasingly recognising both their dependence on nature and that action for nature can help them build resilience, manage risks and continue to sustainably prosper. Over the last decade, new guidance, tools, methods, data and training materials have been developed to support the evaluation of impacts and dependencies on nature, and how to integrate this knowledge into decision-making.

Despite long-standing and mounting commitments to change, economic activity continues to fail to account for and embed the value of nature, leading to a worsening nature crisis and an increasingly urgent need to accelerate action for nature.

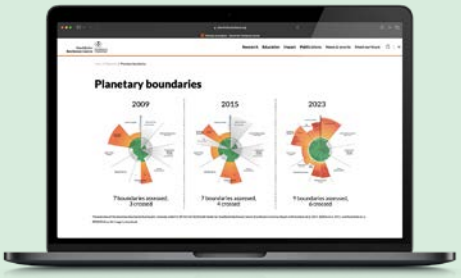
The international Kunming-Montreal Global Biodiversity Framework (GBF)[6] and in Europe the Nature Restoration Law[7] have established clear policy ambitions for this acceleration, with key actions for business, finance and government actors. Recent recommendations from the Taskforce on Nature-related Financial Disclosures (TNFD) and Science Based Targets Network (SBTN) are providing clarity on how to access, disclose and set goals to enable addressing the financial materiality of their dependencies and impacts on natural systems. Despite this, organisations often struggle to navigate the inherent complexities of nature, the related risks and opportunities, and how to meaningfully enable action. Understanding what tools and approaches to use, or what actions should be taken, is not straightforward and can be overwhelming.

To address this, the A-Track project is bringing together and further developing existing tools and approaches to make it easier to identify the most appropriate way forward for sectors and the magnitude of action required. A-Track will work to unlock the most relevant information on natural capital and biodiversity for a range of applications and, ultimately, support better informed decisions that can accelerate action towards nature-positive outcomes. Specifically, A-Track will create robust and reliable resources, tailored to the needs of key decision-makers in policy, business and finance that:

- support the flows of biodiversity information for use in business, finance and government decisions
- strengthen consideration of biodiversity and ecosystem services in life cycle assessment for products and organisations
- mainstream and advance natural capital assessment and accounting across society
- facilitate the adoption and scaling of business models that contribute to nature-positive outcomes
- nurture financial innovations that contribute to nature-positive outcomes.

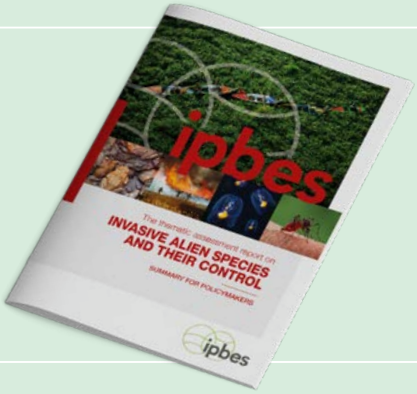
This scene-setting publication focuses on the financial sector as one of three key decision-makers, alongside businesses and governments, and the target audience includes experts in finance, nature, biodiversity and policy. The publication forms the first deliverable of Work Package 6 *(Finance that contributes to nature-positive outcomes)*. Two objectives of this workstream aim to show, (1) how the finance community can already help make nature bankable, and scale private investment into natural capital and (2) how others, such as businesses and governments, can contribute to this effort, towards supporting nature-positive outcomes.

Box A – Key figures to illustrate The Nature Crisis

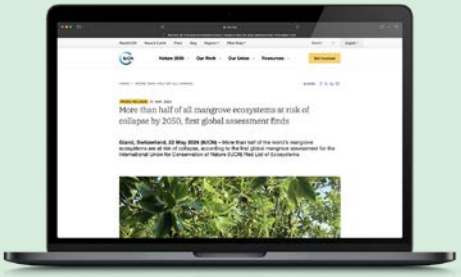


- The Stockholm Resilience Centre released their 2023 updates. **Six planetary boundaries (safe operating space of earth's systems) are now transgressed,** and pressure is increasing on all boundary processes except ozone depletion.

- A WWF report estimates valuation of **water/freshwater ecosystems at US$58 trillion in annual economic value,** equivalent to 60 per cent of global GDP in 2021. There has been a 33 per cent decrease in wetlands and 83 per cent in freshwater populations since 1970.



- An IPBES report finds global economic cost of invasive alien species **exceeded US$423 billion annually in 2019,** with quadrupled costs every decade since 1970. This largely overshadows the current investment into nature-based solutions, which was US$200 billion in 2022.



- More than half of the world's mangrove ecosystems are at risk of collapse, according to the first global mangrove assessment for the International Union for Conservation of Nature (IUCN) Red List of Ecosystems. **Mangroves provide essential protection to 15.4 million people and US$65 billion worth of property per year from coastal disasters.**

2 Why does nature loss matter?

Functioning and resilient natural ecosystems (henceforth 'nature', **see Box B**, page 14 for definition) are fundamental to societal and economic function. Nature plays a critical role in providing food and feed, energy, medicines and a wide range of materials that contribute to people's economic and social well-being and culture. Research has indicated that while the world's 370 million indigenous peoples make up less than 5 per cent of the total human population, they could manage or hold tenure over up to 25 per cent of the world's land surface and hence could have a key role in conserving the ecosystems upon which we all depend.[8] Though, nature is in decline **(see Box A),** with six of nine planetary boundaries surpassed in 2023.[9] As a result, the world's natural infrastructure is becoming less resilient which, together with the mostly unconstrained use of the products and services obtained from ecosystems, is threatening the stability and future of the global economy and society.[10]

The fact that nature is a fundamental input to many production systems is exemplified by 85 per cent of companies[11] making up the S&P Global 1200 index of companies (which may act as a proxy view of the publicly listed economy) having a significant dependence on nature within their direct operations. This does not account for dependencies within their supply chains, so the real scale of dependency is likely to be significantly higher. In 2023, the European Central Bank published a report highlighting that nearly 75 per cent of all bank loans[12] in the eurozone area are to companies that are highly dependent on at least one nature-based ecosystem service, such as fertile soils, pollination, timber, fishing stocks, clean water and clean air.

Nature also holds the key to meeting internationally agreed climate goals, with land and marine ecosystems playing the role of natural 'carbon sinks' in climate regulation, absorbing half of the carbon dioxide[13] emitted into the atmosphere by human activities. Further, nature can provide solutions to adapt to, and mitigate,[14] the effects of climate change.[i]

i Please see CISL's Integrating climate and nature: The rationale for financial institutions and Let's Discuss Nature with Climate: Engagement Guide for further information on the climate–nature nexus.

A number of policy initiatives and processes such as the Bonn Challenge, The Trillion Trees Initiative, the EU Nature Restoration Law and EU Taxonomy Regulation (and its Do No Significant Harm principle), and the UN Decade on Ecosystem Restoration have acknowledged the need to act to conserve and restore nature. In December 2022, the historic GBF was agreed by 196 nations, and is recognised[15] by some as the nature equivalent to the Paris Agreement for climate. It is expected that there will be increased synergies, integration and alignment among these global targets in coming years.

> "There is no path to fully achieve the near- and long-term goals of the Paris Agreement or the 2030 goals and targets of the Kunming-Montreal Global Biodiversity Framework without urgently addressing climate change, biodiversity loss and land degradation together in a coherent, synergetic and holistic manner, in accordance with the best available science."
>
> *COP28 Joint Statement on Climate, Nature and People*

The GBF recognises the need to channel action across all stakeholders who both have an influence towards, and are influenced by, the nature loss crisis. This includes ensuring the availability of financial resources needed to enable the implementation, progressively closing the biodiversity finance gap of US$700 billion per year and aligning financial flows with the GBF. Of the 23 action-oriented targets for the global community to address the threats to nature and biodiversity, four of the most directly pertinent[16] to private commercial capital are:

- **Target 14 – Integrate biodiversity in decision-making at every level** (including "[…] aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of this framework").
- **Target 15 – Businesses assess, disclose and reduce biodiversity-related risks and negative impacts** (with businesses asked to "monitor, assess and disclose risks, dependencies and impacts on biodiversity […] in order to progressively reduce negative impacts on biodiversity, increase positive impacts, biodiversity related risks to business and financial institutions").

- **Target 18 – Reduce harmful incentives by at least $500 billion per year, and scale up positive incentives for biodiversity** *("Identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least $500 billion per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.")*

- **Target 19 – Mobilize $200 billion per year for biodiversity from all sources, including $30 billion through international finance** *(including "leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity, including through impact funds and other instruments").*

Targets 18 and 19 collectively aim to address the biodiversity financing gap of US$700 billion annually by reducing harmful incentives by US$500 billion and mobilising US$200 billion of financing annually. Target 19 clearly acknowledges, in line with others,[17] that public finance, though essential, remains insufficient for filling in the global biodiversity financing gap towards meeting the collective ambition to prevent and reverse nature loss. Private finance, notably the financial sector, can and must play a significant role, especially as it is currently estimated that private finance flows linked to negative impacts on nature are US$5 trillion,[18] about 140 times more than flows linked to positive impacts (US$35 billion). To meet, and ultimately surpass the US$700 billion/year biodiversity financing gap, private finance will have to both reduce finance linked to negative impact on nature while simultaneously increasing financing with a positive nature benefit.

Financial institutions are becoming increasingly aware of the risks[19] and opportunities associated with nature loss. Research published in 2014 showed that nature delivers more than US$125 trillion annually in ecosystem services while its degradation causes approximately US$1.4 trillion in economic losses each year, accounting for 1.6 per cent of global GDP.[20] More recent work (2021) estimated that a partial collapse of certain ecosystem services could reduce global GDP by US$2.7 trillion by 2030.[21] At the national level, the total loss of pollination as an ecosystem service would cost the UK£440 million annually, which represents 13 per cent of UK income from farming.[22] In contrast, opportunities arise from emerging regulations, and from investments in technologies conserving natural resources, notably in water-stressed areas.[23] For example, potential impacts linked to water stress risk were estimated at US$301 billion (in 2020), whereas addressing these risks would cost just US$55 billion.[24]

Beyond individual financial institutions, it is the broader stability of the financial system (and the real economy) that is at risk[25] if macroeconomic implications linked to nature loss, notably biodiversity loss, are not accounted for, mitigated and adapted to. New research from Oxford University warns that biodiversity loss and ecosystem damage could cost the global economy over US$5 trillion.[26] Human activities such as pollution, deforestation, land-use change and over-extraction are eroding essential natural resources like water, clean air, fertile soils and pollinators. These actions not only degrade natural capital but also intensify the effects of climate change, demonstrating the macroeconomic implications of nature loss.

As such, financial markets must not only continue to redirect finance from harmful activities,[27] but they must also significantly increase financing and investments in nature. Indeed, Goal D of the GBF calls for "aligning financial flows with the Kunming-Montreal Global Biodiversity Framework and the 2050 Vision for biodiversity".[28]

3 What is nature finance?

3.1 Building an understanding of nature finance

As it currently stands, there is approximately a US$700 billion per year gap[29] between the current and required financing to meet the 2030 targets of the GBF. Targets 18 and 19 of the GBF collectively aim to address the biodiversity financing gap by reducing harmful incentives by US$500 billion and mobilising US$200 billion of financing annually. It is currently estimated that private finance flows linked to negative impacts on nature are US$5 trillion, about 140 times more than flows linked to positive impacts (US$35 billion). Closing this gap requires the public and private sectors to reduce actions that have negative impacts on nature in parallel with increasing actions linked to positive impacts on nature. Given the sizeable cost of nature loss[ii] relative to the international targets for nature financing, it is clear that the cost of inaction largely eclipses the cost of action. Mobilising capital towards halting and reversing nature loss is crucial to maintain not only for economic systems, but also to avoid existential threat.

To catalyse the role of financial institutions in meaningfully contributing towards the GBF, this publication brings more clarity to the term 'nature finance' and 'nature-positive finance'. It is important to mention that this report focuses on nature but does so in the context of climate change as a key driver of nature loss, thus incorporating the climate–nature nexus.

For simplicity, the remainder of this publication will use the broader term of 'nature finance' to encompass 'biodiversity finance', though it is important to note that biodiversity finance primarily focuses on financing activities towards the biotic component of nature **(see Box B).**

Box B – For this publication, 'nature' is considered as an umbrella term for two interlinked and interdependent components: the non-living (inert) component (ie **abiotic** component), which includes air, water, soil, climate etc, and the living (ie **biotic**) component, which can be approximated to biodiversity, and underpins nature's ability to provide goods and services.

ii See Box A on page 9 for figure

The World Bank Group defines nature finance "as finance contributing to the nature positive goal of halting and reversing nature loss."[30] Building on this, the Nature Positive Initiative defines the "nature positive goal" as a global societal[31] one where nature loss is halted and reversed by 2030, on a 2020 baseline, with full nature recovery to be achieved by 2050.

The World Bank Group further breaks down nature finance into two areas, recognising these are not mutually exclusive and have areas of overlap. "Nature finance captures the broad range of transformative actions that need to take place to achieve the nature positive goal, including: (1) delivering measurable positive gains for nature; and (2) enabling a broader transition of economic activity away from harmful practices that are driving nature loss toward those aligned with the goal, by mainstreaming nature considerations into policies and investments."[32]

In terms of biodiversity finance, which focuses specifically on the biotic element of nature financing **(Box B),** the International Finance Corporation[33] also differentiates between:

- "Investment activities that seek to generate biodiversity co-benefits ([...] to address the key drivers of biodiversity loss)" (analogous to point 2 from the World Bank Group definition).
- "Investments in biodiversity conservation and/or restoration as the primary objective" and "investments in nature-based solutions to conserve, enhance, and restore ecosystems and biodiversity" (in line with point 1 from the World Bank Group definition).

While there is currently no widely accepted academic definition that captures the various elements or nuances of nature finance noted above, it is critical to capture these differing characteristics as they influence the viability and capacity of private commercial capital's contribution. We have therefore chosen to summarise these two branches of **nature-positive finance,**[iii] recognising these are not mutually exclusive and have areas of overlap, as follows:

- **Nature recovery finance** – this first branch captures redirecting the existing flow of capital to reduce pressures on nature, primarily supporting the halting of nature loss relative to the definition of nature positive. This includes healing, recovering or rehabilitating nature to bring it closer to the no net loss line. Complementary to this is reducing the risk that may exist in existing investments and financing.
- **Nature conservation finance** – this second branch captures activities that contribute to the restoration and conservation of nature, with overall net-positive nature outcomes associated. This is finance that is protecting and conserving existing nature. Relative to the nature-positive definition, this supports the reversing of nature loss and ambition of full recovery by 2050.

To demonstrate how these two branches of nature-positive finance contribute towards the goals of the GBF, and the actions that underpin them, we present them in the lens of the mitigation hierarchy.

iii In simpler terms, nature-positive finance and nature finance seek to achieve the same thing: using finance to better the state of nature. However, by using the nature-positive term, more structure is brought to the term. We therefore use the term nature-positive finance for the remainder of this publication.

3.2 Nature-positive finance through the lens of the mitigation hierarchy

The mitigation hierarchy[34] **(Figure 1)** is a tool commonly used by industrial sectors such as mining, energy and manufacturing, to limit the negative impacts of their projects on nature by demonstrating the various steps that can be taken. While it does not capture the dependencies on nature relative to these projects, it is a helpful framing to conceptualise the various actions that can support the transition to a nature-positive economy. By acknowledging and acting on the impacts of nature loss, organisations will enable better protection of their ecosystem service dependencies.[iv] The influence of the mitigation hierarchy on the financial sector is already well established in large-scale infrastructure and extractive sectors,[35] notably projects accessing support from the International Finance Corporation (IFC).[v]

In this report, **we use the mitigation hierarchy for illustrative purposes,** demonstrating the various actions that can happen through businesses and financiers to progress towards the goals of the GBF. While the mitigation hierarchy was initially designed to demonstrate changes that could happen at a site level, it can also be used to consider actions beyond site level. Further, the problems our society faces are system-wide and deeply interconnected. The Science Based Targets Network (SBTN)'s adaptation of the mitigation hierarchy, AR3T,[vi] catches this critical factor, highlighting that achieving the goals of the GBF cannot be done in isolation, rather through collaborative efforts of stakeholders across the system.

The four key actions of this hierarchy are designed to be **iterative and build upon one another** – *avoid, minimise, restore* and *offset* (primarily intended for 'no net loss' and, by some, additionally considered relevant for 'net gain')[vii] – to strike a balance and ultimately working towards no net nature loss. In **Figure 1,** (a) refers to business as usual, (b) nature loss addressed through avoid, minimise and restore, where restoration efforts surpass no net loss and (c) all steps taken to address nature loss, including offsets where restoration efforts were not possible.

iv Double materiality is the impact of operations on nature and the dependency on nature for operations.

v IFC's Performance Standard 6 heavily references the mitigation hierarchy, and funded corporations are required to implement mitigation interventions in the presence or close proximity of sites to Critical Habitat, as defined by the Standard.

vi Actions to avoid future impacts, reduce current impacts, regenerate and restore ecosystems, and transform the systems in which companies are embedded.

vii To be noted, there is concern (zu Ermgassen et al. 2019, Maron et al. 2023) as to whether offsets are effective in practice, even for no net loss purposes. Furthermore, it should be noted that in the context of this publication, we are not drawing a parallel between 'no net loss' (for nature) and 'net zero' (for climate).

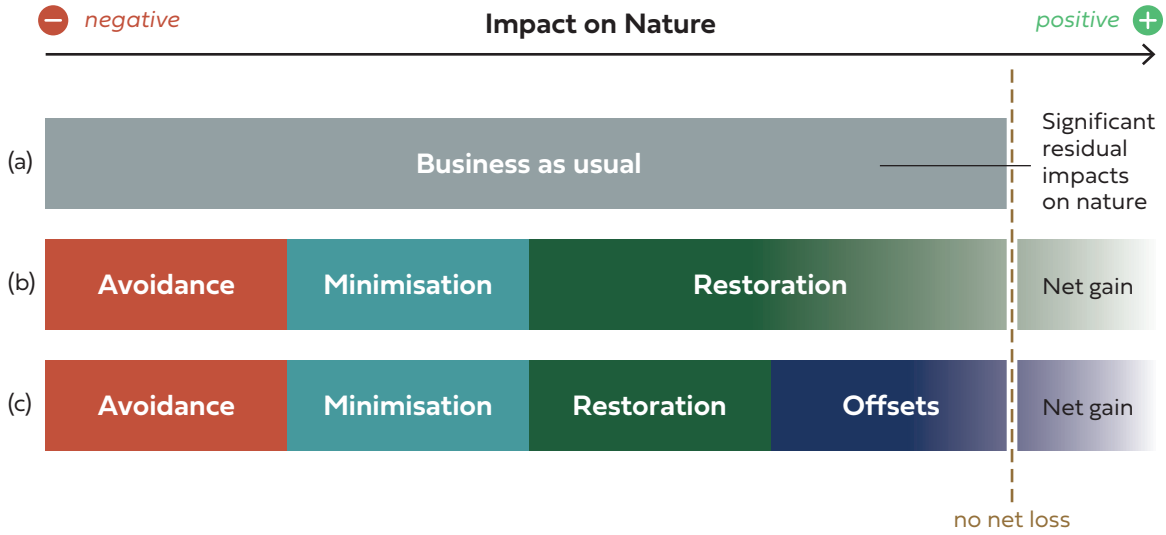


Figure 1. The mitigation hierarchy is a tool commonly used by industrial sectors to limit the negative impacts of their projects on nature.

As projects or business operations are underpinned by finance, it is possible to also look at nature-positive finance through the lens of the mitigation hierarchy,[viii] demonstrating the various actions that can be taken to reduce pressure on nature and/or contribute to nature gains. By doing so, exploring the relationship between financing and nature within the framework of the mitigation hierarchy, financiers and investors can better leverage financial mechanisms that are both commercially viable and contribute to internationally agreed nature goals. Meanwhile, policymakers and regulators can facilitate and accelerate this process through standardising competing approaches, mandating disclosures and providing rigorous oversight.

viii Concepts like the mitigation hierarchy have been integrated in sustainable finance frameworks and climate change strategies, including the 2024 Financing for Sustainable Development Report and The Conservation Hierarchy: Underpinning the Post-2020 Biodiversity Framework.

The focus of this publication is to explore what nature-positive finance is, the challenges to scaling it, and the financing mechanisms that can be employed, including repurposing existing or issuing new financing and investments.
While not directly explored, it is worth noting levers like investor engagement, proxy voting, assessment of portfolio universe, regulatory scrutiny and policy incentives will also be critical activities to enable the above.

For each step of the mitigation hierarchy, we provide examples of concrete nature interventions, from the A Global Mitigation Hierarchy for Nature Conservation[36] paper to the Response Options Database[37] from SBTN. *Please also look to the nature-positive business model archetypes that have been developed through the wider A-Track project.*

There are three critical points to bear in mind when using the mitigation hierarchy as a lens for nature-positive finance:

- the list of activities may be relevant to a company through both their direct operations and their supply chain
- the activities may be viewed at a project, programme or portfolio level
- **all steps and activities are needed to achieve a nature-positive economy.** The nature-positive goal calls for both the halting (avoid/minimise) of nature loss and the reversal of it (restore/conserve).

Avoid	
Avoiding impacts on nature from the outset (project planning, design).	This can include avoiding developments in certain areas based on their high nature and biodiversity importance, the spatial placement of various elements of the related business operations, and their timing to avoid disturbing the timing/life cycle of various species. Also relevant are the sourcing of materials from upcycled sources, the development of more circular business models and changes to overall operation of and inputs to business models.
Minimise	
These are measures taken to reduce the pressures on nature that cannot be avoided.	They may relate to the duration, intensity or extent of impacts and include activities such as demand reduction, limiting pollution, more sustainable agriculture practices, fisheries using selective gear, green infrastructure, and certification and eco-labelling. Also relevant are the development of products and services that aim to support the implementation of such measures.

Restore

Within the context of a specific project, once avoid and minimise have been acted upon, the focus should then be on restoration or remediation.[ix] This includes restoring degraded or removed ecosystems, following the exposure to pressures on nature that cannot be avoided or minimised.

This could include activities such as regenerative agriculture, artificial habitat creation and rewilding. The development of products and services aiming to support the implementation of such interventions is also relevant here.

In some cases, and over time, these restoration or regeneration options **may meet and pass** the no net loss impact of a particular project, business or investment.

Offset

The final step (within the context of a project) is to compensate for significant residual impacts ('compensate' or 'neutralise') that are not captured by the first three steps (ie offset for no net loss).

In addition, there can be action or implementation focused on net gain, such as removal of invasive/exotic species, reseeding, respawning, captive breeding, etc. It is important to note that some of this step may be governed by regulatory versus voluntary markets when it comes to offsets and credits.

Offsets can serve as a tool to compensate for residual nature impact, supporting efforts to meet no net loss. In addition, they can be used in some instances towards overall net gain.

Transform *(additional step in SBTN AR3T Framework)*

"Transform underlying systems in which companies are embedded to address the drivers of nature loss."[38]

Supporting change at a system-wide and global scale. This includes action or enabling conditions to enable greater positive change for nature. For example, creating policies and guidance that bring about a positive change in water quantity or quality in a company and its impact on the watershed or leverage supply chains to transform productive systems in line with science-based targets for nature.

ix Remediation, rather than restoration, is the appropriate term when dealing with ecosystems impacted by infrastructure development, as the goal is to rehabilitate ecosystem services rather than restore the site to its original state. Restoration becomes relevant only at a project's end-of-life, where offsetting measures may be more applicable.

The term 'hierarchy' may suggest that the initial stages are baselining, less important or less impactful, however, avoiding and minimising are vitally important actions to combat nature loss that are often more impactful and important than isolated conservation projects from a globally aggregated perspective. Indeed, private finance flows linked to harming nature through business as usual are US$5 trillion,[39] about 140 times more than flows linked to reversing nature loss through investments in conservation and nature-based solutions. **There is significant impact private commercial capital can bring towards a nature-positive future by financing and investing in actions that avoid and minimise existing pressures on nature.**

Each financial institution portfolio and financing opportunity will be different: a large bank with significant lending to natural resource sectors might have lots of opportunities to avoid and minimise nature loss, whereas a small venture capital firm might be able to incubate nature solutions that enable restoration. There are numerous ways in which the activities, underpinned by finance and investment, can support the transition to a nature-positive economy.

In the context of site-level developments, the first three steps ('avoid', 'minimise', 'restore') are typically within the footprint of the development, while the fourth one ('offset') can be near to the site or further away (as nature is non-fungible, offsets that occur slightly further away from the site itself should still be within a similar ecosystem). Before considering setting up offsets away from the footprint of the development, the principle of the mitigation hierarchy dictates that efforts should first be focused on iterating the avoid/minimise/restore steps 'closer to home', ie within or near the footprint of the development. This guiding principle naturally extends to nature-positive finance, where finance must contribute to both the halting of nature loss (avoid/minimise) in parallel with reversing nature loss (restore/conserve), including for net-gain initiatives.

With this principle in mind and considering the emerging landscape of biodiversity credits,[x] biodiversity credits should be the final intervention in the sequence ('avoid', 'minimise', 'restore'), or once there is no action that can be done to halt nature loss. When used for offsetting purposes, biodiversity credits would need to occur after all realistic action towards halting and reversing nature loss has been done, or at minimum in parallel to it, from business operations and the supply chain of the business that receives financing.

---

x Defined as "a certificate that represents a measured and evidence-based unit of positive biodiversity outcome that is durable and additional to what would have otherwise occurred". Biodiversity Credit Alliance 2024

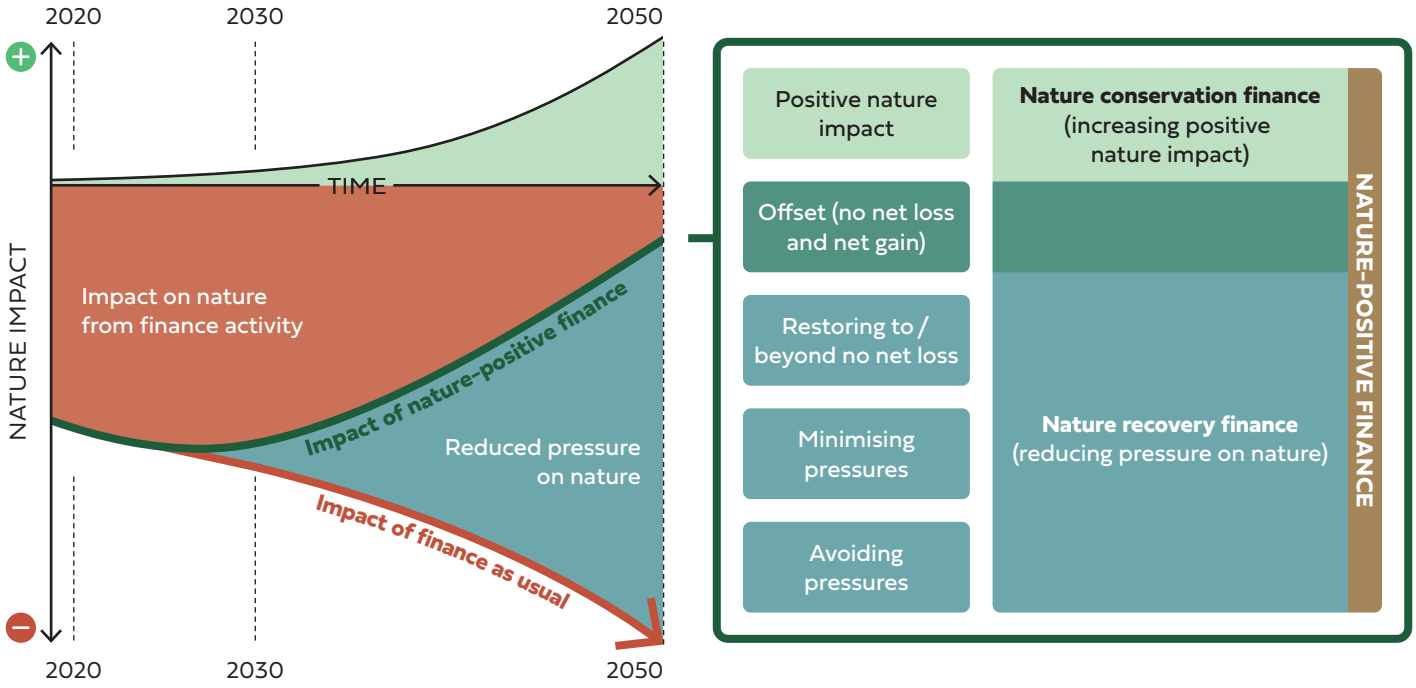


Figure 2. Nature-positive finance aims to halt and reverse nature loss by 2030 on a 2020 baseline and achieve full recovery by 2050. It can be broadly categorised into nature recovery and conservation finance through the lens of the mitigation hierarchy (shown in Figure 1).

Not explicit in the steps of the mitigation hierarchy is their collective contribution to increasing nature's resilience. This not only increases nature's capacity to continue providing the ecosystem services upon which our economies rely, but also amplifies its capacity to help mitigate and adapt to climate change.

This thinking is summarised in **Figure 2,** where the nature-positive finance[xi] branches of finance that reduces pressure on nature and adds to overall net gain has been drawn against the mitigation hierarchy. Again, we must stress that meeting the nature-positive goal requires both branches, with a concentration on avoiding and minimising given its considerable contribution to nature financing today.[40]

xi In alignment with "'Nature positive' must incorporate, not undermine, the mitigation hierarchy," Maron et al. 2023.

Research has shown that 'avoiding' and 'minimising' pressures on nature are commonly understood as more investible[41] (in terms of financial returns), in contrast to 'conservation' interventions, where returns have to date been more macro-economic and social[42] than financial, largely due to the public good characteristics of ecosystem service provision. We note that restoration efforts could sit in both areas of financing, dependent upon the characteristics of the project. Compliance market-like mechanisms for offsetting (no net loss and net gain, as it can straddle the line of no net loss) are currently emerging in some jurisdictions (eg Biodiversity Net Gain in England, the Nature Conservation Act in Finland, conservation banking in the USA), and have the potential to provide investible solutions (increased attractiveness, in terms of financial returns, of restoration interventions for private commercial financiers or investors). For example, the global voluntary carbon market, which contributes sizeable amounts to nature-based solutions,[43] topped US$1 billion for the first time in 2021[44] and it has been projected it could grow by US$5–30 billion per year by 2030.[45] As noted above, it is critical that these offsetting initiatives happen alongside other actions associated within the mitigation hierarchy to address the drivers of nature loss closest to the source.

3.3 The challenge of nature being a public good

Nature plays a central function[46] in society and the economy, through the numerous ecosystem services that it freely provides. These services have been estimated to contribute more than twice as much[47] to human well-being as global GDP. For example, humans' destruction of nature has played a role in enabling novel diseases,[48] from the extensive deforestation associated with the increase in Ebola outbreaks since 1994, to the role of wildlife commerce in the outbreak of COVID-19.

If private commercial capital is to play a role in the transition to a sustainable and resilient economy that conserves and restores nature, an underlying challenge must first be acknowledged. Nature (including biodiversity) has traditionally been, especially in market economies,[xii] regarded as a 'public good', with non-rival *(the benefits that one person reaps do not prevent others from also benefitting)* and non-excludable *(it is difficult to prevent others from benefitting)* attributes. These attributes make public goods very difficult to incorporate into price-based market mechanisms, due to the 'free-rider problem', in which self-interested individuals and companies choose to consume and benefit from public goods without paying for them). Although it is in theory possible to adequately price the more tangible ecosystem services (such as water, timber and fishing stocks), it is much harder for others such as pollination and clean air.

As a result, defining nature solely within the realm of the 'public interest' leads to it being in practice undervalued and thus underprovided[49] for, given stretched public finances. In short, although it is technically possible to put a price on nature's contributions to people[50] and the economy (and similarly on environmental costs[51] caused by business direct operations), this does not mean that a market exists[52] for all these contributions. Although foundational for a thriving society, the 'value' to society of many public goods (eg clean air, pollination, climate regulation, genetic resources) may be difficult for a private investor to capture.[53] Despite this challenge, there is a role for private finance that does add value to nature and therefore society.

There is a growing understanding of the role businesses can play towards the goals of the GBF[xiii] that are both sustainable and attractive to financiers' desired investment returns. For example, this can be done by improving agricultural productivity with soil management practices or technologies which minimise impact on nature, investing in biodiversity to build resilience against pests and diseases, or solutions that enable more groundwater absorption to avoid flooding. Alongside financial returns, several co-benefits could arise from effectively implemented practices, such as enhancements to the state of nature, enhanced resilience of agricultural supply chains (eg in the context of climate shocks) and increased climate change mitigation. These co-benefits may require time to become established, and their positive ecological outcomes can be influenced by other variables at play within the ecosystem (ie on 22 July 2024, a new record high was set for the daily global average temperature.[54] This can influence climate systems globally. By considering ecological and social elements from the onset of the financing/investments, businesses can achieve successful and sustainable financial returns, ensuring that restoration activities not only deliver ecological and social outcomes but also meet financial goals.

xii This is not necessarily the case in a number of cultures and markets which have different social institutions that 'internalise' nature: Hodel et al. 2024

xiii In late 2023, Business for Nature, the World Economic Forum and World Business Council for Sustainable Development released 12 sector actions towards a nature-positive future.

4 Towards a role for private commercial capital in nature-positive finance

4.1 The current gap in nature-positive finance

There is approximately a US$700 billion per year gap[55] between the current and required financing to meet the 2030 targets of the GBF.[56] Targets 18 and 19 of the GBF collectively aim to address the biodiversity financing gap by reducing harmful incentives by US$500 billion and mobilising US$200 billion of financing annually by 2030.

Flows of finance for nature (primarily nature-based solutions) were estimated in 2023 at US$200 billion (annually), of which private finance contributed US$35 billion.[57] This represents about a third of what is estimated to be needed by 2030 (US$542 billion annually) based on internationally agreed targets, with the need further increasing to US$737 billion annually by 2050. The public financing (together with private philanthropy) currently accounts for more than 80 per cent of the current flow of finance for nature. It is understood and expected that governments will continue to lead on nature financing through mechanisms such as subsidies reform that halts nature loss (typically nature recovery finance) and blended finance that halts and reverses nature loss (typically nature conservation finance). This will become more explicitly documented in countries' National Biodiversity Strategy and Action Plans[xiv, 58] (NBSAPs), which are due to be submitted by the 2024 Convention on Biological Diversity Conferences of the Parties (as noted in **Section 2,** it is expected that there will be increased synergies, integration and alignment among NBSAPs and nationally determined contributions (NDCs) to demonstrate national efforts towards meeting both the GBF and Paris Agreement).

xiv National Biodiversity Strategy and Action Plans (NBSAPs) are national strategies, plans and programmes for the conservation and sustainable use of biological diversity, submitted to the United Nations Convention on Biological Diversity. NBSAPs help gauge how national governments are enabling action towards meeting the targets of the Kunming-Montreal Global Biodiversity Framework (GBF), and can therefore influence economic activities.

Despite the growing ambition and action of the public sector, along with efforts from various multilateral development banks, the share of private capital (mostly commercial) needs to grow to about a third by 2050 (from just under 20 per cent now), reaching US$210 billion. It is predicted[59] that opportunities for private commercial capital (pure and blended finance) in 2050 will be mainly in sustainable land management (eg agroforestry) and restoration (eg peatland and seagrass restoration, reforestation) thematic areas. To achieve this, a major challenge to address in financing nature is aligning the risk–return expectations of financial institutions.

4.2 Building nature and financial value simultaneously

Although governments can deploy policy levers to incentivise private commercial capital away from harmful activities and towards nature-compatible and nature-friendly ones, businesses and their financiers should not wait for fully fledged enabling policy environments, given the scale and urgency of the challenge. **This publication aims to show what can already be done by the financial sector, to help fill the current finance gap for nature,** despite the many uncertainties and limited sectoral familiarity[60] and knowledge[61] around nature-positive finance, notably regarding:

- how private commercial capital can in practice contribute to the conservation and restoration of nature and biodiversity
- the pricing of risks and opportunities to businesses and their financiers
- how private commercial capital flows need to be intermediated.

One notable empirical study[xv, 62] on deal-level data (N = 33 deals averaging US$23 million each) from a leading biodiversity finance institution has provided unique insights on these elements. The study lists monetisation mechanisms for land and sea natural capital assets (eg forests providing ecotourism, carbon/biodiversity credits, recreational value, health, bioprospecting for medicine, certification as 'biodiversity-friendly' wood (higher prices), hydropower (pay for success), among others) and provides detailed quantitative data on biodiversity deals (including country, realm, deal size and financing, financial performance and risk, and environmental and social impact). The authors reported that profitable projects could be viably financed by pure private commercial capital, though their positive impact on biodiversity[xvi] tended to be lower than more ambitious biodiversity projects with lower financial returns. **What this may suggest is that projects which focus on halting nature loss (avoid/minimise) may generate more financial value than projects focused on restoring or conserving nature. However, the latter can be made more appealing to financial institutions by blending with public or private philanthropic capital to improve the risk–return profile.**

Another key piece of empirical evidence presented by the study was a set of projects discarded by the portfolio manager: these tended to be less profitable as well as less impactful (eg in terms of area of land where impacts are expected to be seen, number of beneficiaries and jobs created). **This suggests that when all other financial metrics are equal (ie financial risk and return), portfolio managers may use positive impact metrics, like nature impact, to make investment decisions.**

xv It is important to note that this paper came from the National Bureau of Economic Research (NBER), whose working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

xvi Positive impact on biodiversity was measured as area of land where impacts are expected to be seen, which can be disputed as a measure of achieved ecological outcomes.

4.3 Key barriers facing private commercial capital

Towards the end of 2023, CISL carried out over 20 hours of interviews with some of the 18 financial institutions (and their 300 representatives) that form the Banking Environment Initiative[63] (BEI) and the Investment Leaders Group[64] (ILG). Perspectives from the insurance industry were additionally sought as part of an 'Innovation Lab' co-organised in March 2024 by ClimateWise and the EU-funded Naturance project. The BEI, ILG and ClimateWise leadership groups are regularly convened by CISL to accelerate the transition to a global economy that is sustainable and resilient.

Prior to conducting the interviews and Innovation Lab, and to inform the themes and questions, CISL collected market research insights by reviewing published (peer-reviewed and grey) literature on barriers of private capital towards the conservation and restoration of nature. The key market research insights are noted below, with the additional themes yielded from the interviews following.

Market research insights[xvii]

Unclear returns and impact – Weak evidence on financial returns and nature outcomes, no universal metrics (comparability), data monitoring is inconsistent or nascent, all leading to lack of confidence.

Ambiguous supply of products – 'Commerciality' of existing products is not clear. For those that do exist, volume, size and repeatability are too low to build momentum or scale.

Limited capacity and knowledge – Tools, skills and data to quantify nature impact is limited; it is seen as a novel asset class (highly localised) that creates discomfort and inertia among finance practitioners.

Lengthy timelines and high perceived risk – Upfront costs and long lead times often lead to unfavourable returns; remote locations in riskier markets add to the challenge. In some instances there are high risks (whether perceived or actual) from the negative social impacts that could result from a project (ie local stakeholders protesting or backlash from limited engagement with land stewards).

Vague market rate value for nature – When markets fail to value certain outcomes, resources are likely to be used inefficiently and under-allocated to some areas. Nature underpins all economic activity, but its true value is often unpriced or underpriced, resulting in significant negative externalities.[65]

xvii There have been significant efforts recently to better understand the gap in nature-positive financing. This includes the following publications: BloombergNEF's 2023 Biodiversity Finance Factbook, WWF's Nature-Based Solutions: A Review of current financing barriers and how to overcome these report, Pollination's Tracking global investment in nature report, Heavy reliance on private finance alone will not deliver conservation goals article (Kedward et al. 2023), and Incentives and barriers to finance for forest and landscape restoration article (S. Löfqvist et al. 2023).

Interview and workshop research insights

Required familiarity of mechanism – To gain traction with institutional investors, the financial instruments used ideally need to have several characteristics familiar with existing financing solutions such as transparency, scalability, liquidity (in the case of bonds), commerciality and creditworthiness (green bonds, sustainability-linked bonds (SLBs), etc) – new and bespoke solutions add complexity and repeatability challenges.

Financialisation of 'public good' asset – As noted in **section 3.3,** there are challenges around ownership of nature, where its benefits can be for the public good. As ecosystems do not account for ownership borders, the investible rights of nature are deeply complex and unclear.[66]

Ambiguity of nature positive – As the impetus behind this publication, there is uncertainty on what nature-positive finance is. Often assumed as a mechanism to boost conservation efforts, the role for private financial institutions is unclear or misaligned[67] to the types of financing and investments this stakeholder group often participates in. Further, fear of greenwashing allegations due to this ambiguity creates nervousness among private financial institutions.

Nascent regulatory and political landscape – Although national governments have begun recognising the role of finance in relation to NDCs/NBSAPs, further action is required[68] to promote cross-sectoral commitments both in the short and long term. This is crucial to securing a sustainable role for private finance. Without greater certainty, the willingness of private investors, especially those with long-term horizons, may decline.

Once completing the interviews, the challenges identified were analysed alongside the barriers noted in market research. **What became most clear was that nature finance is often perceived as conservation finance with low returns, making it unsuitable for private commercial capital at scale.** Yet, private commercial capital must be part of the solution – not only to reduce the current US$5 trillion in finance flows linked to negative impacts, but also to align financial strategies with the goals of the GBF, unlocking the estimated US$10.1 trillion in opportunities.[69] The ambiguity around what nature finance is has shaped the impetus for this publication and themes explored.

5 Scaling private commercial capital for nature-positive finance

At this point in the publication, we have examined the concept of nature-positive finance and the role of private commercial capital in achieving GBF goals. The next section will discuss the increasing momentum around financing and investment aimed at halting and reversing nature loss, highlighting the types of financial products involved.

5.1 Evidence of momentum

Through initiatives such as Finance for Biodiversity, Nature Action 100, the Principles for Responsible Investment's Spring stewardship for nature, and the Finance Sector Deforestation Action Initiative, a growing number of financial institutions are signalling their intentions to play their part in scaling finance for nature. In line with this, private finance for nature is indeed growing, notably biodiversity bonds **(Figure 3),** which went up by 33 per cent in 2023[70] compared to the wider sustainable bond market (which itself grew by only 6 per cent).

This indicates that biodiversity as an investment focus is gaining some importance both in absolute terms and relative to the entire sustainable bond market. Yet biodiversity remains comparatively underrepresented in sustainable bonds, with under 8 per cent focused on nature (UN Sustainable Development Goal 14, Life below water; Goal 15, Life on land) **(Figure 4).**

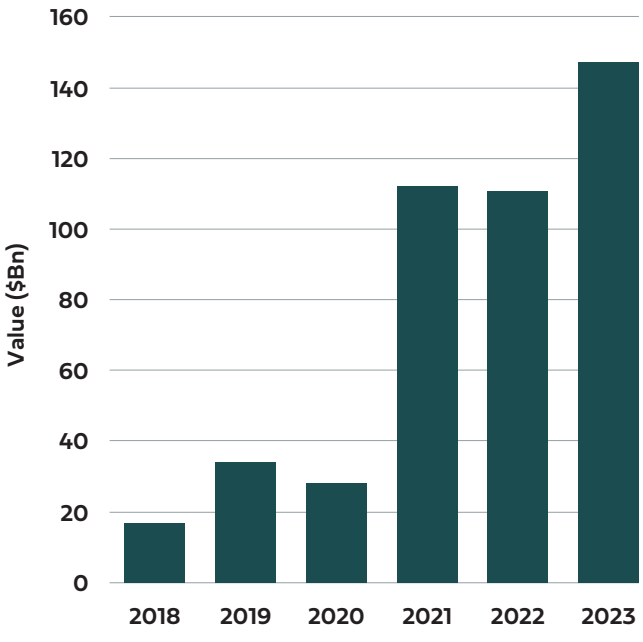


Figure 3. Annual issuance of bonds where capital is spent on terrestrial and aquatic biodiversity conservation (reproduced from Environmental Finance)

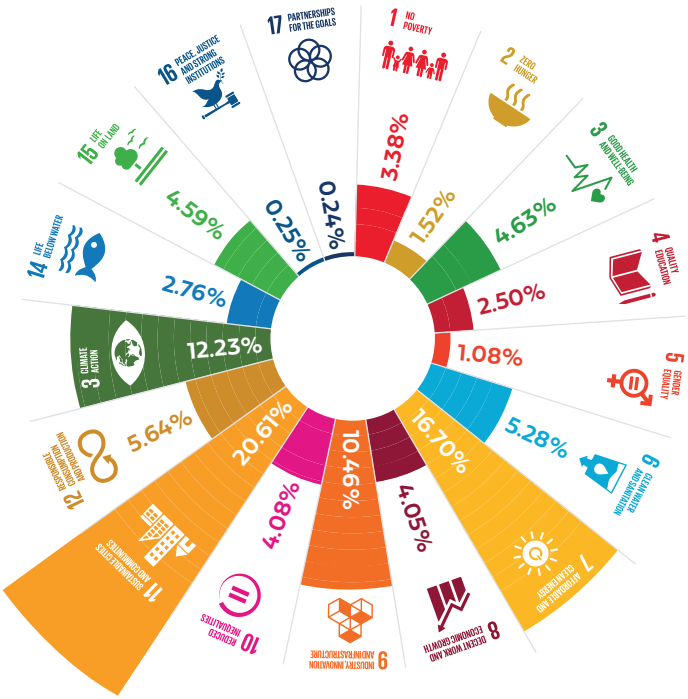


Figure 4. Breakdown of bonds aligned with the UN Sustainable Development Goals (reproduced from Environmental Finance)

Beyond bonds, there is a range of instruments, structures and incentives that are currently used for nature-positive finance **(Figure 5),** and which can be broadly divided into public, blended and private.

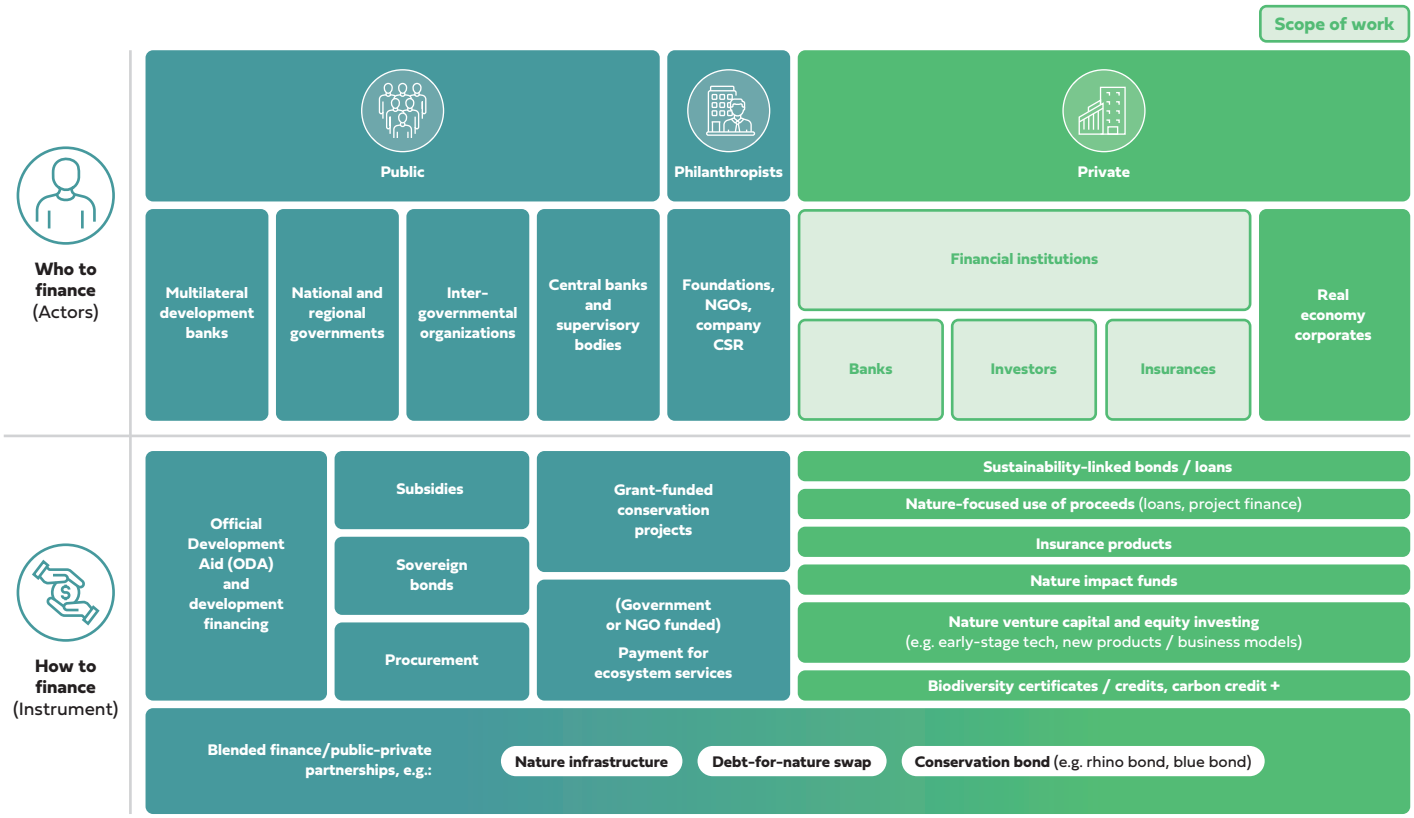


Figure 5. Overview of actors and instruments to finance nature (reproduced from World Economic Forum and Oliver Wyman)

It is further recognised that:

- different instruments will be needed to account for changes in risk level, as the journey to scale nature-positive finance develops through time **(Figure 6)**
- both nature recovery and nature conservation investments will be needed, and
- much is already possible with existing financial instruments for aligned stakeholders to be far more ambitious in their nature-related financing activities.

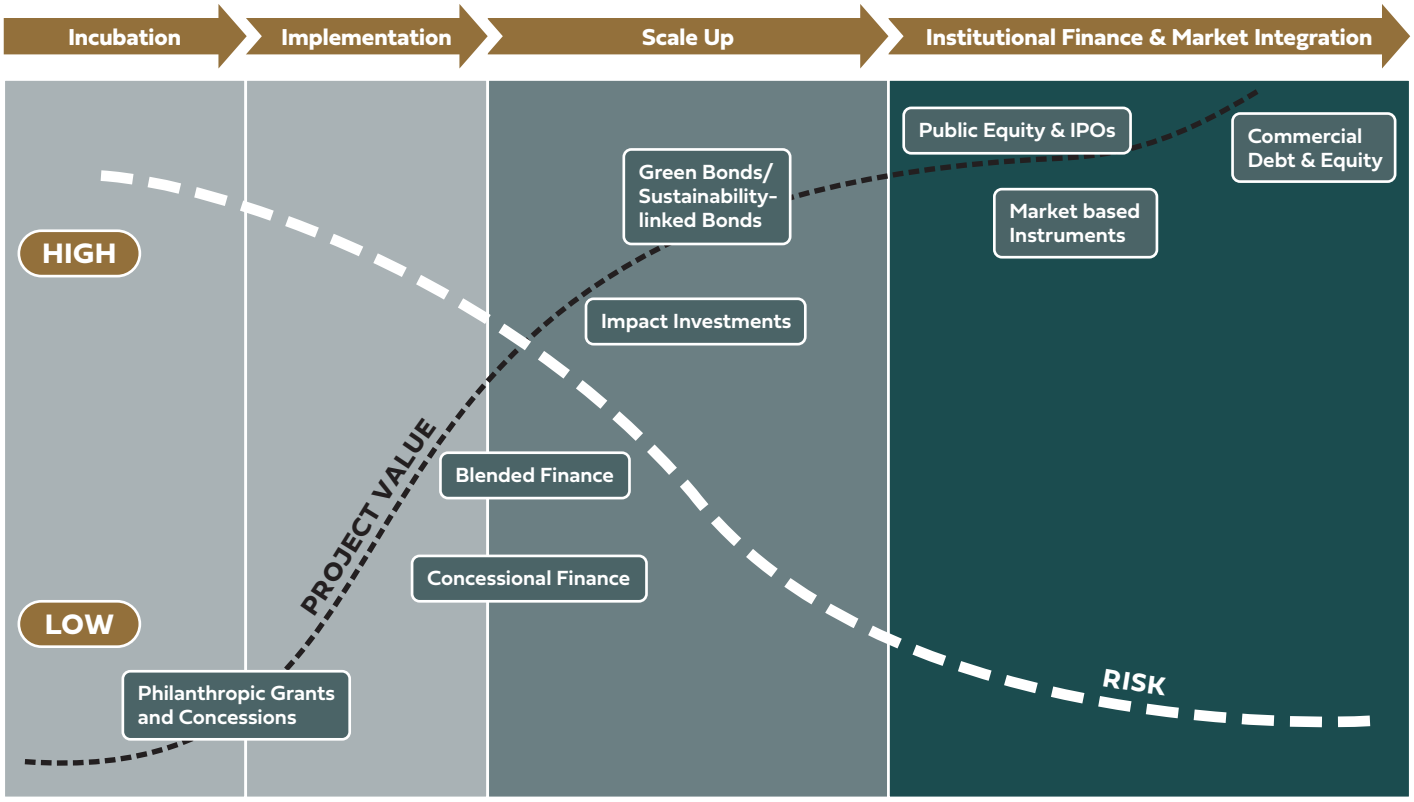
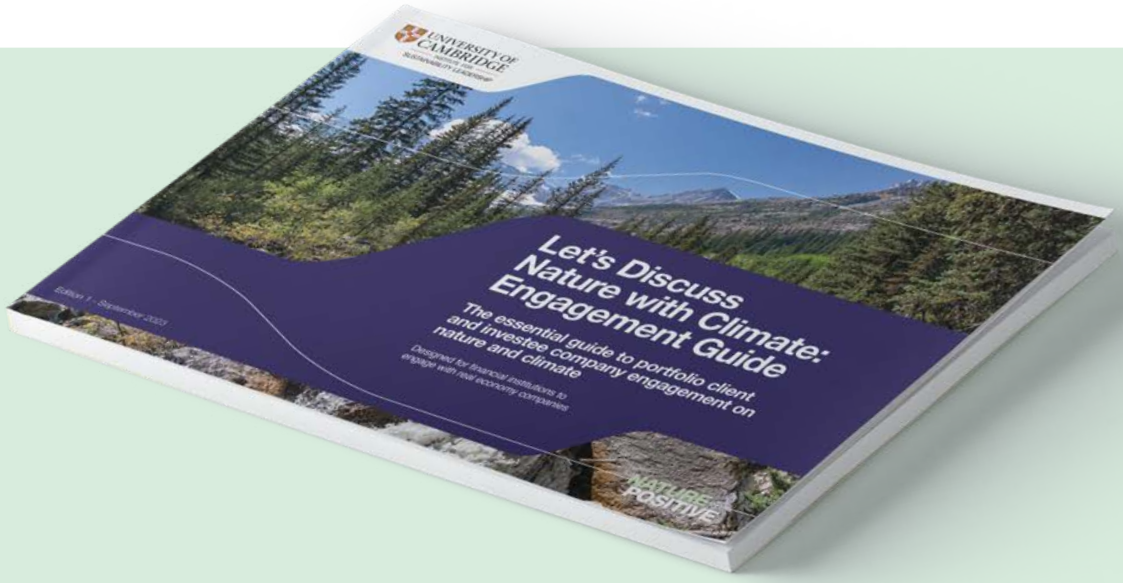


Figure 6. The capital continuum for nature-based solutions (reproduced from Integrity Global Partners and CPIC)

5.2 Instruments currently used for nature-positive finance

Financial instruments that are already available to private commercial capital can be broadly grouped into five categories across the two branches of nature-positive finance (noting that there is overlap between them). It is worth noting, as addressed in **Figure 5,** that some types of financing may be better aligned to specific stakeholder groups. For example, sovereign bonds are issued by public actors whereas nature equity funds are generated by private actors. As the nature finance landscape continues to evolve, this too will evolve.



In addition to these specific financing mechanisms, financial institutions can support the goals of the GBF **through engagement and stewardship through existing financing and investments**. In 2023, CISL produced the Let's Discuss Nature with Climate: Engagement Guide which supports the market-wide transformation towards a net-zero and nature-positive economy by evolving the interaction between banks and investment managers and those they finance.

5.2.1 Use of Proceeds instruments (bonds and loans)

Use of Proceeds bonds (raised in public markets) and loans (provided by banks) are debt instruments in which ring-fenced funding is used for environmentally and socially sustainable activities (including natural capital related activities), as agreed between the issuer or borrower of the funding. A combination of the two is possible under so-called generic 'sustainability' bonds and loans. Such bonds are governed by the now well-established Green Bond Principles, while equivalent loans are governed under the Green Loan Principles.

In recent years, Sovereigns, Supranationals and State Agencies (SSAs) have significantly increased their relative contribution to and/or issuance of biodiversity bonds, while that of financial institutions has remained stable **(Figure 7).** June 2024 saw, however, the issuance of what is claimed to be the financial sector's first biodiversity bond,[71] with US$50 million being used to finance projects focused on reforestation and regeneration of forests on degraded land, mangrove conservation or restoration, agriculture and wildlife restoration in Colombia. Further, also in June 2024, the World Bank announced plans to issue a new US$200 million bond to support sustainability activities and reforestation in Brazil's Amazon with HSBC structuring the transaction. It is important to note that this is an 'outcome bond' rather than an indicator or being key performance indicator (KPI)-linked, which according to the lender, provides investors with the ability to focus on specific projects and outcomes.

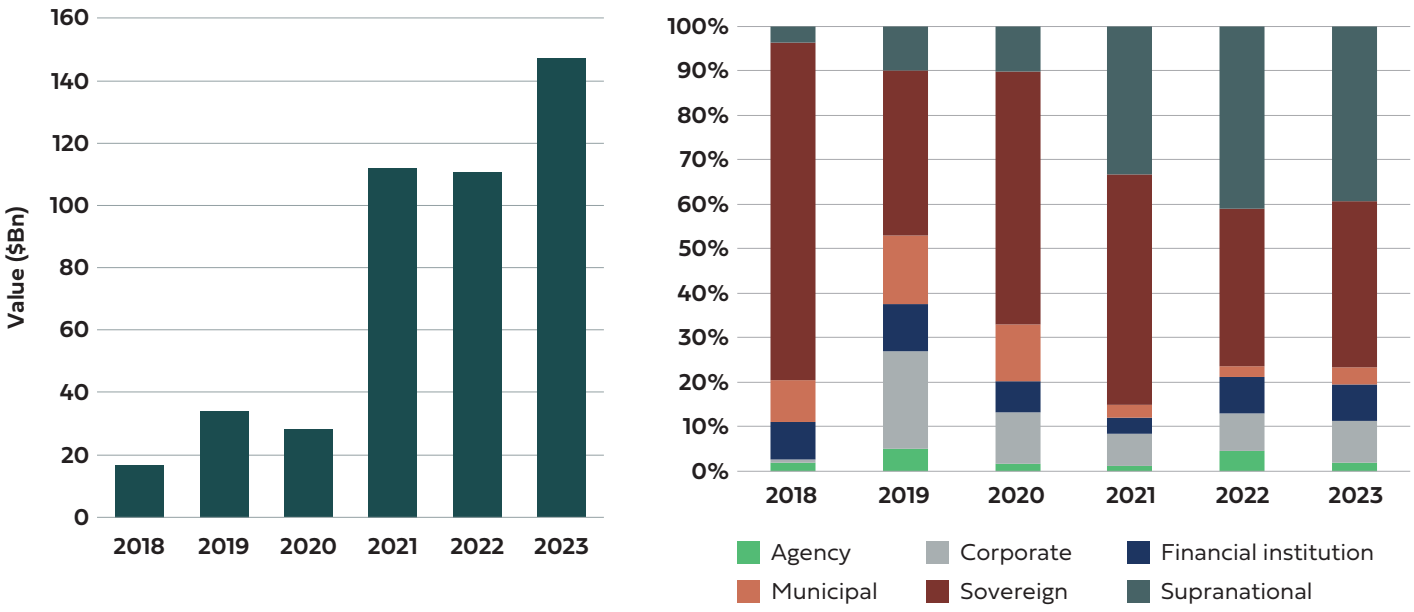


Figure 7. Annual issuance of bonds where capital is spent on terrestrial and aquatic biodiversity conservation (left), and share of bonds by issuer type (right) (reproduced from Environmental Finance).

5.2.2 Sustainability-linked instruments

Performance, or sustainability-linked, financing links the terms of the bond or loan to the achievement of pre-defined sustainability (performance) targets,[xviii] often set at the level of the borrowing entity. However, these instruments can extend beyond bonds and loans – eg sustainability-linked supply chain finance. Proceeds are not ring-fenced and therefore can be accessed for general corporate purposes.

The development of such instruments has witnessed a fast evolution in both scale of issuance and in breadth of sectors open to such funding since the first sustainability-linked bond[72] (SLB) was issued in September 2019. From a meteoric rise to close to US$95 billion issued SLBs in 2021, subsequent years have witnessed a steady decline in issuances,[73] possibly partly because of concerns around the level of ambition and impact materiality of the targets. Yet target-linked financing instruments remain a crucial innovation in sustainable finance, given the flexibility and versatility[74] that the instruments afford to borrowers in how the proceeds of the bond are used, in contrast to 'use of proceeds' instruments.

Box C. **Santander launches first sustainability-linked supply chain finance in Portugal**

Santander has partnered with Sonae to offer suppliers preferential discount rates based on their environmental, social and governance (ESG) rating from global sustainability rating platform EcoVadis. This innovative sustainability-linked supply chain finance programme has been designed to incentivise an improvement in sustainability performance and is open to Sonae's suppliers in Portugal and Spain.

Box D. **Uruguay's sovereign sustainability-linked-bond framework**

As an alternative approach for sustainability-linked debt financing, Uruguay seeks to implement a two-way pricing structure, linking the country's cost of capital to the achievement of its climate and nature-based goals under the Paris Agreement. This includes: KPI-1 – Reduction of aggregate gross GHG emissions per real GDP unit with respect to reference year, and KPI-2 – Maintenance of native forest area with respect to reference year.

xviii See illustrative KPI registry: https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/

5.2.3 Debt-for-nature swaps

Debt-for-nature swaps[75] are sovereign or public debt restructuring transactions in which some of the debt is either refinanced or written off in exchange for investment, by the borrowing entity, in nature conservation initiatives. These are potentially key instruments in achieving the targets of the GBF, as such instruments could provide US$100 billion in debt relief[76] in developing countries for restoring and conserving nature. Such mechanisms can be hugely impactful given that highly indebted developing nations are often those most vulnerable to climate risk,[77] yet also have rich and highly biodiverse ecosystems that require immediate conservation from development. Debt-for-nature swaps are currently being structured with the use of savings proceeds and KPI-linked objectives. Usually, the government of the public debt has milestones to deliver on and is penalised financially if it does not achieve the nature targets.

In 2024, CISL and MS Amlin published a use case[78] showcasing how credit insurance was able to support a debt-for-nature swap for marine conservation in Ecuador.

5.2.4 Targeted natural capital funds

The GBF provided renewed impetus, building upon direction set by some asset owners, for investment management institutions to establish and market collective investment funds that define their investment objective around nature. These funds invest under a combination of assessment for both financial returns, as well as measuring what kind of positive biodiversity or natural capital impact is being made by investee companies.

Equity funds

These can include both private equity funds (typically smaller scale that invest in specific projects, eg Mirova, Ocean Capital) and public equity funds (that invest in listed companies, eg Union Bancaire Privée (UBP), Lombard Odier). In such funds, consideration of biodiversity and nature within investment strategies takes place primarily at the stock selection level, rather than at the geographical asset allocation level. Such funds may have dedicated biodiversity-related performance benchmarks or use generic market benchmarks against which to assess their financial performance. These funds differentiate themselves, however, through their focus on impact and dedicated outcome-based focus and targets to justify their label as 'biodiversity' or 'natural capital' funds.

For instance, UBP's UBAM Biodiversity Restoration Fund[79] is structured around solution providers' products and supply chains that protect and restore species and nature habitats. Comprised of approximately 50 stocks, the fund invests in seven industrial verticals, including sustainable management of natural resources, green cities and sustainable food production. The investment rationale behind the fund is that new nature-related policies and regulations being developed in response to the nature crisis will drive new investment business opportunities as companies commit to more 'biodiversity-positive' business models. The fund targets companies that have clear economic opportunities to help mitigate ecosystem damage, as well as those that seek a competitive opportunity in nature remediation, or that help mitigate biodiversity impact through innovation and new technologies. This strategy clearly encompasses both nature recovery and nature conservation investments, incorporating both facets of nature-positive financing.

Debt funds

Similarly, dedicated green or sustainable bond funds have been created to invest directly in publicly listed bond instruments issued by companies in sectors with biodiversity impact and transition opportunities. It has been reported[80] that bonds incorporating nature conservation objectives will account for almost a third of environmental, social and governance (ESG) labelled debt issued in 2024, up from 3 per cent in 2015 – such debt issuance could come close to US$300 billion by the end of 2024.

5.2.5 Biodiversity credits

As mentioned earlier, biodiversity credits[81] are certificates that represent a "measured and evidence-based unit of positive biodiversity outcome that is durable and additional to what would have otherwise occurred". There are attempts[82] at building an inclusive and high-integrity market in such biodiversity credits, which would set out minimum standards and an associated pipeline of site-level projects. Investors and companies are, however, fully aware of the pitfalls experienced[83] in the carbon credit market around legitimacy, transparency and longevity claims of the underlying asset offered. Until scientifically robust credit solutions are available, much can already be achieved in terms of nature positivity by focusing on nature interventions aligning with the early steps of the mitigation hierarchy (avoid, minimise, restore).

6 Conclusions and call to action

To truly address the intertwined crises of nature and climate, we must act with urgency and scale. This publication emphasises that if we do not start scaling and increasing the speed of finance mobilised for nature, the already crippling nature-related risks will only continue to grow. A key barrier to this shift in capital flow is the narrow perception that nature finance is limited to conservation efforts. While conservation finance is undoubtedly crucial, this view is too restrictive. The reality is that nature-positive finance requires a twofold approach: increasing capital flows towards conservation and restoration, while also actively reducing the capital that drives harm to nature.

The ***Scaling Finance for Nature: Barrier Breakdown*** publication is motivated by the need to scale the contribution of private finance towards nature and biodiversity, closing the current US$700 billion/year gap. This report aims to clarify that achieving the biodiversity financing goals set out in the Global Biodiversity Framework requires a dual approach. Currently, private capital contributes US$5 trillion in finance flows linked to negative impacts on nature, while US$10.1 trillion in economic opportunities could arise from the transition to a nature-positive economy. By simultaneously halting and reversing nature's loss, private finance can play a transformative role in reducing nature-related risks and accelerating this transition.

By exploring the nuances of nature finance, this publication provides a pathway to galvanise action and close the biodiversity finance gap. It addresses (1) the distinction between halting nature loss and restoring or conserving nature, (2) the role of private commercial capital in achieving a nature-positive future, including its limitations and barriers, and (3) how private capital can be part of the solution, with evidence of growing momentum through various financial mechanisms.

If we realign finance in this way, we come closer to fulfilling the vision of the Global Biodiversity Framework, where biodiversity is valued, conserved, restored and wisely used – ensuring a healthy planet and delivering essential benefits for all people. It is imperative that private financial institutions and investors urgently embrace and prioritise financing strategies in line with the two branches of nature-positive finance. With examples provided, barriers acknowledged, and clarity brought to nature finance, private capital is equipped to take action in halting and reversing nature loss, thereby protecting and ensuring economic well-being and ultimately creating a world that nourishes and nurtures all.

What's next?

This **Scaling finance for nature: Breaking down barriers** publication sets the scene for future work that will explore solutions to scale finance that contributes to nature-positive outcomes, notably considering solutions to the barriers identified in this report. Follow-on publications will examine established financial mechanisms and products in finer detail,[xix] including traditional and innovative instruments[xx] (eg biodiversity credits). In addition, this A-Track finance workstream will explore the metrics and data that can be used to quantify positive impact towards nature through financing (whether through halting and/or reversing nature loss). Key, actionable information will also be summarised in the form of briefs for policy and finance audiences, so that findings can be implemented.

---

xix In addition to the examples noted in this publication, please see New Green Shoots 2024 from the United Nations Environment Programme Finance Initiative (UNEP-FI), the EU Business & Biodiversity Platform (EBBP), the Finance for Biodiversity Foundation (FfBF) and Principles for Responsible Investment (PRI) for an overview of over 50 current examples of financial products that are contributing towards nature-positive solutions.

xx *Please do not hesitate to get in touch with the project team (csf@cisl.cam.ac.uk) if you are aware of solutions and metrics that exist today which should be included in the next phase of this work stream.*

Bibliography

1 "Planetary boundaries," Stockholm Resilience Centre, Stockholm University, September 2023, https://www.stockholmresilience.org/research/planetary-boundaries.html.

2 Justin Andrew Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways* (World Bank, 2021), https://openknowledge.worldbank.org/entities/publication/fcc11682-c752-51c4-a59f-0ab5cd40dc6f.

3 Cate Lamb, Christina Copeland, Catherine Moncrieff et al., *A wave of change: The role of companies in building a water-secure world* (CDP Worldwide, 2021), https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/577/original/CDP_Water_analysis_report_2020.pdf.

4 United Nations Environment Programme, *State of Finance for Nature 2023: The Big Nature Turnaround – Repurposing $7 Trillion to Combat Nature Loss* (United Nations Environment Programme, 2023), https://doi.org/10.59117/20.500.11822/44278.

5 Zhu Chunquan, Qian Wu, and Susan Hu, "How to Unlock $10.1 Trillion From the Nature-positive Transition," World Economic Forum, July 15, 2024, https://www.weforum.org/agenda/2024/07/theres-10-1-trillion-in-nature-positive-transition-heres-how-we-unlock-it.

6 Conference of the Parties to the Convention on Biological Diversity, *Decision 15/4. Kunming-Montreal Global Biodiversity Framework,* United Nations Environment Programme, December 19, 2022, https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf.

7 "Nature Restoration Law," European Commission, accessed August 20, 2024, https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en.

8 Stephen T. Garnett et al., "A spatial overview of the global importance of Indigenous lands for conservation," *Nature Sustainability* 1 (2018): 369–374, https://doi.org/10.1038/s41893-018-0100-6.

9 "Planetary boundaries," Stockholm Resilience Centre.

10 World Economic Forum, *Global Risks Report 2023* (World Economic Forum, 2023), https://www.weforum.org/publications/global-risks-report-2023/digest/.

11 "How The World's Largest Companies Depend on Nature and Biodiversity," S&P Global, May 10, 2023, https://www.spglobal.com/esg/insights/featured/special-editorial/how-the-world-s-largest-companies-depend-on-nature-and-biodiversity.

12 Frank Elderson, "The Economy and Banks Need Nature to Survive," European Central Bank, June 8, 2023, https://www.ecb.europa.eu/press/blog/date/2023/html/ecb.blog230608~5cffb7c349.en.html.

13 Ashley Ballantyne, C. B. Alden, John B. Miller et al., "Increase in Observed Net Carbon Dioxide Uptake by Land and Oceans During the Past 50 Years," *Nature* 488, no. 7409 (2012): 70–72, https://doi.org/10.1038/nature11299.

14 Peter Woods Ellis, Aaron Marr Page, Stephen Wood et al., "The Principles of Natural Climate Solutions," *Nature Communications* 15, no. 1 (2024), https://doi.org/10.1038/s41467-023-44425-2.

15 Finance for Biodiversity Foundation, *Unlocking the biodiversity-climate Nexus. Practitioner's guide* (Finance for Biodiversity Foundation, 2023), https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation-Unlocking-the-biodiversity-climate-nexus.pdf.

16 Jessica Smith, Sylvaine Rols, Anita De Horde et al., *Stepping up on Biodiversity: What the Kunming-Montreal Global Biodiversity Framework Means for Responsible Investors* (United Nations Environment Programme, 2023), https://www.unepfi.org/wordpress/wp-content/uploads/2023/04/Stepping-up-on-Biodiversity.pdf.

17 John Tobin-de la Puente and Andrew W. Mitchell, eds., *The Little Book of Investing in Nature* (Global Canopy, 2021), https://globalcanopy.org/wpcontent/uploads/2021/01/LBIN_2020_EN.pdf.

18 United Nations Environment Programme, *State of Finance for Nature 2023.*

19 Emmanuelle Assouan, Sabine Mauderer, and Marc Reinke, *Nature-related Financial Risks: A Conceptual Framework to Guide Action by Central Banks and Supervisors* (Network for Greening the Financial System, 2024), https://www.ngfs.net/sites/default/files/medias/documents/ngfs-conceptual-framework-nature-risks.pdf.

20 Robert Costanza, Rudolf De Groot, Paul Sutton et al., "Changes in the Global Value of Ecosystem Services," *Global Environmental Change* 26 (2014): 152–58, https://doi.org/10.1016/j.gloenvcha.2014.04.002.

21 Justin Andrew Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways* (World Bank, 2021), https://openknowledge.worldbank.org/entities/publication/fcc11682-c752-51c4-a59f-0ab5cd40dc6f.

22 Parliament Office of Science and Technology, "Insect pollination," *Postnote* 348 (January 2010), https://www.parliament.uk/globalassets/documents/post/postpn348.pdf.

23 Melissa M. Rohde, Christine M. Albano, Xander Huggins et al., "Groundwater-dependent Ecosystem Map Exposes Global Dryland Protection Needs," *Nature* 632, no. 8023 (2024): 101–7, https://doi.org/10.1038/s41586-024-07702-8.

24 Lamb et al., *A wave of change.*

25 "NGFS Acknowledges That Nature-related Risks Could Have Significant Macroeconomic and Financial Implications," NGFS, March 24, 2022, https://www.ngfs.net/en/communique-de-presse/ngfs-acknowledges-nature-related-risks-could-have-significant-macroeconomic-and-financial.

26 Nicola Ranger, Jimena Alvarez, Anna Freeman et al., *The Green Scorpion: The Macro-Criticality of Nature for Finance,* Oxford–NGFS Occasional Paper (Environmental Change Institute, University of Oxford, 2023), https://www.eci.ox.ac.uk/sites/default/files/2023-12/INCAF-MacroCriticality_of_Nature-December2023.pdf.

27 United Nations Environment Programme, *State of Finance for Nature 2023.*

28 "The Biodiversity Plan for Life on Earth," Convention on Biological Diversity, February 14, 2024, https://www.cbd.int/gbf.

29 Andrew Deutz, "A New Deal to Close the Nature Finance Gap," The Nature Conservancy, September 22, 2021, https://www.nature.org/en-us/what-we-do/our-insights/perspectives/closing-nature-finance-gap-cbd/.

30 The Biodiversity Consultancy and The World Bank Group, *International Development Association's Twentieth Replenishment Mid-Term Review: Note On Nature Finance Tracking Methodology* (World Bank, 2022), https://documents1.worldbank.org/curated/en/099020524182036310/pdf/BOSIB1722f330c0fd18f8818b41d9bbe465.pdf.

31 Nature Positive Initiative, *The Definition of Nature Positive* (Nature Positive Initiative, 2023), https://www.naturepositive.org/app/uploads/2024/02/The-Definition-of-Nature-Positive.pdf.

32 The Biodiversity Consultancy and The World Bank Group, *International Development Association's Twentieth Replenishment Mid-Term Review: Note On Nature Finance Tracking Methodology* (World Bank, 2024), https://documents1.worldbank.org/curated/en/099020524182036310/pdf/BOSIB1722f330c0fd18f8818b41d9bbe465.pdf.

33 International Finance Corporation, *Biodiversity Finance Reference Guide: Green Bond Technical Assistance Program* (International Finance Corporation, 2023), https://www.ifc.org/content/dam/ifc/doc/mgrt/biodiversity-finance-reference-guide.pdf.

34 Jon Ekstrom, Leon Bennun, and Robin Mitchell, *A cross-sector guide for implementing the mitigation hierarchy* (Cross Sector Biodiversity Initiative, 2015), http://www.csbi.org.uk/wp-content/uploads/2017/10/CSBI-Mitigation-Hierarchy-Guide.pdf.

35 International Finance Corporation, *International Finance Corporation's Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources* (IFC, 2012), https://www.ifc.org/content/dam/ifc/doc/2010/20190627-ifc-ps-guidance-note-6-en.pdf.

36 William N. S. Arlidge, Joseph W. Bull, Prue F. E. Addison et al., "A Global Mitigation Hierarchy for Nature Conservation," *BioScience* 68, no. 5 (2018): 336–47, https://doi.org/10.1093/biosci/biy029.

37 Amelia Meyer, Hannah Baleta, Gregg Brill et al., *Company Response options for the first release of SBTs for Nature* (Science Based Targets Network, 2023).

38 "Step 4: Act," Science Based Targets Network, accessed June 4, 2024, https://sciencebasedtargetsnetwork.org/companies/take-action/act/.

39 United Nations Environment Programme, *State of Finance for Nature 2023.*

40 United Nations Environment Programme, *State of Finance for Nature 2023.*

41 Sophus O. S. E. zu Ermgassen and Sara Löfqvist, "Financing Ecosystem Restoration," *Current Biology* 34, no. 9 (2024): R412–17, https://doi.org/10.1016/j.cub.2024.02.031.

42 Alisher Mirzabaev and David Wuepper, "Economics of Ecosystem Restoration," *Annual Review of Resource Economics* 15, no. 1 (2023): 329–50, https://doi.org/10.1146/annurev-resource-101422-085414.

43 Campbell Moore, Giulia Carbone, Jack Hurd et al., "Why Voluntary Carbon Markets for Nature Are Needed Right Now," World Economic Forum, August 24, 2023, https://www.weforum.org/agenda/2023/08/voluntary-carbon-markets-nature-based-solutions-climate/.

44 "Voluntary Carbon Markets Top $1 Billion in 2021 With Newly Reported Trades, a Special Ecosystem Marketplace COP26 Bulletin," Ecosystem Marketplace, November 10, 2021, https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/.

45 Christopher Blaufelder, Cindy Levy, Peter Mannion et al., "A Blueprint for Scaling Voluntary Carbon Markets to Meet the Climate Challenge," McKinsey & Company, January 29, 2021, https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge.

46 OECD, "Biodiversity, Natural Capital and the Economy," *OECD Environment Policy Papers* no. 26 (OECD Publishing, 2021), https://doi.org/10.1787/1a1ae114-en.

47 Robert, Costanza, Rudolf De Groot, Paul Sutton et al., "Changes in the Global Value of Ecosystem Services," *Global Environmental Change* 26 (2014): 152–58, https://doi.org/10.1016/j.gloenvcha.2014.04.002.

48 Dayi Zhang, Yunfeng Yang, Miao Li, et al., "Ecological Barrier Deterioration Driven by Human Activities Poses Fatal Threats to Public Health Due to Emerging Infectious Diseases," *Engineering* 10 (2022): 155–66, https://doi.org/10.1016/j.eng.2020.11.002.

49 Caroline Flammer, Thomas Giroux, and Geoffrey Heal, *Biodiversity Finance* (National Bureau of Economic Research, March 2023), https://www.nber.org/system/files/working_papers/w31022/w31022.pdf.

50 Sandra Díaz, Unai Pascual, Marie Stenseke et al., "Assessing Nature's Contributions to People," *Science* 359, no. 6373 (2018): 270–72, https://doi.org/10.1126/science.aap8826.

51 S&P Global Sustainable1 and Capitals Coalition, *Unpriced Environmental Costs, The Top Externalities of the Global Market* (S&P Global, 2024), https://www.spglobal.com/esg/documents/capitals-coalition-report-v8.pdf.

52 W. M. Adams, "The Value of Valuing Nature," *Science* 346, no. 6209 (2014): 549–51, https://doi.org/10.1126/science.1255997.

53 Ermgassen and Löfqvist, "Financing Ecosystem Restoration."

54 "New Record Daily Global Average Temperature Reached in July 2024," Copernicus, July 25, 2024, https://climate.copernicus.eu/new-record-daily-global-average-temperature-reached-july-2024.

55 Andrew Deutz, Geoffrey M. Heal, Rose Niu et al., *Financing Nature: Closing the Global Biodiversity Financing Gap* (The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability, 2020), https://www.nature.org/content/dam/tnc/nature/en/documents/FINANCINGNATURE_FullReport_091520.pdf.

56 Secretariat of the Convention on Biological Diversity, "2030 Targets (With Guidance Notes)," accessed September 4, 2024, https://www.cbd.int/gbf/targets.

57 United Nations Environment Programme, *State of Finance for Nature 2023.*

58 UNEP FI and UNDP BIOFIN, *Engaging Private Finance in the NBSAP Review and Implementation: Sign-Posts for Policymakers* (UNEP FI and UNDP BIOFIN, 2023), https://www.unepfi.org/wordpress/wp-content/uploads/2023/11/Engaging-private-finance-in-the-NBSAP-review-1.pdf.

59 United Nations Environment Programme, *State of Finance for Nature 2023.*

60 World Economic Forum and Oliver Wyman, *CEO Briefing, Financing the Nature-Positive Transition: Understanding the Role of Banks, Investors and Insurers* (World Economic Forum, 2024), https://www.oliverwyman.com/content/dam/oliver-wyman/financing_nature-positive_CEO_briefing_.pdf.

61 Flammer et al., *Biodiversity Finance.*

62 Flammer et al., *Biodiversity Finance.*

63 "Banking Environment Initiative," University of Cambridge Institute for Sustainability Leadership (CISL), accessed September 4, 2024, https://www.cisl.cam.ac.uk/business-action/sustainable-finance/banking-environment-initiative.

64 "Investment Leaders Group," University of Cambridge Institute for Sustainability Leadership (CISL), accessed September 4, 2024, https://www.cisl.cam.ac.uk/business-action/sustainable-finance/investment-leaders-group.

65 "Global Nature Markets Landscaping Study," Taskforce on Nature Markets, December 7, 2022, https://www.naturemarkets.net/publications/global-nature-markets-landscaping-study.

66 Jennifer Gooden and Michael 't Sas-Rolfes, "A review of critical perspectives on private land conservation in academic literature," *Ambio* 49, no. 5 (2020):1019–1034, https://doi.org/10.1007/s13280-019-01258-y.

67 Anita Hawser, "Unclear Definitions Are Hindering Bank Financing of Nature-positive Solutions," The Banker, July 16, 2024, https://www.thebanker.com/Unclear-definitions-are-hindering-bank-financing-of-nature-positive-solutions-1721122133.

68 E.M. Santos et al., "Mainstreaming Revisited: Experiences From Eight Countries on the Role of National Biodiversity Strategies in Practice," *Earth System Governance* 16 (2023): 100177, https://doi.org/10.1016/j.esg.2023.100177.

69 Chunquan et al., "How to Unlock $10.1 Trillion From the Nature-positive Transition."

70 "Sustainable Bonds Insight 2024," Environmental Finance, accessed September 4, 2024, https://www.environmental-finance.com/content/downloads/sustainable-bonds-insight-2024.html.

71 "BBVA Colombia and IFC Announce the Financial Sector's First Biodiversity Bond Issue," BBVA, June 4, 2024, https://www.bbva.com/en/sustainability/bbva-colombia-and-ifc-announce-the-financial-sectors-first-biodiversity-bond-issue/.

72 Ahren Lester, "Why Enel Turned to Sustainability-linked Bonds," Environmental Finance, June 14, 2022, https://www.environmental-finance.com/content/analysis/why-enel-turned-to-sustainability-linked-bonds.html.

73 Ahren Lester, "SLBs: 2024 Issuance Slumps as Issuer Wariness Grows," Environmental Finance, June 21, 2024, https://www.environmental-finance.com/content/news/slbs-2024-issuance-slumps-as-issuer-wariness-grows.html.

74 Ulf Erlandsson and Josephine Richardson, *Sustainability-linked bond handbook: A practitioner's guide* (Anthropocene Fixed Income Institute, 2024), https://anthropocenefii.org/resources/sustainability-linked-bond-handbook.

75 Dominique Benzaken, Jean Paul Adam, John Virdin et al., "From Concept to Practice: Financing Sustainable Blue Economy in Small Island Developing States, Lessons Learnt From the Seychelles Experience," *Marine Policy* 163 (2024): 106072, https://doi.org/10.1016/j.marpol.2024.106072.

76 "Debt swaps could release $100 billion for climate action," International Institute for Environment and Development, April 15, 2024, https://www.iied.org/debt-swaps-could-release-100-billion-for-climate-action.

77 University of Cambridge Institute for Sustainability Leadership (CISL) and MS Amlin, *Nature-related Financial Opportunity Use Case: Debt-for-nature Swap Supported by Credit Insurance for Marine Conservation* (Cambridge Institute for Sustainability Leadership, 2024), https://www.cisl.cam.ac.uk/files/opportunity-use-case-ms_amlin.pdf.

78 CISL and MS Amlin, *Nature-related Financial Opportunity Use Case.*

79 "UBAM Biodiversity Restoration, Key Investor Information Document (KIID)," Hargreaves Lansdown, February 26, 2024, https://www.hl.co.uk/funds/fund-discounts,-prices--and--factsheets/search-results/u/ubam-biodiversity-restoration-class-k-accumulation/key-features.

80 Sabrina Jacobs and Philipp Buff, "Biodiversity Bonds: the new frontier in fixed income markets," Pictet Asset Management, May 2024, https://am.pictet/en/japan/global-articles/2024/monthly-markets-views/fixed-income/biodiversity-bonds.

81 Biodiversity Credit Alliance, *Definition of a Biodiversity Credit. Issue paper* (Biodiversity Credit Alliance, 2024).

82 "Developer Plans to Sell First Peruvian Biodiversity Credits by the End of the Year, French Fund to Buy," Carbon Pulse, June 6, 2024, https://carbon-pulse.com/292810/.

83 Patrick Greenfield, "Revealed: More Than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless, Analysis Shows," *The Guardian,* January 18, 2023, https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe.

Additional references from boxes and figures

Box A **(1)** Richardson, Katherine, Will Steffen, Wolfgang Lucht, Jørgen Bendtsen, Sarah E. Cornell, Jonathan F. Donges, Markus Drüke, et al. 2023. "Earth Beyond Six of Nine Planetary Boundaries." *Science Advances* 9 (37). https://doi.org/10.1126/sciadv.adh2458. Licensed under CC BY-NC-ND 3.0; **(2)** WWF Switzerland and Dalberg Advisors, "High Cost of Cheap Water: The True Value of Water and Freshwater Ecosystems to People and Planet" 2021. wwf_high-cost-of-cheap-water-report_web.pdf (panda.org); **(3)** IPBES (2023). Summary for Policymakers of the Thematic Assessment Report on Invasive Alien Species and their Control of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES secretariat, Bonn, Germany. https://doi.org/10.5281/zenodo.7430692 and **(4)** IUCN, "More than half of all mangrove ecosystems at risk of collapse by 2050, first global assessment finds". IUCN, September 9 2024, More than half of all mangrove ecosystems at risk of collapse by 2050, first global assessment finds - Press release | IUCN

Figure 1 CSBI (2015). *A cross-sector guide for implementing the mitigation hierarchy.* Prepared by the Biodiversity Consultancy on behalf of IPIECA, ICMM and the Equator Principles Association: Cambridge UK.

Figure 2 Adapted from: Science-Based Targets Network. September 2022. "Initial Guidance for Business", https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf; Licensed under Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

Figure 3 "Sustainable Bonds Insights 2024," Environmental Finance, accessed September 4, 2024, https://www.environmental-finance.com/content/downloads/sustainable-bonds-insight-2024.html.

Figure 4 "Sustainable Bonds Insights 2024," Environmental Finance, accessed September 4, 2024, https://www.environmental-finance.com/content/downloads/sustainable-bonds-insight-2024.html.

Figure 5 World Economic Forum, "Financing the Nature-Positive Transition: Undertanding the Role of Banks, Investors and Insurers" June 2024, https://www.oliverwyman.com/content/dam/oliver-wyman/financing_nature-positive_CEO_briefing_.pdf.

Figure 6 Coalition for Private Investment in Conservation, "Building a Capital Continuum for Nature-Positive Investments" September 2023, Building a Capital Continuum for Nature-Positive Investments – clean (cpicfinance.com).

Figure 7 "Sustainable Bonds Insights 2024," Environmental Finance, accessed September 4, 2024, https://www.environmental-finance.com/content/downloads/sustainable-bonds-insight-2024.html.

Box C "Santander launches first Sustainability-Linked Supply Chain Finance in Portugal," Santander, May 11, 2022, https://www.santander.com/en/press-room/press-releases/2022/05/santander-launches-first-sustainability-linked-supply-chain-finance-in-portugal.

Box D Ministry of Economy and Finance of Uruguay, *Uruguay's Sovereign Sustainability-Linked Bond (SSLB) Framework* (Ministry of Economy and Finance of Uruguay, 2022), https://sslburuguay.mef.gub.uy/innovaportal/file/30690/20/uruguay_sslb_framework__2.pdf.

UNIVERSITY OF CAMBRIDGE | CISL Cambridge Institute for Sustainability Leadership

Head office
The Entopia Building
1 Regent Street
Cambridge CB2 1GG, UK

T: +44 (0)1223 768850
info@cisl.cam.ac.uk

Brussels
Sustainable Hub
Rue du Commerce
72, Brussels 1040 Belgium

T: +32 (0) 2 894 93 19
info.eu@cisl.cam.ac.uk

Cape Town
Workshop17 NCG 146
Campground Road
Newlands 7780
Cape Town, South Africa

T: +27 (0)21 300 5013
info.sa@cisl.cam.ac.uk

www.cisl.cam.ac.uk **@cisl_cambridge**