Discussion paper on Nature-related opportunities

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tnfd.global

Taskforce on Nature-related Financial Disclosures

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Executive Summary

The Kunming-Montreal Global Biodiversity Framework (GBF) has a mission to 'halt and reverse biodiversity loss' by 2030, and a vision of a world 'living in harmony with nature' by 2050. This was endorsed by nearly 200 governments in December 2022.

Delivering the GBF will require avoiding and reducing negative impacts on nature, and scaling up positive impacts through conservation, restoration and regeneration of nature.

Aligned to the GBF, the TNFD defines nature-related opportunities as 'activities that create positive outcomes for organisations and nature by creating positive impacts on nature or mitigating negative impacts on nature'. The TNFD's objective in preparing this discussion paper is to encourage and enable further market action on nature-related opportunities. First, by providing a common language to describe their elements, design and expected outcomes, and second, by providing examples and case studies for others to learn from, focused on practical challenges and solutions, for example, in securing approval, financing, execution and scaling.

Nature-related opportunities are often incorrectly perceived as being narrowly focused on conservation and restoration and intended only to support the Corporate Social Responsibility (CSR) objectives of the organisation. They are not expected to generate financial benefits to the organisation (and indeed are usually treated as an expense, not an investment).

The central challenge today across business and finance is to change this mindset. This discussion paper shows that activities that avoid and reduce negative impacts (or harms) to nature and/or generate positive impacts on nature (conservation, restoration and regeneration) go beyond CSR benefits and deliver risk management, resilience and financial value to the organisation.

Nature-related opportunities can stem from an organisation's actions to:

- Manage its nature-related dependencies and address its negative impacts;
- Manage its nature-related risks and their implications for the future financial prospects of the organisation;
- Provide solutions to other organisations and broader society; and
- Support the global goal of contributing to 'nature-positive' societal outcomes.

Assessment of nature-related issues using the TNFD's LEAP approach can help organisations to identify one or more of these pathways for pursuing nature-related opportunities.

Disclosures aligned with the TNFD recommendations and transition plans incorporating nature-related actions create transparency about how the organisation is responding to the nature-related dependencies, impacts and risks it has identified. This is also aligned to the intent of Target 15 of the Global Biodiversity Framework. Increased disclosure on these issues faced by reporting organisations can generate ideas and support for nature-related opportunities among report users.

Consistent with the broader conceptual approach taken by the TNFD, nature-related opportunities are considered in relation to the five drivers of nature change identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). The anatomy of a nature-related opportunity comprises two parts:

- First, the activity undertaken by the organisation and the output from the activity;
- Second, it should produce a positive outcome (financial or non-financial) for the organisation itself and positively influence one or more of the drivers of nature change – namely the avoidance or reduction of one or more of the negative drivers of nature change, such as resource use; or increase one or more of the positive drivers of nature change, such as resource replenishment.

A nature-related opportunity is pursued by either a corporate or financial institution, which develops, adapts, replicates, scales or implements a physical product, service, financial instrument, process method or business model. Identifying positive outcomes for both nature and the organisation is critical to raising the profile of nature-related opportunities with senior management, decision makers and financiers.

This framing of nature-related opportunities works for any sector, region, ecosystem or biome. Having this common language helps identify opportunities, secure approval and resources internally and meet financing needs. It is also essential for business case development, accountability and external reporting consistent with the recommendations of the TNFD, as well as target-setting and transition planning, if undertaken.

Nature-based solutions (NbS) and nature-related opportunities overlap. Discussions about NbS focus primarily on environmental and social outcomes and often do not address the business outcomes for corporates or financial institutions explicitly. However, the literature about NbS contains guidance and examples that are useful when considering nature-related opportunities as they both require a positive impact on nature.

This report provides examples and case studies of nature-related opportunities grouped by their value proposition to the corporate or financial institution:

1. **Operational efficiency and resilience:** Addressing internal costs, compliance or other operational issues related to dependencies or impacts on nature, within the existing business model.

2. **New product or service markets:** Innovating and scaling a new material or method for clients or customers that delivers improved outcomes through the drivers of nature change.
3. **Supply chain resilience:** Improving resilience or sustainability of suppliers.
4. **Business model innovation:** Structuring an organisation to create new revenue and value pathways related to internal business practices or structure.
5. **Financial innovation:** Applying traditional financial products and services in novel nature-related contexts and innovating nature-supportive financial products and services.

This is not an exhaustive list, but helps relate opportunities to the roles held by those within corporates and financial institutions who will identify, assess, seek approval for and execute them.

The case studies demonstrate challenges in identifying and executing opportunities in each of the above groups and were not mutually exclusive to a particular group. Challenges ranged from internal approvals to supply chain constraints and included issues such as a lack of exemplars, a lack of demand signals, the need for technical, logistical and knowledge capacity building and resourcing, including finance.

Solutions to these challenges in the case studies were varied, depending on the particular context of the organisation. For example, solutions to secure approval, budget or financing included starting small to fit into existing budgets, having strong internal champions who were trusted by senior management, engaging with internal stakeholders and showing rapid results, especially for the positive business outcomes. Working with others, such as subject matter experts, research institutes or directly with suppliers, was another solution to build capacity, overcome technical issues and show credibility to senior management and financing partners. The case studies also showed the use of various financing arrangements, including general financing, corporate bonds, insurance and commercial loans, venture capital and equity. In some cases, where exemplars needed to be established, public financing and grants had a key role to play alongside, or as a precursor to, commercial finance.

A common theme evident in these case studies is that nature-related opportunities require modifications to account for the location, the context of the business and value chain (including state of nature, ecosystem services and dynamics of the economic sector), and the depth of understanding and demand of the end user. The need for these modifications has implications for how opportunities can be replicated and scaled, and how lessons learned from these challenges and solutions can be applied by other organisations. The case studies show how proponents took this into account as they developed their business model and considered how to scale the nature-related opportunities.

Finally, interviews with business and financial sector executives for this review highlight the importance of signals and incentives provided by the broader policy and regulatory enabling environment. This includes the opportunity to repurpose government subsidies to business away from activities that result in negative impacts on nature to those that contribute to nature-positive outcomes.

Nature-related opportunities – 'Top five' summary

Five nature-related opportunity basics

1. A nature-related opportunity is an activity that results in positive outcomes for both nature and the organisation pursuing the opportunity.
2. Nature-related opportunities can arise in response to an organisation managing its nature-related dependencies and impacts, managing its nature-related risks, providing solutions for other organisations' or society's nature-related issues, or contributing to the global goal of achieving 'nature-positive' outcomes.
3. While nature-related opportunities include both activities that avoid and reduce negative impacts on nature and contribute to positive impacts, related metrics should be reported separately for negative and positive impacts, as outlined in the TNFD recommendations.
4. Nature-related opportunities may be found in any economic sector and may result in a new product or service, adapting or implementing an existing product or service, or changing the business model or production methods.
5. Financial institutions are part of the enabling environment and can also create their own nature-related opportunities by financing and insuring opportunities developed by companies across real economy sectors.

Five nature-related opportunity challenges

1. **Securing internal approval and resources:** Securing approval, budget or financing and resources in an established company, often without the historical data or demand signal available for conventional products and services.
2. **Lack of comparable industry success stories:** Reluctance of management to support an idea in the absence of it being proven by another organisation in a comparable context.
3. **Supply chain constraints:** Sourcing required inputs and components and creating new technical processes where none currently exist.
4. **Technical, logistical and knowledge capacity building:** Scaling awareness and capabilities internally or with supply chain partners to transform practices to more sustainable methods.
5. **Accessing risk capital:** Including financing for proof of concept product development and for scaling new process and product innovations, including first commercial scale production facilities.

Five nature-related opportunity lessons learned

1. Nature-related opportunities are often identified from the bottom-up within organisations for different reasons, ranging from mitigating financial risk to recognising interest from clients.
2. Pilots and exemplars are critical to rapidly demonstrate results and secure management buy-in, attracting finance, securing clients and establishing commercial viability.
3. Collaboration with parties on the ground, technical experts, counterparties and along the value chain is fundamental to structuring the nature-related opportunity.
4. Replication or scaling is easier with partners that have in-depth knowledge of the local business and nature context.
5. Nature-related opportunities that are ideally suited to the private markets are those that clearly tackle financial or core business strategy issues.

Five sources of nature-related opportunities

1. Opportunities can be solutions for risk departments to mitigate risks.
2. Opportunities can be solutions for operations departments to find efficiencies as they sustainably manage their dependencies on nature.
3. Opportunities can be developed by firms in response to economy-wide dependencies and impacts.
4. Opportunities can be developed by firms to contribute to nature-positive outcomes.
5. Opportunities can be identified by experts in a field who provide technical expertise on management of nature-related issues to address different value propositions.

1. Introduction

1.1. Context and objectives

Nature and ecosystem services are not being appropriately priced and the global economy is operating outside the safe zone for seven of the nine planetary boundaries.[1] This leads to risks across the economy and financial system that central banks and governments now recognise, and creates risks for individual financial institutions and businesses.[2] Business resilience relies fundamentally on the health of nature and its biodiversity.

The vision and mission of the Kunming-Montreal Global Biodiversity Framework (GBF), agreed to by nearly 200 governments in December 2022, is to 'halt and reverse' biodiversity loss by 2030, and achieve a world 'living in harmony with nature' by 2050, where biodiversity is valued, conserved, restored and wisely used. Delivering the GBF will require tackling drivers of nature change over multiple time frames and transforming the systems in which companies and their value chains are embedded. This includes reducing current negative impacts and avoiding future negative impacts. This also includes contributing to positive impacts now and in the future through conserving, restoring and regenerating ecosystems.

Estimates of the financing gap for nature range from USD 600-900 billion annually.[3] By contrast, an estimated USD 7 trillion of finance flows each year have a direct negative impact on nature as a result of financing harmful economic activities across sectors.[4] It is clearly critical and urgent to mobilise private finance alongside public finance to address this challenge. This represents a significant opportunity for business and finance to contribute to nature-positive outcomes.[5] Nature-related opportunities can also help improve business resilience, manage nature-related risks and contribute to global policy goals such as those in the GBF.

1 PBScience. (2025) Planetary Health Check 2025. Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany.

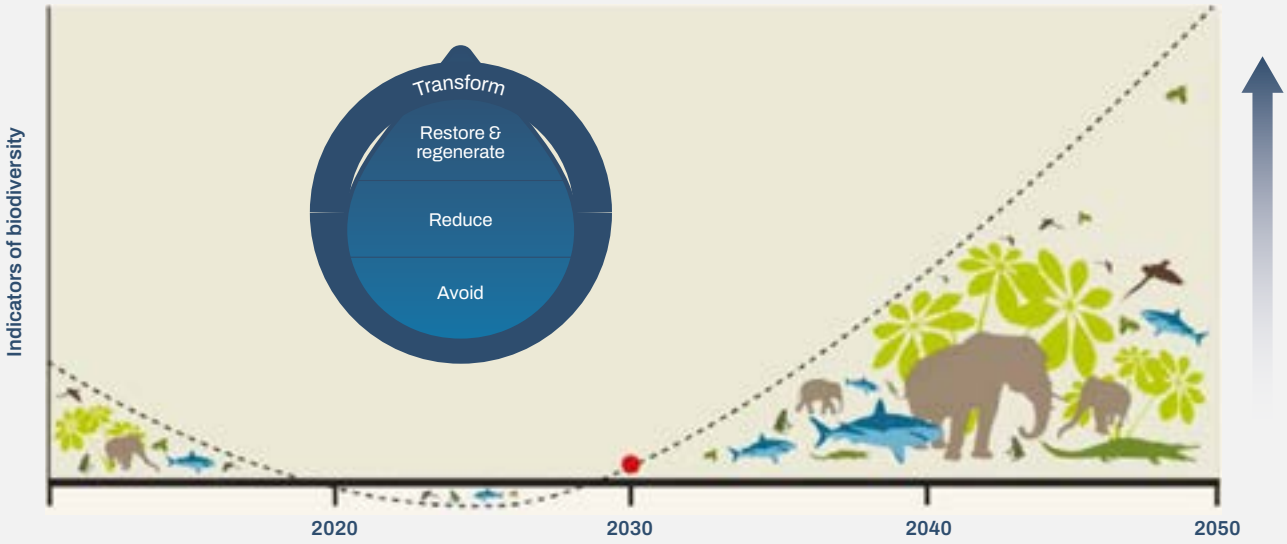
2 NGFS (2024) Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors; NGFS (2022) Statement on Nature-Related Financial Risks; G20 (2021) Sustainable Finance Roadmap; G20 (2024) G20 High-Level Principles on Bioeconomy; University of Oxford et al. (2025) Evidence review on the financial effects of nature-related risks. University of Oxford, TNFD, Global Canopy.

3 Barbier, E. (2022) The policy implications of the Dasgupta Review: Land use change and biodiversity; Deutz, A. et al. (2020) Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability.

4 UN Environment Programme (2023) State of Finance for Nature: The Big Nature Turnaround – Repurposing $7 trillion to combat nature loss.

5 Finance for nature-based solutions (NbS) alone was estimated at around USD 200 billion in 2022, predominantly sourced from public finance, but showing an 11% increase compared to 2021. See: UN Environment Programme (2023) State of Finance for Nature: The Big Nature Turnaround – Repurposing $7 trillion to combat nature loss.

Figure 1: Actions needed to halt and reverse nature loss by 2030 and live in harmony with nature by 2050



The SBTN AR3T framework covers actions to mitigate negative impacts on nature and generate positive impacts on nature.

Sources: Adapted from Locke, H. et al. (2021) A Nature-Positive World: The Global Goal for Nature and SBTN (2023) Step 4. Act.

Nature-related opportunities are defined by TNFD as activities that create positive outcomes for organisations and nature through positive impacts or mitigation of negative impacts on nature. As outlined in the TNFD recommendations, while nature-related opportunities include both activities that avoid and reduce negative impacts on nature and have positive impacts, related metrics should be reported separately for negative and positive impacts.

Feedback received by the TNFD suggests that market participants understand nature-related opportunities less well than nature-related risks and are facing challenges with implementation. The related literature and frameworks are fragmented, covering opportunities from diverse angles, with inconsistent taxonomies, unclear classifications and limited transparency on financial and business performance and ultimate nature outcomes.[6] Corporates and financial institutions are facing challenges to identify and assess opportunities, build the business case, secure approval, obtain finance and dedicate the required resources.

The TNFD's objective in this discussion paper is to encourage and enable further market action on nature-related opportunities, first by providing a common language to describe their elements and expected outcomes; and second by providing examples and case studies for

6 This is also a point made by WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

others to learn from, focused on practical challenges and solutions, for example, in securing approval, financing, execution and scaling.

Nature-related opportunities are often incorrectly perceived as being narrowly focused on conservation and restoration and intended only to support the Corporate Social Responsibility (CSR) objectives of the organisation. They may deliver benefits, such as enhanced reputation or customer loyalty, but they are not expected to generate financial benefits to the organisation (and indeed are usually treated as an expense, not an investment). The central challenge today across business and finance is to change this mindset.

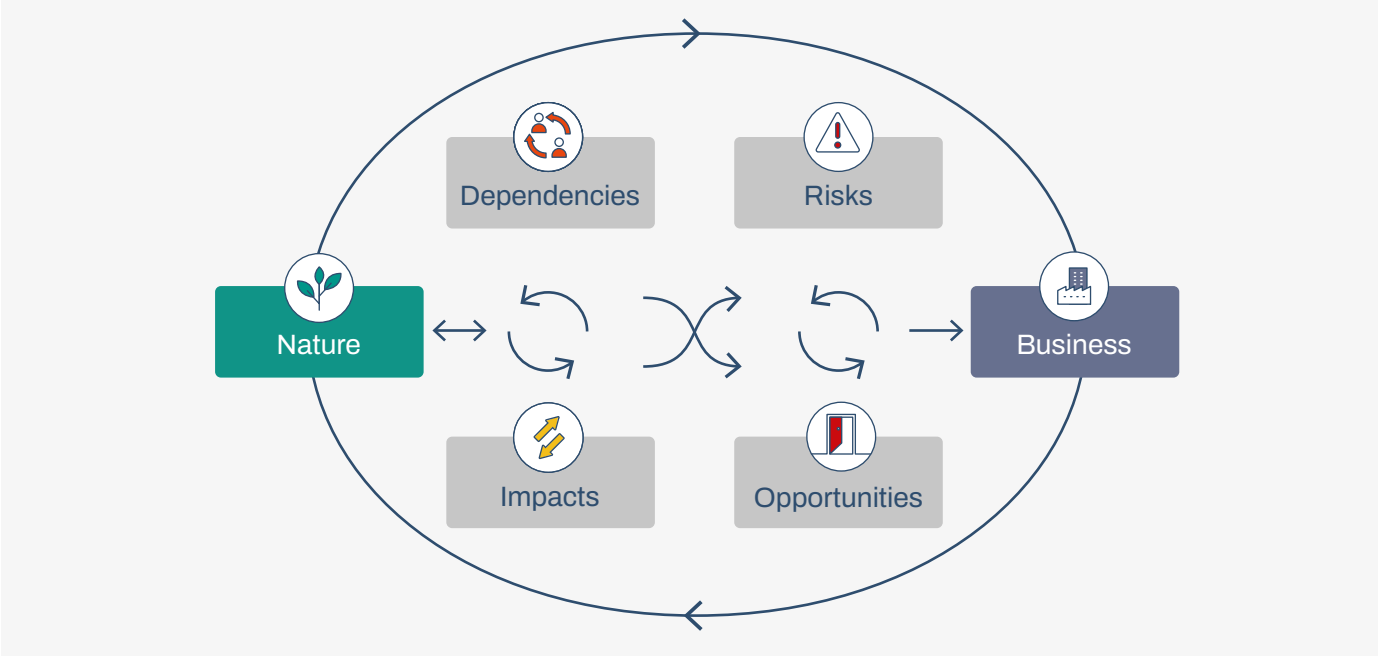
As highlighted in this report, activities that avoid and reduce negative impacts (or harms) to nature and/or generate positive impacts on nature (conservation, restoration and regeneration) go beyond CSR benefits and deliver risk management, resilience and financial value to the organisation. The examples in this report show that a breadth of nature-related opportunities already exist across sectors. The case studies focus on business operations and processes, particularly improving internal operations; working with supply chains; introducing a new product or service; implementing an innovative business model; and modifying or innovating financial products and services. They cover different types of opportunity, including some that are place-based and others that, by design, deliver or enable such changes in other organisations.[7] They involve existing, new or adapted products, services, business models or methods, and financing instruments from early-stage to maturity. They include both conservation, regeneration and restoration activities (positive impacts), and activities that avoid and reduce the drivers of nature loss (mitigation of negative impacts).

1.2. How the TNFD framework covers nature-related opportunities

The TNFD recommendations, LEAP guidance and metrics architecture support an organisation's identification, assessment, management and disclosure of nature-related dependencies, impacts, risks and opportunities. When conducting internal assessments using the LEAP approach, nature-related opportunities can be identified as an organisation evaluates its dependencies and impacts and assesses its related risks. This paper should be reviewed in conjunction with the TNFD framework, particularly the TNFD recommendations and LEAP guidance.

7 For example, debt financing provided by a local bank for equipment changes to implement more sustainable fishing methods or technology deployed for monitoring restoration sites.

Figure 2: Nature-related dependencies, impacts, risks and opportunities



Disclosures aligned with the TNFD recommendations create transparency on the nature-related issues faced by reporting organisations, which can generate ideas and support for nature-related opportunities among report users. The TNFD core global disclosure indicators include two specifically on nature-related opportunities.[8]

The concept of nature-related opportunities is built into the TNFD's LEAP assessment approach. In particular, the consideration of opportunities is included in the 'Assess' phase and the development of plans to pursue specific opportunities is included in the 'Prepare' phase. These plans could be articulated further in a transition plan aligned with the TNFD's guidance on nature in transition plans.[9]

Transition plans centre on the organisation's goals, targets, actions, accountability mechanisms and intended resources to respond and contribute to the transition implied by the GBF. This entails avoiding and reducing negative impacts on nature and increasing positive impacts on nature in the organisation's business model and value chain, and contributing to the wider societal transition to a nature-positive future. This may include broader changes to the organisation, including its governance, and measurement and monitoring plans. The overall transition plan should be embedded in the organisation's wider

8 C7.3: Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant; and C7.4 Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature with a description of impacts. See Annex 1 of the TNFD recommendations and additional disclosure metrics on opportunities in Annex 2.

9 TNFD (2025) Guidance on nature in transition plans.

business strategy and contribute to the organisation's profitability and resilience over the time horizon of the plan. In a transition plan, specific actions can constitute nature-related opportunities, particularly those actions that concern the organisation's business focus, for example, by making changes to the product or service that the business produces to address the organisation's impact on nature, or that of others.

The TNFD recommendations, LEAP approach and guidance on nature in transition planning all specify applying the mitigation hierarchy, and align to the SBTN AR3T Framework that covers actions to avoid future impacts, reduce current impacts, regenerate and restore ecosystems, and transform the systems in which companies are embedded inside and outside their value chains. It is built on the mitigation hierarchy set out in the International Financial Corporation's (IFC) Performance Standard 6 and the conservation hierarchy.[10]

1.3. Scope and outline of this report

This report was prepared through a review of academic and grey literature, and discussions and interviews with practitioners.

The report benefited from input from the TNFD's Knowledge Partners and subject matter expert organisations, including Biomimicry Institute, BloombergNEF, Ellen MacArthur Foundation, Green Finance Institute (GFI), Global Canopy, London School of Economics and Political Science (LSE), NatureFinance, Nature Positive Initiative Secretariat (NPI), Project Drawdown, Science Based Targets Network (SBTN), United Nations Development Programme (UNDP), UNEP Finance Initiative (UNEP FI), World Business Council on Sustainable Development (WBCSD), the World Economic Forum (WEF) and WWF.

The report is structured into two sections:

- Section 2 discusses the anatomy of a nature-related opportunity, including outcomes and key elements; and
- Section 3 provides examples of nature-related opportunities, with deeper dives into specific cases that provide interesting lessons for others to learn from.

Complementary information is provided in four annexes:

- Annex 1 provides further discussion and examples related to Section 2;
- Annex 2 provides further examples of nature-related opportunities;
- Annex 3 covers the enabling regulatory and finance environment and the potential roles both policy and finance, including insurance, can play; and
- Annex 4 provides further discussion of the connection between opportunities and dependencies, impacts and risks.

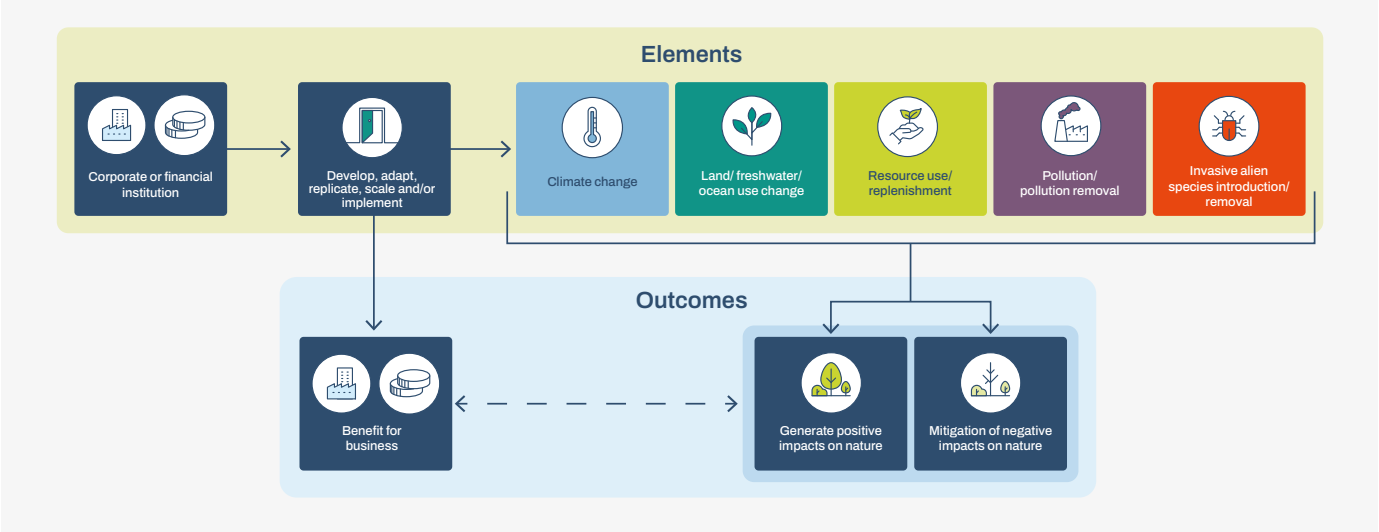
10 SBTN (2025) Step 4: Act.

2. Characterising nature-related opportunities

This section discusses the anatomy of a nature-related opportunity to provide a common language to describe opportunities and thereby support conversations between financial institutions and corporates, and among financial professionals. The anatomy comprises two parts: the positive business and nature outcomes of a nature-related opportunity (Section 2.1) and the elements (action and output) that produce these outcomes (Section 2.2). These outcomes and elements are illustrated in Figure 3.

Recognising these elements and dual outcomes can help with the identification and assessment of investible opportunities and the financing flows that could contribute to business resilience and nature-positive outcomes. Within corporates, the anatomy may assist in building the internal case for resources and budget allocation. The anatomy is sector and driver agnostic, making it applicable across contexts.

Figure 3: The anatomy of a nature-related opportunity



Note: A nature-related opportunity comprises two parts: 1) the Elements – action(s) carried out by a corporate or financial institution that act on the drivers of nature change and 2) the Outcomes – benefits produced for both the organisation and nature.

Recognising the key elements and outcomes of a nature-related opportunity could provide insight into – and help address – many of the challenges that organisations face when pursuing opportunities, from identification to execution. For example:

- Having a common language can **help to identify opportunities** among proposed actions and existing activities when seeking solutions to manage nature-related issues.
- Different elements may require **different financing and approval paths**. For example, opportunities in the 'develop' stage may be suited to blended finance or the support of research and development budgets. Alternatively, an opportunity that involves the implementation of an existing product may already have a defined approval path, where exemplars are available.
- Being able to communicate the specific elements of an opportunity can **facilitate the acquisition of financing**.
- Communicating these elements and understanding the business and nature outcomes is also **essential for the business case** and **supports accountability and reporting**.

2.1. Outcomes of nature-related opportunities

Nature-related opportunities produce benefits for both the organisation executing the opportunity and nature (Figure 4).

Business performance benefits for both corporates and financial institutions may be financial and non-financial. Financial benefits can be related to one or more of:

- Savings – for example, from resource efficiency, reduced risks or improved financing terms;
- Increased revenue – for example, from access to new markets or new product lines; and
- Increased value – for example, from stronger brand or future-proofing.

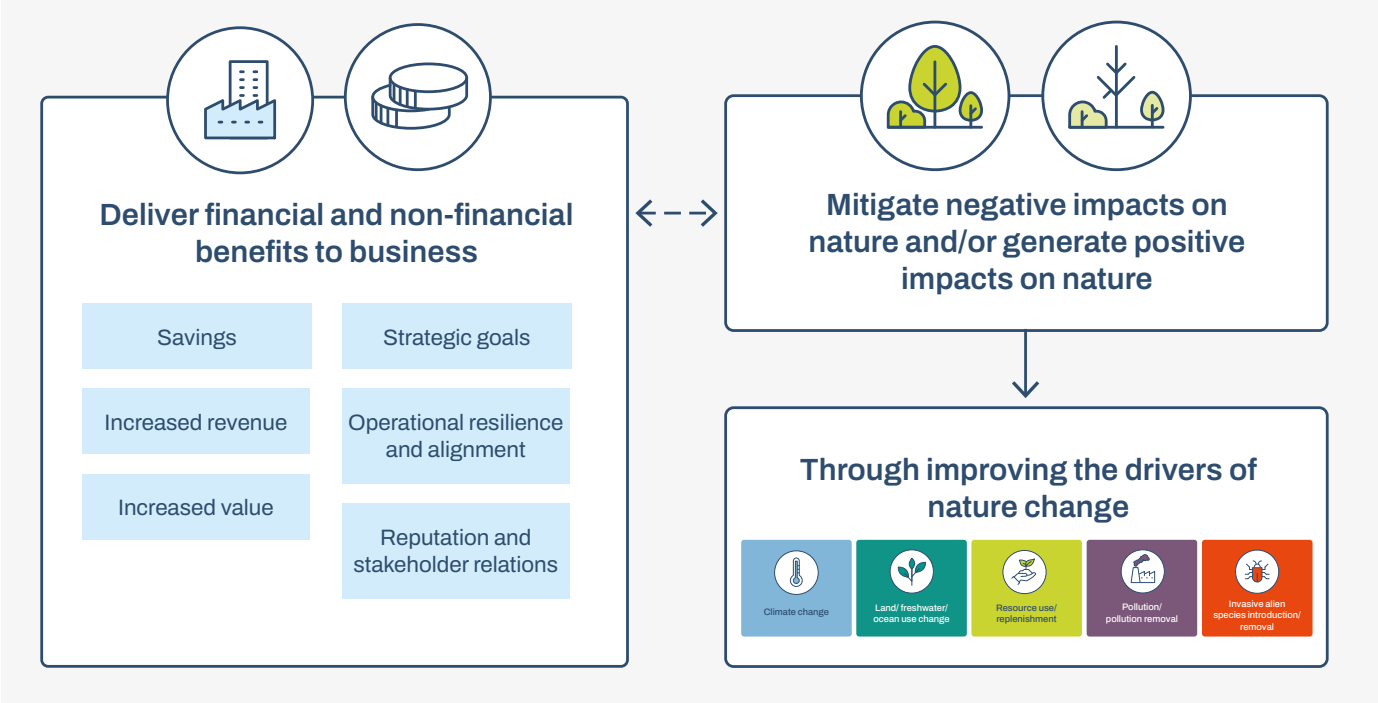
Non-financial benefits can be:

- Strategic – for example, meeting corporate targets or positioning in market;
- Reputational – for example, improved stakeholder relationships; and/or
- Operational – for example, improved resilience against acute stresses.

Several of these types of benefit are identified in the WBCSD Blueprint for nature-based solutions, which groups value to business into risk management, performance and strategy, illustrated through eight case studies across multiple sectors.[11]

11 WBCSD (2024) The NbS Blueprint – building business cases for nature-based solutions.

Figure 4: Business and nature outcomes



Note: A nature-related opportunity is an activity that produces positive outcomes for both business and nature. Benefits for business may be financial or non-financial. Benefits for nature can be positive impacts or the mitigation of negative impacts from improvements to the drivers of change. These change the state of nature and the availability of services used by the economy and society.

Nature-related opportunities improve nature outcomes and could contribute to the broader transition to 'nature-positive'. Following the direction set out by the Nature Positive Initiative (NPI), corporates and financial institutions could contribute to halting and reversing nature loss and thus help to achieve nature-positive outcomes by altering the drivers of nature change (Box 1). Positive impacts on nature can be achieved through, for example, the removal of invasive species, the restoration of coral reefs and the protection of forests. Harmful drivers of nature change can be mitigated by, for example, reducing pollutants to air and soil.

Box 1: Nature Positive

The GBF sets out a global societal mission to halt and reverse biodiversity loss by 2030 and a vision of living in harmony with nature by 2050. This societal goal is increasingly being referred to by businesses, financial institutions, governments and NGOs as a goal to achieve 'nature-positive' outcomes globally, though the GBF does not use this term explicitly.[12]

The Nature Positive Initiative (NPI), a multistakeholder platform of 27 partners representing conservation organisations, academic institutes, business and finance coalitions, subnational governance, Indigenous knowledge networks, and standards, disclosure and target framework organisations, including the TNFD, was set up to support alignment around the use of the term nature positive and the science-based measurement of contributions to nature-positive outcomes. Science-based targets for nature will be an important part of this work, building from the work of the SBTN.

The NPI has provided a definition of nature positive, consistent with the GBF's 2030 mission: "Nature Positive is a global societal goal defined as 'Halt and Reverse Nature Loss by 2030 on a 2020 baseline, and achieve full recovery by 2050'". It is translated to the level of individual organisations, on the basis of demonstrating their 'contribution to a global nature-positive outcome'.

The NPI is also working on building a consensus around how to measure nature positive and how this can be applied with integrity and in a practical and affordable way. The NPI published for consultation a proposed small set of state of nature metrics that can be used to assess if actions are delivering nature-positive outcomes and contributing to halting and reversing nature loss.

These draft metrics are now being pilot tested and the NPI aims to establish a final set of state of nature metrics in 2026. As consensus develops on a set of metrics, a typology will be developed to help companies and financial institutions describe and communicate the nature-positive outcomes. This will be based on agreed common, comparable, robust and practical metrics, and guidance on how to apply them. The NPI is running a project to explore and build consensus around how nature-positive outcomes can be credibly demonstrated at different scales, with guidance due to be published in 2026.

Sources: Locke, H. et al. (2021) A Nature-Positive World: The Global Goal for Nature; Nature Positive Initiative (2023) The Definition of Nature Positive; Nature Positive Initiative (2024) The Nature Positive Initiative convenes process to foster consensus on measuring nature positive outcomes; Nature Positive Initiative (2024) Consultation document: Building consensus on state of nature metrics to drive nature positive outcomes; Nature Positive Initiative (2025) Demonstrating Nature Positive Outcomes: building consensus on how to communicate nature's recovery.

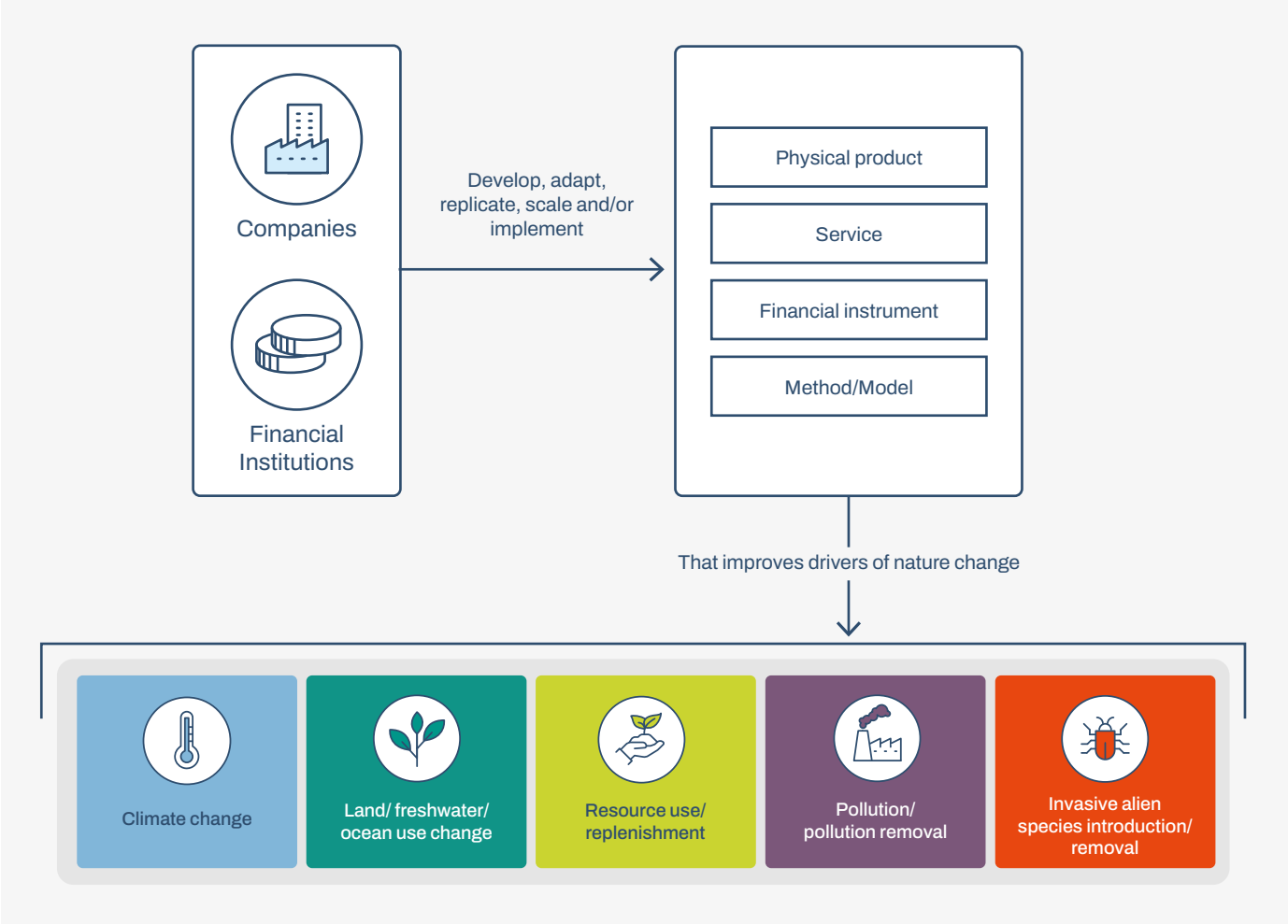
12 Milner-Gulland, E. J. (2022) Don't dilute the term nature positive; zu Ermgassen, S. O.S.E. et al. (2022) Are corporate biodiversity commitments consistent with delivering 'nature-positive' outcomes? A review of 'nature positive' definitions, company progress and challenges.

2.2. Elements of a nature-related opportunity

The high-level elements of any nature-related opportunity to achieve the dual positive outcomes for business and nature are shown in Figure 5. Innovation is key to nature-related opportunities. However, in addition to developing something new, an opportunity could also involve adapting an existing solution, scaling or replicating a new or existing solution, or implementing a solution.

The solution may be a physical product, a service, a financial instrument or a business model, or process method. These may be developed and applied internally to an organisation or by one organisation for wider application across a sector or locations. A matrix of the actions an organisation can undertake and the outcomes is shown in Table 3 in Annex 2.

Figure 5: Elements of a nature-related opportunity



2.3. Identifying nature-related opportunities

As set out in the TNFD recommendations and LEAP guidance, an organisation's dependencies and impacts on nature give rise to nature-related risks and opportunities. (See also Annex 4). Nature-related opportunities can arise:

- As an organisation determines ways to more sustainably manage its nature-related dependencies, avoid future negative impacts or reduce its current negative impacts on nature, and/or increase positive impacts on nature;
- As an organisation works to avoid, reduce and mitigate its nature-related risks;
- As any organisation provides solutions to manage others' nature-related dependencies, impacts and risks; and
- As any organisation considers how they can contribute to halt and reverse nature and biodiversity loss and could contribute to the global goal of 'nature positive'.

For example:

- An organisation manages its risks by sustainably managing its dependence on a provisioning ecosystem service, water supply, through process efficiencies to reduce water use and the protection and restoration of the watershed that supports the provisioning and regulating services it depends on – water supply, water flow regulation and water purification.
- An organisation develops a biologically-based pigment from a sustainably harvested plant that is used by many organisations in industries, such as cosmetics, textiles and chemicals, as a sustainable alternative to synthetic pigments. This reduces negative impacts on nature by avoiding and reducing the pollution from synthetic pigments that harms aquatic ecosystems and species.

As set out in the TNFD additional guidance by sector, nature-related opportunities may be found in all sectors.[13] For example, green urban infrastructure[14] can increase local biodiversity across sectors such as real estate, tourism and manufacturing. Ocean health can be affected by the activities of multiple marine industries, such as aquaculture, fishing, shipping and cruise lines.

The ablove pathways in which nature-related opportunities arise are not mutually exclusive. For example, a nature-related opportunity involving a new technology for precision agriculture could reduce a single organisation's negative impacts and related risks, reduce the impacts and manage the risks of other organisations in that sector or other sectors, and contribute to halting nature loss in specific croplands by reducing the use of agrochemicals and related runoff in general.

13 Each TNFD additional sector guidance outlines illustrative examples of nature-related opportunities for that sector, under component A1 of the LEAP approach – Risk and opportunity identification.

14 Green urban infrastructure relates to a network of green and blue spaces and other natural features that can provide a wide range of environmental, economic, health and wellbeing benefits for nature, the climate, and local and wider communities. Green infrastructure comprises different kinds of components (for example, parks, green roofs, urban forests and road verges) which can be classified according to several parameters (e.g. spatial scale, dimension, location).

Box 2: Nature-related opportunities and Indigenous Peoples and Local Communities

Indigenous Peoples and Local Communities (IPLCs) play an important role as co-producers and stewards of ecosystems. IPLCs actively contribute to sustaining ecosystems through knowledge systems, governance, and land-use practices.[15] This includes the creation of diverse cultural landscapes and seascapes, the domestication and conservation of agrobiodiversity, and practices that enhance resilience and productivity at landscape scale.[16]

Evidence shows that biodiversity in IPLC-managed lands tends to decline more slowly than elsewhere.[17] When stewardship aligns with market demand, opportunities can arise for community-based bioeconomies and value-chain partnerships that connect cultural practices, ecosystem services and commercial activity. Examples include the Brazil nut, domesticated and cultivated in Amazonian forest landscapes for millennia,[18] which underpins a significant regional and international trade, and the açaí berry, where Indigenous and riverine management systems underpin an expanding global value chain.[19]

2.4. Groups of nature-related opportunity

For the purposes of this report, which aims to improve market understanding, nature-related opportunities can be grouped by the five ways they can support business functions or departments (not exhaustive):

1. **Operational efficiency and resilience:** Addressing internal costs, compliance or other operational issues related to dependencies or impacts on nature, within the existing business model.
2. **New product or service markets:** Innovating and scaling a new material or method for clients or customers that delivers improved outcomes through the drivers of nature change.
3. **Supply chain resilience:** Improving resilience or sustainability of suppliers.
4. **Business model innovation:** Structuring an organisation to create new revenue and value pathways related to internal business practices or structure.
5. **Financial innovation:** Applying traditional financial products and services in novel nature-related contexts and innovating nature-supportive financial products and services.

15 IPBES (2019) Summary for Policymakers Global Assessment Report on Biodiversity and Ecosystem Services.

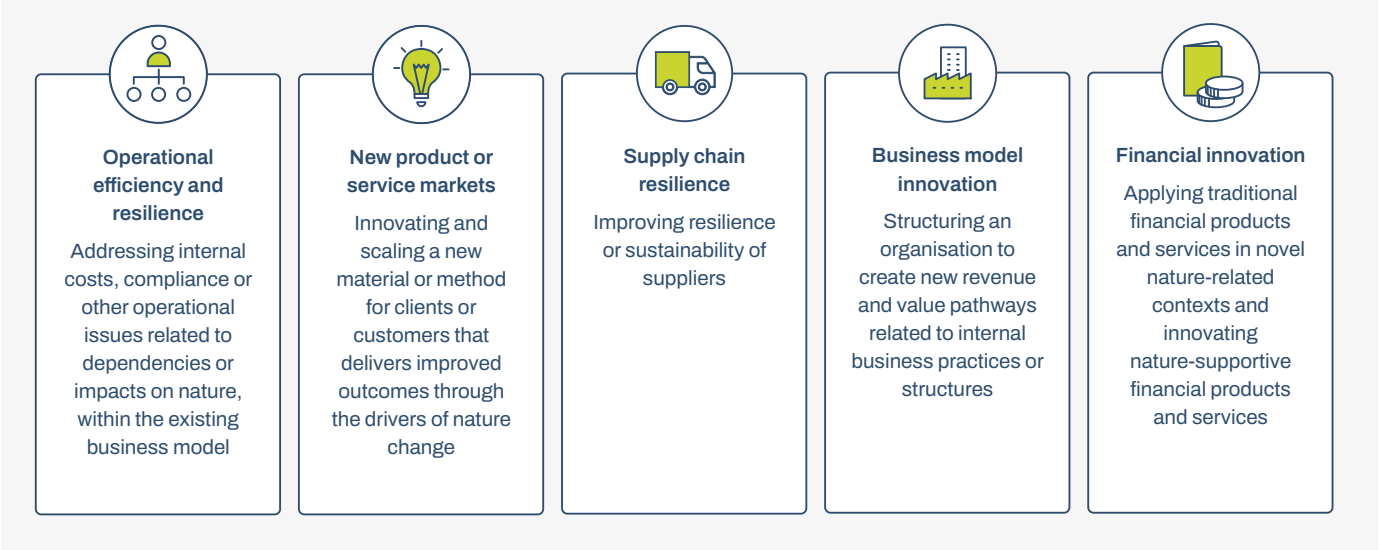
16 UNESCO (2025) People-Centred Conservation in Budj Bim Cultural Landscape; Jago et al. (2024) Agrobiodiversity conservation enables sustainable and resilient food systems; Schatte et al. (2025) Assessing holistic agroecological resilience of landscapes; MacQueen D. (2024) Agrobiodiversity — the way to save Earth's skin. International Institute for Environment and Development.

17 Garnett, S. T., et al. (2018) A spatial overview of the global importance of Indigenous lands for conservation.

18 Levis, C., et al. (2017) Persistent effects of pre-Columbian plant domestication on Amazonian forest composition.

19 UNDP (2024) How Açaí berries and agroforestry are boosting food security and income in Brazil.

Figure 6: Five ways that nature-related opportunities bring value to business



Grouping opportunities by business function helps to relate opportunities to the roles of those within corporates and financial institutions who will identify, assess, seek approval for and execute them. This does not invalidate or supersede other ways of categorising nature-related opportunities, which may serve different audiences and aims.

Given these groups, nature-related opportunities could be identified at different levels of a business or by different actors within an organisation that support business improvements. These could include, for example, a risk management department running a risk identification exercise; a procurement department identifying dependencies in the supply chain; a strategy planning exercise looking at resilience; an operations management department wanting to address negative impacts on nature; and a property management team reviewing resource use or stakeholder engagement.

Nature-related opportunities will require approval from senior management to secure resources and from financiers if external financing is sought. Linking the opportunity to how it will support a business function, as well as the outcomes discussed in Section 2.1, can support a business case.

Table 1: Examples of nature-related opportunities by business function and driver of nature change

Business support	Driver of nature change				
	Climate change	Land/ freshwater/ ocean use change	Resource use/ replenishment	Pollution/ pollution removal	Invasive alien species introduction/ removal
Operational efficiency and resilience	Reduce energy use on a farm by using regenerative methods to reduce irrigation needs	Change vegetation management programme to allow natural growth in buffer zones around an active forestry area	Install water filtration technology to be able to recirculate and reuse process water in other operations	Convert to precision fertiliser techniques to minimise pollutant run-off	Implement ballast water treatment to reduce introduction of invasive alien species into new ports
New product or service markets	Launch of carbon-negative fertilisers using biochar	Offer ecological restoration or habitat-banking services for degraded land and coasts	Develop soil microbiome enhancement products that restore fertility and reduce input demand	Use phytoremediation to remove hydrocarbon and salt pollutants from soil	Develop circular bio-based products using biomass from invasive alien species (e.g. fibres, paper, or bioleather), creating market value from ecosystem restoration
Supply chain resilience	Source dairy or beef only from verified producers using methane-suppressing feed additives and rotational grazing	Integrate sourcing criteria that reward suppliers restoring degraded pasture or buffer zones within production landscapes	Prioritise suppliers using precision irrigation and soil-moisture systems to secure water efficiency	Run joint capacity-building programmes with local cooperatives to improve waste management and reduce agrochemical run-off	Collaborate with coastal communities to monitor and control invasive alien species affecting fisheries and aquaculture inputs

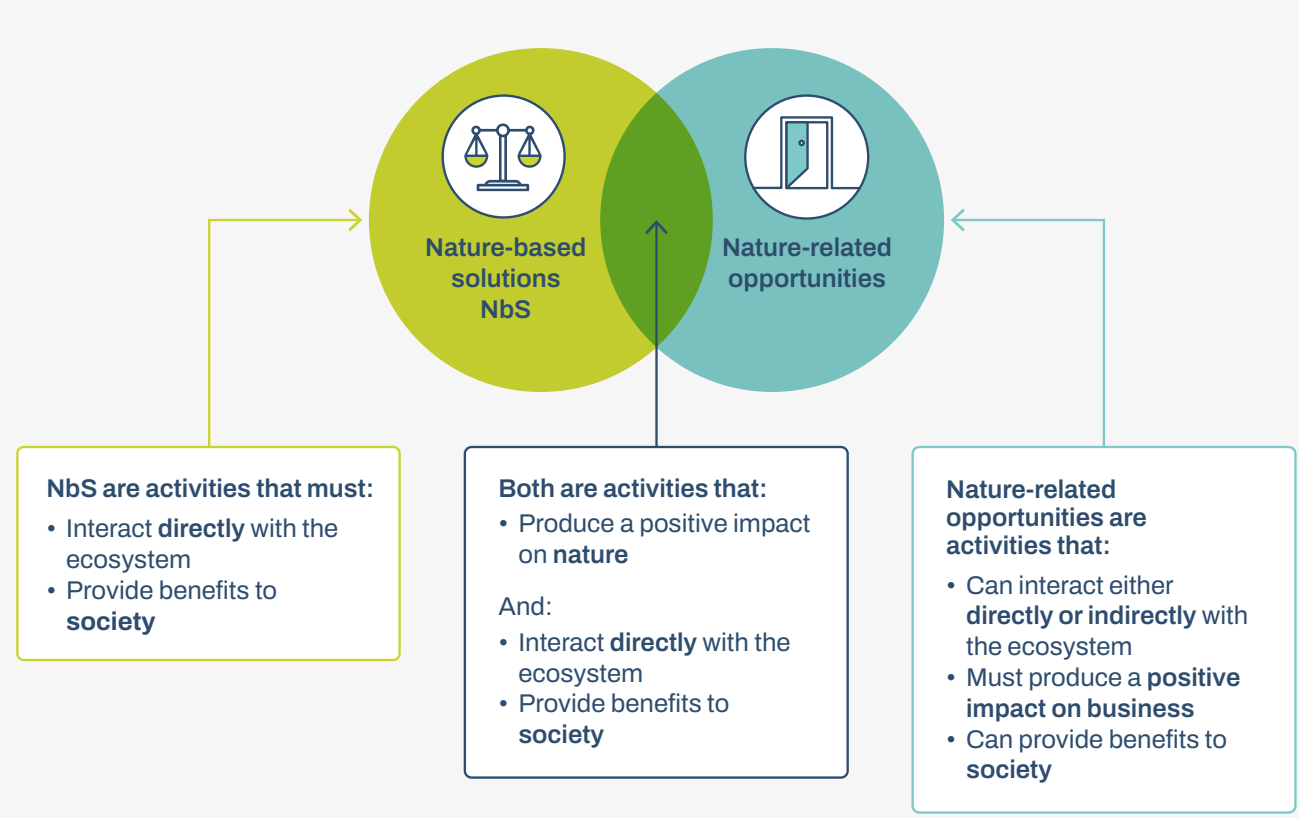
Business support	Driver of nature change				
	Climate change	Land/ freshwater/ ocean use change	Resource use/ replenishment	Pollution/ pollution removal	Invasive alien species introduction/ removal
Business model innovation	Use a distributed workforce model to reduce energy related to commuting	Adopt cooperative land-sharing ventures where multiple producers jointly manage habitat corridors and share returns from certified nature-positive production	Use lighting-as-a-service model that retains ownership of fixtures and materials, reducing raw material demand and waste generation	Deploy deposit-return and remanufacturing system in which producers retain ownership of packaging, retrieve it for reprocessing, and earn income from recovered materials	Use machine learning models to predict invasive alien species outbreaks to allow proactive, preventative measures
Financial innovation	Structure sustainability-linked loans with KPIs tied to corporate decarbonisation milestones	Create green credit lines for verified deforestation-free or regenerative agriculture supply chains	Attract private equity in the circular economy supporting recycling technology companies	Attract venture capital for companies developing new technologies to remediate sites	Obtain ecological restoration insurance and performance bonds underwriting invasive alien species control as part of restoration project delivery

Box 3: Nature-based solutions and nature-related opportunity nexus

Nature-based solutions (NbS) are defined as 'actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems that address societal, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits'.[20]

The literature on NbS contains guidance and examples that are applicable to nature-related opportunities, where NbS can be implemented by corporates or financial institutions either directly or through investment. Discussions of NbS focus primarily on environmental and social outcomes, and often do not address outcomes for a corporate or financial institution explicitly, although it is implicitly acknowledged that addressing nature loss helps to improve resilience and mitigate nature-related risks.

Figure 7: Connection between nature-based solutions and nature-related opportunities



20 TNFD (2023) Glossary.

3. Examples of nature-related opportunities – Challenges and solutions

This section provides examples of nature-related opportunities, with deeper dives into specific cases that provide interesting lessons for others. Examples are taken mostly from the grey literature, including corporate reports. The deeper dive case studies were based on interviews with the corporate or financial institution team involved in developing the nature-related opportunity.

Once an opportunity is identified, there are typically a number of challenges to securing approval and/or finance and implementing the opportunity. The examples and case studies in this section focus on the challenges the proponents faced in obtaining approval and executing a specific nature-related opportunity and how they addressed such challenges.

The challenges and their solutions are unique to the specific circumstances and location, but each case also provides lessons that may be transferrable or provide insight for others. Challenges and lessons learned may be transferable across types of opportunity and the ways in which they support business functions and departments. The breadth of examples shows the range of opportunities both across different sectors and within an organisation, and the variety of starting points for opportunity identification.

These specific examples of nature-related opportunities were selected to illustrate corporate and financial institution activity for peer learning and demonstrate what is possible to advance opportunities. This report is not an endorsement of any particular type of nature-related opportunity or organisation or initiative profiled. This report did not validate assessments of the outcomes of the opportunities included in these case studies.

Understanding trade-offs and unintended consequences for an organisation across its full business model and value chains is important in an assessment of any opportunity, but not covered in this report. Nature-related opportunities to avoid and reduce negative impacts on nature, protect, conserve, regenerate and restore nature, and transform underlying systems to address the drivers of nature loss may have synergies and trade-offs with other sustainability objectives, other business goals and across different aspects of nature. An assessment is useful to identify such synergies and trade-offs to uncover unintended consequences. Assessments may also provide useful context to understand the materiality or significance of the opportunity's outcomes for both the organisation and for nature by looking at the site level, the business, the land/sea scape and the state of nature.

The LEAP approach can be used to consider nature-related issues across an organisation and its value chains to capture a holistic view of dependencies, impacts, risks and opportunities. The TNFD guidance on nature in transition plans can be used to develop a transition plan based on a LEAP assessment.[21] How an opportunity is executed, the ecosystem and land/seascape context, and organisation-wide approach are key factors in any assessment and transition plan.

3.1. Operational efficiency and resilience

Nature-related opportunities in this group focus on actions that address the day-to-day relationship that an organisation has with their resource use or other impacts on nature from core business activities. The positive business outcomes relate to internal metrics, strategic considerations and business operations. These include the reduction of operating or capital costs, securing resources, ensuring or avoiding compliance issues or other aspects that may impact operations. Secondary, but desirable, positive business outcomes may include improvements in reputational capital and stakeholder relationships. Generally, the scale of solutions in this category allows the identification, approval, financing and execution to be kept in-house.

Challenges to nature-related opportunities aimed at improving internal operations may be related to changing established structures and processes, finding resources from already allocated budgets and roles, and gaining approval from management. In this section, the following challenges are discussed:

- Approving and implementing changes **without a regulatory requirement** (Box 5);
- **Securing resources** for the implementation of the nature-related opportunity (Box 6 and Box 8);
- **Gaining approval and budget** for a new approach to an established design (Box 5 and Box 6); and
- **Building technical capacity** to implement a new process (Box 6, Box 7 and Box 8. Also see Box 11).

The positive outcomes for nature can build organisational resilience by reducing exposure to resource scarcity, regulatory change and physical risks. For example, water-efficient processes, circular waste systems and ecosystem-based site management can lower dependency on vulnerable ecosystem services and mitigate operational disruptions. Incorporating such systems can help organisations to identify emerging nature-related risks earlier and strengthen the continuity of their operations.

Such opportunities may be focused on changing established processes to more sustainable methods, but may require new equipment or supplies. For example, water use can be managed to reduce the amount of water needed by using technology to be more efficient, diversifying water sources, recycling water in a system, or cleaning the water with onsite treatment for use in other systems.[22] These methods may allow the company to reduce operating costs by using less water or requiring less municipal wastewater services.

21 TNFD (2025) Guidance on nature in transition plans.

22 SOGRAPE (2024) Sustainability Report describes using multiple water sources to adapt to differing geographical and facility needs; Project Drawdown (2025) Drawdown Explorer lists improvement of irrigation efficiency as a 'worthwhile' solution; ULI. Apple case study describes how the design of the infrastructure reduces dependence on municipal freshwater among other benefits; Wase (2023) Clean Growth Case Study describes their on-site anaerobic digestion and filtration equipment used to clean process water that can then be used in other operations which reduces operational costs.

Changes to conventional business methods could also involve ceasing to perform certain actions, which lower operating costs for the business as a result of lower equipment or resource use, while improving overall resilience, sustainability objectives and corporate strategy. For example, in property and real estate, site management can support local flora and fauna with differential vegetation management that creates a biodiversity habitat as well as serve as natural water filtration while reducing herbicide use and reducing fuel consumption from lower use of mowers.[23] A sustainable forestry method of keeping areas of natural forest intact as a mosaic landscape can create zones for wildlife habitat and buffers to watercourses from sedimentation, both of which may support an organisation's certification compliance and social license to operate.[24]

Box 4: Stakeholder engagement benefits of methods to reduce water use in building management

CDL has employed rainwater harvesting and real-time monitoring in buildings in Singapore, among other initiatives across its existing buildings. This initiative is part of the company's building management, with the benefit of reducing resource use in a water challenged region. It is a way to engage with the national water agency, the company's staff, tenants and the public, and it reduces operational costs for each building.

CDL is also piloting the incorporation of microforests into large buildings such as shopping malls. A pilot project designed the microforest with native flora to provide habitat and attract pollinators. The project is studying how the cooling effects may improve the liveability of the urban environment and how larger or strategically placed forests may reduce a building's energy needs. In the pilot stage, this initiative has boosted footfall traffic to the retail outlets and increased customer engagement.

Source: City Developments Limited (CDL) (2025) Integrated sustainability report.

One challenge may be instituting changes without clear regulatory or standards requirements. Arguments for pursuing the opportunity may include non-financial or hard-to-quantify business benefits, such as future-proofing, leadership, and stronger relationships with internal and external stakeholders. Regulations or standards may be in the process of development, but may take years to come into force. Non-financial benefits from being a 'first-mover' include gaining expertise, having longer timelines to streamline processes, and improving the general resilience and reputation of the corporation. These arguments are involved in the scenario described in Box 5.

23 Decathlon (2022) Non Financial Reporting Declaration; SNCF Réseau (2023) Vegetation Management.

24 Forico (2023) Natural capital report; Forico Plantation management and Sustainable asset management; BNEF (2024) Opportunity Blossoms. Forico has rapidly increased in value and was acquired by three pension plans in 2023; Suzano (2023) Sustainability Report; Suzano (2024) Sustainability Report.

Box 5: Independent certification system on ship recycling

Nippon Yusen Kabushiki Kaisha (NYK Group) is a global logistics enterprise operating over 800 vessels and headquartered in Japan. Aware of the negative nature and social impacts of vessel dismantling at the end of life, the NYK Group decided to establish and disclose its own ship recycling policy in 2008.

This policy built on discussions for a new international standard, and was an opportunity to improve both nature outcomes and social conditions in ship-breaking yards. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) was subsequently adopted the following year and entered into force in June 2025. The NYK Group's early action allowed it to get a head start in collaborating with yards to streamline new recycling processes, while influencing the sector more broadly.

To ensure compliance with its policy, the NYK Group introduced its own yard certification, which meets its ship recycling policy and own standards, including ISO certification. As of 2025, 31 yards have been certified (26 in India, four in Bangladesh, one in Turkey). This approach is more stringent than the Hong Kong Convention.

Funding: Internal corporate funding.

Impact on the business	Impact on nature
NYK Group engagement with its partner yards meant a shared long-term vision with shipyard managers, which strengthens **business relationships and stable operations.** The policy and certification scheme supports NYK Group's **credibility and accountability**. The policy served as a way to **engage with its value chain** and stimulate **internal innovation** for the ship designers.	**Reduced marine pollution** through infrastructure improvements, such as concrete flooring and adequate waste treatment facilities. Preventing waste pollution leakages into the ocean, which reduces harm to **biodiversity, and provision of coastal ecosystem services**.

Stakeholder engagement to implement the certification system

The NYK Group certification scheme requires yards to implement a new recycling process and infrastructure, and to adopt environmental and worker safety protocols. The scheme also requires documentation and an auditor on site for the duration of the dismantling process (three to eight months). The company faced challenges in securing the yards' buy-in, particularly due to the high costs and time involved in implementing the certification, and the requirement for on-site auditors.

Through continuous dialogue, the NYK Group was able to overcome this challenge and build a shared view with the yards that the certification scheme will benefit the sustainability of their business in the long-term. These benefits included:

- Being eligible for future bids for vessels to be sold by the NYK Group; and
- Being ready for potential environmental and legal changes to transition the shipping industry to cleaner fuels through, for example, the replacement of vessels.

The NYK Group also engaged with the Japanese government and the Japan International Cooperation Agency (JICA) and provided technical expertise to improve vessel recycling in India and Bangladesh, based on its learnings from implementing its own certification scheme. For example, the company advised adding concrete flooring to prevent oil and wastewater leakage. The company also supported capacity building for local yard operators and the development of disposal sites for hazardous materials.

Workers at a certified ship-breaking yard.

Source: NYK Group (2025).

Catalyst for internal engagement and innovation

The Group's management recognised the recycling policy aligned with its corporate values but had concerns that limiting vessel sales to certified yards could potentially reduce market competition and lower the sale prices of vessels to be recycled. To address this concern, the first few certifications showed that certified yards offer competitive pricing, mitigating these financial risks.

With full institutional approval, the certification team initiated an internal study group that led to more staff members becoming aware of the challenges and opportunities related to ship recycling. This resulted in a constructive discussion between the vessel building team and certification team to design easier-to-recycle vessels using material with reduced environmental footprints.

Source: NYK Group (2025) Sustainability Report [English and Japanese version]; NYK Group (2025) personal communication with the TNFD [interview].

Challenges may also arise in securing financial and other resources to execute the opportunity when there is no history or exemplars for comparison. Staging implementation with a pilot to show positive outcomes and collect data can be one solution. While a pilot still requires resources, which may be a challenge in its own right, the resources required may be substantially less than those needed for a full project roll-out. Box 6 presents a case where both of these challenges were tackled.

Box 6: 'Biodiversity gardens' to reduce on-site maintenance costs and create wildlife habitats

Ingka Group is responsible for operating over 400 IKEA retail stores across 31 countries. It develops shopping centres around IKEA stores and has an investments branch. In 2023, the company built a new store in Timișoara, Romania. The store was the first of IKEA's retail locations to include green infrastructure with local vegetation, named a 'biodiversity garden'.

IKEA stores in the region have green space as part of the concrete pad at the front of the stores that features vegetation from IKEA's Nordic heritage. The local team at Timișoara identified a nature-related opportunity to use the space for local vegetation suited to the Eastern European climate that would require no irrigation and need less maintenance, thereby reducing the store's operational expenditure.

The garden was proposed as a pilot and its return on investment (ROI) was less than three years. In March 2025, the biodiversity garden concept was expanded to stores in Bucharest, Romania and Belgrade, Serbia. The ROI at these existing sites was slightly longer – five years – but still within the range typically approved by the real estate department.

Biodiversity garden on IKEA store grounds.

Source: Ingka Group (2025).

Funding: Internal corporate funding. Timișoara used buffer from store construction budget; Bucharest used store profits after surpassing profit target; Belgrade used budget from shopping centre expansion.

Impact on the business

Reduced operational expenditure associated with no water usage and a tenfold reduction in the cost of garden maintenance.

Local members of staff planted the biodiversity gardens, which fostered **staff engagement and loyalty**. The gardens are used for team building and several employees have volunteered to be 'ambassadors' for them.

Contribution to green building certification, specifically toward BREEAM certification. The garden enabled the Timișoara store to achieve an 'excellent' level, surpassing IKEA's minimum 'very good' target.

Impact on nature

Increased biodiversity on site supported by a variety of native plants. In Timișoara, **300 species of insects** from five main taxonomical orders were identified in a 2025 survey. No taxonomical order was dominant, indicating a balanced system with pollinators, herbivores and decomposers.

Zero water supply needed for manual irrigation of the garden. This annually saves 18,000 litres per 1,000 m^2 of garden.

The project mimics the conditions of natural surrounding areas, **supporting ecosystem restoration and soil improvement**.

Bottom-up leadership and the role of enablers and trust

The concept and leadership of the first biodiversity garden came from the Southeast Europe sustainability and real estate teams, who built its business case for the new store. The project required the approval of both the regional Ingka Group leadership team and the local planning authorities in Timișoara.

The regional leadership team relies on local staff to make data-driven assessments because it oversees five Eastern European countries, including Ukraine, and manages numerous business, strategy and logistical issues. While part of the assessment was possible – forecast savings from lower garden maintenance – the nature of the project meant that non-financial KPIs such as reputation, customer engagement and staff satisfaction were difficult to quantify and assess, and there was no history or comparable metrics.

Therefore, the biodiversity garden was approved based on trust in the Southeast Europe team, rather than technical analysis of the project itself. This trust-based approach was enabled by characteristics of the project that the local team highlighted as the business case:

- The project was a pilot that included monitoring to assess its impact on biodiversity;
- The project had a ROI of three years due to water and maintenance savings;
- The implementation costs were covered by the buffer in the construction budget of the new store;
- A knowledge partner, INSECT-RESPECT, provided the technical side, from soil sampling to the choice of insect-friendly plants and landscape design;
- The IKEA biodiversity agenda of Ingka Group reinforced the need to support this kind of project; and
- The local authorities were supportive of the project and approved its implementation.

These enablers supported the sign-off by the leadership team, who saw the project as a low-risk and consistent with the Group's sustainability principles and general objectives.

Knowledge partnership

A critical enabler of the project was collaborating with INSECT-RESPECT, a landscape initiative that applies principles on habitat creation for biodiversity. The team at Ingka Group initially found inspiration from INSECT-RESPECT's work to conceptualise the nature-related opportunity.

INSECT-RESPECT supported the Romanian team by creating a master landscape plan and selecting plant species based on local historic data. These plants would serve as a source of food and shelter for insects and were suited to the local climate. The knowledge partner also helped source seeds of the selected plants, as 95% of the biodiversity garden plants were grown from seeds and flowered within two months of sowing. Moreover, INSECT-RESPECT gives a bi-annual seal of approval to green spaces that follow its insect-friendly principles, thereby bringing third-party robustness to the process.

Source: Ingka Group (2025) Annual Summary and Sustainability Report FY24; Ingka Group (2025) personal communication with the TNFD [interview].

While solutions for internal issues are often identified, championed and resourced from existing personnel, there may still be technical challenges that need knowledge and capacity building from external specialists or partners. Box 7 has two examples of partnerships between corporates and academia or non-profit organisations and Box 8 is a deeper look at a collaboration for both technical expertise and execution.

Box 7: Examples of using external specialists and partnerships

Although internal issues may be tackled with current resources and known methods or identified by internal personnel, there are still technical challenges that may need to be solved. Knowledge sharing and capacity building can be done in-house, or external specialists or partnerships may be brought in. Partnerships with academia or NGOs may provide the technical expertise and on-the-ground knowledge needed to identify and execute the opportunity. Two illustrative examples bring this to life:

- Farmers in the Netherlands work with BayWa r.e. and Wageningen University to adopt Agri-PV, where semi-transparent solar panels are installed above raspberry crops. For the farmer, this model reduces the risks of crop loss from hail, heat and heavy rainfall, while lowering water stress and improving land efficiency. At the same time, it generates renewable electricity that provides an additional income stream and diversifies revenue sources, making the farm more resilient both economically and environmentally.[25]
- Dow's partnership with The Nature Conservancy included a project to convert a former ash pond at its Michigan Operations site into nine hectares of functioning wetlands. This project transformed a legacy liability into a healthy ecosystem that filters water, provides habitat for birds and amphibians, and supports biodiversity. At the same time, it reduces long-term operational risks and maintenance costs.[26]

Box 8: Wastewater byproducts into organic fertiliser

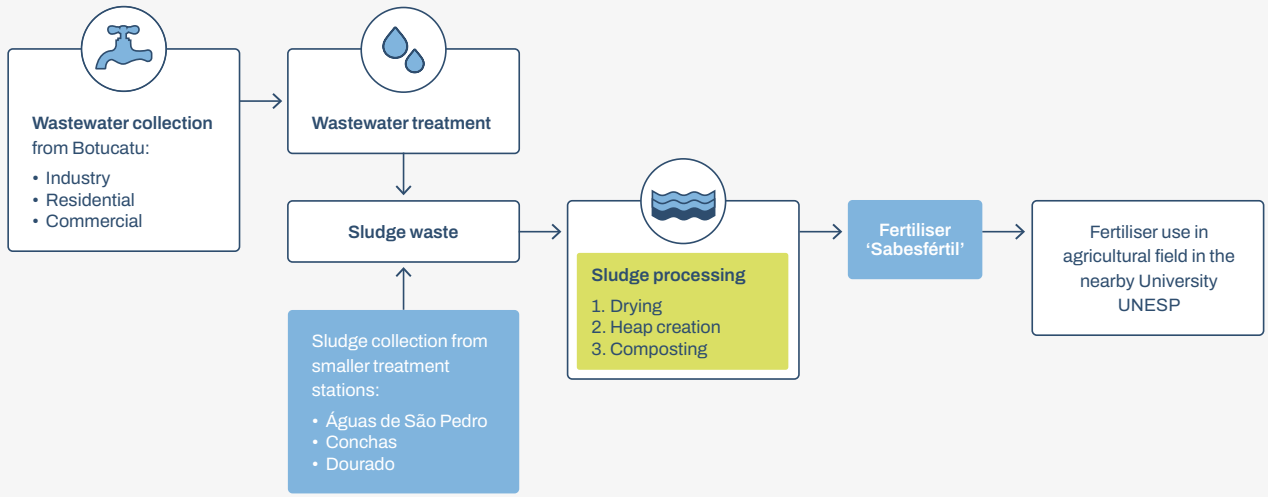
SABESP is a Brazilian water and wastewater utility operating in the state of São Paulo. The company identified a nature-related opportunity in composting the sludge resulting from the wastewater treatment instead of transporting and disposing it in a landfill located 150 km away from its Botucatu plant. The result of such composting is a fertiliser called 'Sabesfértil', as seen in Figure 8 below.

The company collaborated with the São Paulo State University (UNESP) and the São Paulo Research Foundation (FAPESP) to conduct research and trials on the fertiliser. The university-industry collaboration enabled SABESP to save on disposal costs and produce a byproduct useful for sustainable agriculture practices. The fertiliser is entirely applied in the agricultural fields of the university to support soil health and crop growth, while also significantly lowering transport costs, because the Botucatu wastewater treatment plant is located in the university campus.

25 FreshPlaza (2021) Solar panels above raspberry crops benefit everyone.

26 Dow (2023) Healthy ecosystem: Ash pond to a wetland.

Figure 8: Production process of fertiliser from sludge waste



Funding: Internal corporate funding for machinery; the research costs were covered by FAPESP.

Impact on the business	Impact on nature
Annual cost savings of BRL 1.2 million from sludge transport and disposal in 2015 currency (equivalent USD 393,000).	**Circularity of water treatment** that prevents the creation of 15 m^3 of daily waste and its disposal in landfills.
One year return on investment for drying and composting machinery.	The fertiliser is **spread across 40 ha** (5 m^3/ha), mainly growing sugarcane and corn. This has helped to transition toward sustainable agriculture practices, **improving soil health** and minimising the application of synthetic fertilisers.
Research partnership with the local university that continuously drives joint projects.	**Greenhouse gas reduction** of 2,985.77 tCO_2e emissions by annually diverting 5,700 tonnes of sludge to composting instead of sending it to a landfill, transformed into 960 tonnes of **fertiliser**.
Positive reputation through media attention, educational visits to the wastewater plant by schools and other companies, and donation of the fertiliser to the university.	

Technical challenges

SABESP invested BRL 1.3 million (2015 currency) on machinery to process the sludge and prepare it for composting. The company had no prior experience with this equipment and faced technical challenges to operate it. For example, some trials were unsuccessful due to the excessive dryness of the sludge, issues with the machinery (the effectiveness of the revolving blades), and the automation process. A crucial turning point was the partnership with the university, which had specialised knowledge on composting and helped SABESP to address those technical challenges.

Composting facilities.

Source: SABESP (2025).

Another technical concern was the quality and nutrient content of the fertiliser resulting from composting only sludge. The university ran trials adding other material to the compost, such as tree trimmings, eucalyptus bark and sugarcane bagasse, in search of a nutrient balanced fertiliser. The research showed that fertiliser made from only sludge had acceptable nutrient levels. SABESP and the university then created a composting protocol intended to ensure that each batch of fertiliser made with sludge produces consistent results.

Fertiliser certification and scalability

Transforming wastewater sludge into fertiliser was a new process and a new product for Brazilian regulators. The company faced challenges when seeking certification for its product. The Environmental Agency of São Paulo (CETESB) classified the product as a residue and required complex analysis, some not available in-country, to assess its potential impacts on nature. This path to certification proved unfeasible for SABESP.

The company instead proceeded to seek certification with the Ministry of Agriculture and Livestock (MAPA), who considered compost to be a product, not a residue. SABESP performed analysis and continuous monitoring to demonstrate the product's suitability as compost and both the wastewater plant in Botucatu and the fertiliser were authorised by MAPA after two years.

Although this nature-related opportunity could be replicated in other wastewater facilities, each facility would have to undergo the lengthy certification process. Currently, SABESP's approach is for smaller plants to send their sludge to Botucatu for processing into fertiliser. However, scaling up is possible given the large size of some treatment plants. The company is identifying other facilities capable of producing fertiliser that are close to consumer markets. This scaling could produce an additional revenue stream for SABESP, who may consider selling the fertiliser now that it is a private company, following its privatisation in July 2024.

Source: SABESP (n.a.) Fertiizante Sabesfértil; Ferreira, E. T. et al. (2025) Enhancing Plant Growth and Photosynthesis with Biofertilizers from Sewage Treatment. Agronomy 15(3); SABESP (2025) personal communication with the TNFD [interview].

These examples and case studies show different approaches to addressing the various challenges with nature-related opportunities that focus on internal operations, including challenges with approvals, technical issues and resources. In all cases, data to show the viability of positive business and nature outcomes was sparse before the opportunities were implemented, and monitoring and measuring were critical components of follow-on work.

The examples explored here show different pathways to scale and replicate nature-related opportunities focused on internal operations, such as:

- Supporting the development of standards and regulations and supporting others in an organisation's value chain(s) to adopt those standards and regulations;
- Replicating an opportunity in one location in other locations;
- Monitoring and engagement with local communities to inform external stakeholders about the nature-related opportunity;
- Using certification processes to scale a nature-related opportunity at other facilities; and
- Privatisation to open up possibilities of commercialising a nature-related opportunity.

3.2. New products and services

Products or services can help with the sustainable management of nature-related dependencies, impacts and risks. The range of relevant products and services encompasses technology, consumables and retail, and industrial and commercial products and services, such as monitoring and technical support. The introduction of these products and services may support informed decision-making or deliver the same, or enhanced, end results, with lower negative impacts on nature or positive impacts on nature.

Monitoring, reporting and verification (MRV) processes using nature technology is one example of products and services that can help organisations to integrate nature into their decision-making using data. MRV technology can be used, for example, to collect on-site data needed to understand and demonstrate results and changes in nature outcomes. For example, biodiversity monitoring can be used to create pre-construction baselines for specific sites for permitting purposes or be used post-construction or post-restoration to monitor and show proof of impact (verification) in forestry management.[27] This monitoring can be specific to species and non-invasive, without capturing fauna.

While technology can fill gaps in the market, more sustainable products may face the challenge of directly competing against traditional ones. Such products may produce the same end result, but use more sustainable production methods or inputs. For example, a new product, a biodegradable light, has the potential to replace petrochemical-based and LED products with enzymes and will also contribute to reduced pollution and land use change.[28] It has applications in marine sectors, such as fishing, navy operations, tourism, and search and rescue. Alternative food products that compete with traditional foods are another example and a diverse area ranging from alternative proteins for both human and pets to sustainably produced plants for plant-based diets.[29]

Challenges when introducing a new, more sustainable product or service may include similar challenges to those encountered when developing any new product or service, but emphasising sustainable approaches. This section discusses the following challenges:

- **Competition with traditional products and services** that deliver the same function or end result. The research, sustainable methods or sustainable inputs may increase costs for the more sustainable version of the product or service. Starting with co-competitive alternatives before scaling is one solution (Box 9).
- **Gaining user acceptance**, particularly where the conventional products or services are well established. This may include both the end user and an intermediary, for example, where the product or service is one step of a larger, established process as in Box 10. (Also Box 9 and Box 18).
- Time, resources and expertise required to develop not only the product or service, but also a **reliable, consistent and homogeneous input stream**. In some cases, supply chains may not exist or may not be suited to large scale production. The organisation may have to invest not only in the product or service design, but also in building the supply chain. (Box 11 and also Box 15).

27 For example, Spoor monitors bird interaction on wind turbine sites; evolito uses a suite of technology including insect sensors to capture wingbeat frequence and calculate biomass metrics; Veritree uses bioacousitc monitoring to track bird species in restored areas using sound recordings.

28 For example, Lux bio.

29 An example of sustainable food in the pet industry is Wilder Harrier. It produces dog food using an invasive alien

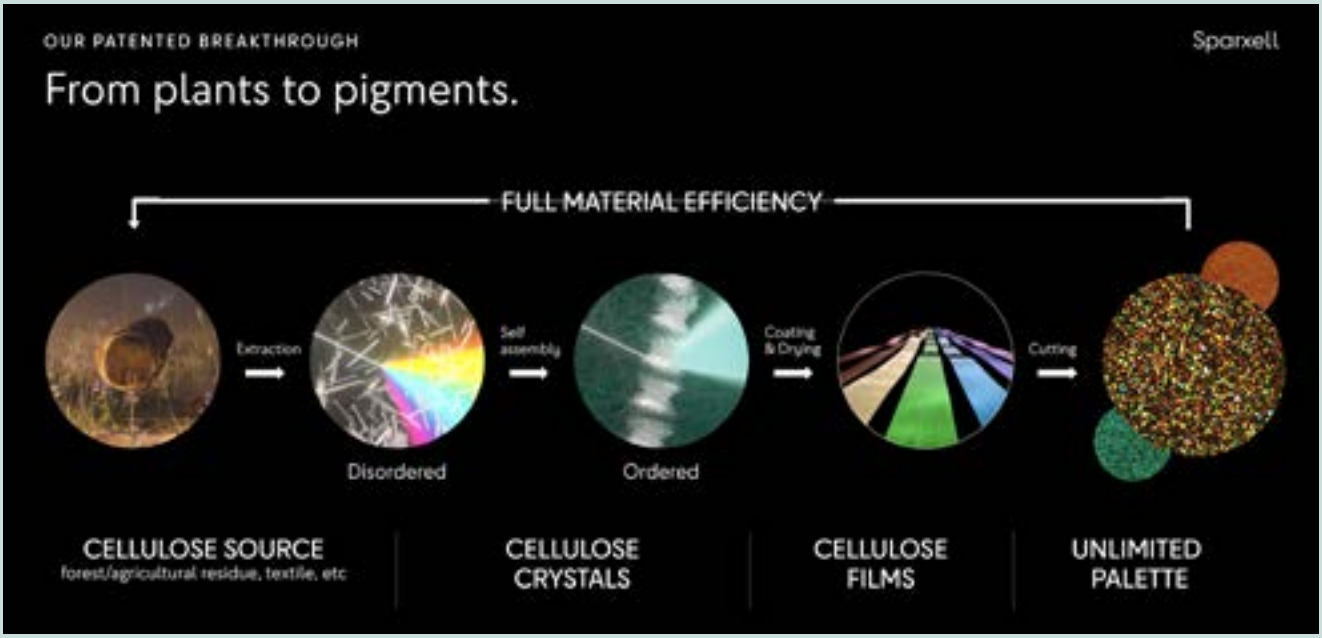
One solution is to target traditional products where it is cost-competitive to do so and establish the new product before scaling, as illustrated by the case study in Box 9.

Box 9: Bio-based colour pigments

Sparxell is a spin-off from the University of Cambridge that uses biomimicry principles to create pigments from cellulose, the main structural component of plants. Established in 2023, it offers a colour platform, meaning it can create any colour in the spectrum, for a wide range of industries including fashion, packaging, paint and cosmetics.

Extensive research led to this nature-related opportunity, which could replace conventional pigments derived from fossil fuels, metals or minerals and their associated land-use change and pollution impacts. Sparxell's technology replicates the physical structure that gives plants and animals their vibrant colour, as seen in the diagram below. The cellulose required for this process is currently extracted from FSC-certified wood pulp but could extend to other sources such as agricultural waste.

Figure 9: Production process of pigments from cellulose



Source: Sparxell (2025) developed with internal data.

species, the silver carp (Hypophthalmichthys molitrix), which threatens North American waterways. The firm has reduced ecological pressure by removing about 14,000 carp as of 2025 while generating revenue and securing financing and feeding pets in the same way as conventional food. See BNEF (2024) Wilder Harrier Dog Kibble Exploits Invasive Carp Catch.

Funding: Angel investment and grants, including from Innovate UK and the European Union (EU). Equity funding from venture capital funds from 2024.

Impact on the business	Impact on nature
Secured investment in nine months after consolidating the company. **Recognition as an innovative business through awards:** in 2023 from the Biomimicry Institute's Ray of Hope and in 2024 from the Falling Walls Science Summit under the sustainability venture category. **Market validation** through partnership with the BMW Foundation and the LVMH accelerator programme.	**Soil health and non-toxicity to biodiversity** when the product is released into nature at any point of its lifecycle. A **biodegradable material** that replaces products with a low biodegradability rate, such as dyes and microplastics. Renewable and extractable from any biomass, **preventing land-use change and pollution** associated with mineral and fossil fuel-based pigments.

Investor focus on climate

At its early stage, Sparxell's main challenges are associated with raising funds to stabilise the business. The company has faced a mismatch between its value proposition and the metrics investors typically use for assessing impact, which primarily focus on climate targets.

The pressure to advance on climate issues, coupled with investors' nascent understanding of nature-related issues, meant that investors asked for metrics that were too limited to recognise other positive impacts of Sparxell's product, such as biodegradability, non-toxicity to human health and biodiversity. One approach to overcome this challenge has been to commission a third-party life cycle assessment of its product, which includes GHG emissions. Expanding investors' knowledge on nature-related assessment and metrics is needed to encourage a more holistic approach.

Demonstrating cost-competitiveness

Sparxell had to demonstrate to investors and clients that its products are cost-competitive with conventional technologies, especially given the increasing resistance to a 'green premium' from end users, who are now less inclined to pay more for the sustainability credentials of a product.

Although future costs are estimated because its technology has not reached full scale yet, the company's core material, cellulose, is the most abundant organic compound on Earth. This creates a business case for the future affordability of Sparxell's products. Moreover, its strategy involves first competing against more expensive products like mined metals and minerals, where Sparxell's products can achieve price parity, followed by tackling cheaper, fossil-based alternatives as the company scales.

Additionally, Sparxell is overcoming this challenge by targeting markets with fewer regulatory barriers to entry to generate early revenue and demonstrate value to investors. The company launched its first product in 2025, a pigment for the fashion industry, and has demonstrated it can serve as a colour replacement in existing textile manufacturing supply chains.

Source: Green, D.S. et al. (2021) All that glitters is litter? Ecological impacts of conventional versus biodegradable glitter in a freshwater habitat. Journal of Hazardous Material 402; Chen P.-H. et al. (2024) Assessing the ecotoxicological effects of novel cellulose nanocrystalline glitter compared to conventional polyethylene terephthalate glitter: Toxicity to springtails (Folsomia candida). Chemosphere 366(143315); Sparxell (2025) personal communication with the TNFD [interview].

A related challenge to competing with traditional products is gaining acceptability from users who are more familiar with conventional alternatives. One solution is to design the new product to perform in the same or a similar manner, so the end user has the same experience, possibly without knowing that a more sustainable product was used. For example, materials used in infrastructure can be integrated into buildings where the occupant or user sees no difference. These materials might employ biological aspects or be produced in a more sustainable manner. For infrastructure, building materials that lower energy use and reduce GHG emissions would impact a property manager's functions, but the building occupants might not see a difference in operation.[30] Also in the infrastructure sector, lab research was used to begin to mass produce wood that is 10 times stronger than steel, but six times lighter, and can be used for building interiors and exteriors. The product has 90% lower carbon emissions than steel production, can use underutilised wood species, does not use toxic chemicals, and provides the end user with a biophilic structure.[31] Other examples include fungi-based leather that can be used in products such as footwear and furniture and bio-based cleaning formulations that are compatible with existing manufacturing and packaging systems, while reducing toxicity and pollutant loads in wastewater.[32] An example of a sustainable service is the provision of pollination services alongside bees to offer predictability to farmers, increase yields and quality, increase land efficiency and lower land-use change.[33]

Another challenge to such products and services is their technical integration into an established process. For example, filters for home and commercial washing machines can be used to remove the majority of the microplastics from the laundry water stream. One example, Matter, estimates reductions of 97%. In 2024, the company expanded into textile production, a sector responsible for 20% of global clean water pollution, and partnered with others to deploy their technology across Europe under the Bosch and Siemens brands.[34] In both cases, the end user does not have to decide to buy the product or learn how to use the technology as it is fully integrated into the production of the textiles and washing machines. Similarly, fabric made from regeneratively grown plants can be integrated into multiple consumer products such as shoes and fashion, which does not change how the products are used by the wearer.[35] Box 10 provides a case study where biomimicry, technology and design were used for a product that combines both of these solutions.

30 Project Drawdown (2025) Drawdown Explorer lists building envelope improvements as 'highly recommended'; Basilisk produces a self-healing concrete incorporating bacteria that supports structural integrity.

31 See Inventwood.

32 Mycoworks; Novonesis.

33 See, for example, BloomX.

34 Matter (2024) Impact Report.

35 See for example, Bananatex®, a fabric made from banana plants grown in an agroforestry ecosystem. Balenciaga, Stella McCartney, MCM Worldwide, Cos and more fashion brands have used this in their products.

Box 10: New materials and design for marine infrastructure

ECOncrete is a technology and design company. It uses biomimicry principles and nature insights to support marine infrastructure. Its technology addresses the negative impact of conventional materials installed in coastal and marine environments, such as in seawalls or subsea pipes. ECOncrete achieves this by incorporating an additive into regular concrete mix and designing shapes and surface textures that make infrastructure more suitable for sustaining marine life.

Its technology had an initial testing phase and in 2012 ECOncrete transitioned into a business. Its clients are a mix of private companies that use the technology in projects and regulatory bodies or governments that assess the technology's effectiveness in real-world conditions.

Funding: Seed finance, angel investors and grants. Currently funded by project sales.

Marine infrastructure using ECOncrete technology and control.

Source: ECOncrete (2025).

Impact on the business

Revenue growth: the company has doubled year-on-year for the past three years and grew its **profit margins to about 40%** in 2024.

Rapid scalability: the ocean surface area that used ECOncrete's technology in the last year was four times greater than in the previous five years combined. It has been used globally in over 50 projects.

Impact on nature

Marine species populate ECOncrete's infrastructure. Research collected to date suggests this technology:

Improves water quality (16x) due to water filtering species populating the marine infrastructure.

Improves biodiversity (2x) and species richness (2x).

Sequesters more carbon (7x) more than typical concrete for a total of over 33 tonnes of CO_2 per year to date.

Adapting to the business drivers over time

ECOncrete's commercial opportunity has evolved since its inception, adapting to the relevant drivers for its clients as they evolve over time. Initially, the focus was on innovation for the marine ecosystem and its potential to mitigate negative impacts on nature. Through further work with clients, ECOncrete found its technology could also help manage regulatory, financial and reputational nature-related risks, or be an enabler of nature-related opportunities for others:

- Regulatory compliance: a primary driver for its clients is complying with regulatory frameworks that mandate nature mitigation, such as the European Union Habitats Directive, in the most cost-effective way. ECOncrete has helped to reduce mitigation costs. The technology has also helped developers get work permits, including in environmentally sensitive areas.

- Access to finance: clients have access to sustainable finance such as green bonds to implement ECOncrete's technology.
- Reputation: Indigenous Peoples and Local Communities and local fisheries are increasingly demanding nature protection in ocean-related projects. Incorporating ECOncrete's technology, projects can help meet this requirement and improve their social acceptability.

ECOncrete has become attractive for a sector that is significantly driven by liability risks.

Scaling the business by creating buy-in along the value chain

During its early years, ECOncrete faced challenges arising from the misconception that its technology was not transferable, because developers were not convinced that the technology's performance in one ocean could be matched in others. The company addressed this challenge by proving replicability across regions and working with established construction supply chains.

The company gathered data and refined its model through over 20 pilots or small-scale projects and published the results, often collaborating with scientific institutes (for example, the US National Oceanic and Atmospheric Administration – NOAA), which supported the credibility of the technology's performance. ECOncrete strategically chose pilot locations in different ocean conditions, covering the Mediterranean, temperate Atlantic, and heavily industrialised port environments, seen in the diagram below. The data built through these pilots showed that its technology performs consistently in comparable environments (i.e. tropical to tropical or temperate to temperate seas). For example, results from the New York, US pilot were later replicated in the Port of Vigo, Spain, showing similar biodiversity uplift in temperate Atlantic conditions.

ECOncrete's technology relies on the local supply chain as its additive works with any concrete supplied locally. Therefore, getting the buy-in across the construction supply chain for specific locations also helped to replicate and scale projects.

Figure 10: ECOncrete project locations

Source: ECOncrete (2025) Biodiversity results of a nature inclusive cable protection solution; ECOncrete (2023) Achieving biodiversity uplift on marine infrastructure; personal communication with the TNFD (2025) [interview].

Development of a new product can involve research and testing from end to end. The process may begin with the input stream, involve technical production, and follow on with delivery of the new product or service. If there is no established supply chain, the company will face the challenge of developing a supply chain, which requires an investment of time and resources. This may be the case when the circular economy model is used, that is, when materials are reused and regenerated to reduce waste, create more value and reduce negative environmental effects associated with raw materials.[36] The case study in Box 11 provides an example where a completely new input chain was created.

Box 11: Turning nylon waste into raw material across industries

Aquafil is a global company providing synthetic fibres for carpets and textiles, polymers for design and fashion, and engineering for production facilities. In 2011, it introduced ECONYL® (hereafter referred to as Econyl), a new product made from nylon waste that can be recycled an indefinite number of times, which is also referred to as regenerated nylon.

Faced with rising oil and energy prices in the early 2000s, Aquafil decided to develop this product using a chemical recycling process to convert waste into usable nylon. This would help decouple the company from its reliance on virgin oil while allowing for revenue growth and expansion, in particular, by answering a demand for sustainable sourcing. The nature-related opportunity presented a learning experience in creating a new supply chain and new waste management technologies.

Funding: Initial funding from other product revenue, currently from Econyl sales.

Impact on the business	Impact on nature
Gained market share and new clients as Econyl answered a demand for a sustainable product. It is used in over 1,900 brands, ranging from apparel and hospitality to land and sea transport. Econyl contributes to almost **60% of fibre revenues** and had 39% revenue growth between 2019 and 2024, while other fibres decreased 31%. **Motivated existing staff and attracted new talent** due to a stronger reputation in the market.	**Removal of waste from water and land systems** reaching 19,000 tons of post-consumer waste in 2024, from carpets, garments, fishing nets and industrial plastic, among others. **Decreased use of virgin petroleum products:** every 10,000 tonnes of raw material used to produce Econyl replaces 70,000 barrels of crude oil. **Lower GHG emissions:** decreased embodied energy of production by 65% versus traditional product.

36 European Parliament. Circular economy: definition, importance and benefits.

Waste streams as input for Econyl: the creation of a supply chain

To produce Econyl, the company had to secure waste material as an input into the recycling process. Aquafil encountered logistical and technical challenges to source and transport this material from across the globe.

Logistically, the hazardous designation and movement of waste are controlled differently in each country. If the waste is deemed hazardous – for example, the copper in anti-fouling coatings on fishing nets is considered hazardous in some countries – it may not be allowed to cross borders, or other restrictions may apply. Aquafil went through a lengthy process to develop transport systems to bring the appropriate waste from wherever it could be sourced, which meant added costs. For example, it took Aquafil two years from starting operations in Chile to shipping the first container of waste.

Waste storage facilities.

Source: Aquafil (2025).

Technically, each shipment of waste material is not homogeneous and requires extra processing, compared to virgin material, before it can be used in the recycling process. This can include mechanical identification and sorting, cleaning and separating coatings from the target material, or an entirely novel process (for example, extracting nylon from spandex). Additionally, any remaining non-usable waste must be disposed of appropriately, a process that Aquafil developed in-house.

Data to establish credibility

Aquafil found that some companies using Econyl claimed reduced nature impacts, such as carbon footprints or microplastics release, that were misleading and not accurate. The company has tackled this by publishing its own verifiable data.

Since 2014, the company has used an online custom-built tool to track nature, climate and social KPIs at each of its facilities, information that is published annually. This level of data collection and management was needed to establish the baseline for KPIs and calculate Econyl's impact compared to traditional nylon. The company also collaborated with a research centre in Italy (the CNR of Biella STIIMA) to develop a methodology for measuring microplastic release in textile products that became ISO 4484-2:2023. This standard provides a common methodology across the textile industry to allow comparison.

Source: Aquafil (2025) Sustainability Report 2024; Aquafil (2025) personal communication with the TNFD [interview].

Products and services naturally scale through increased market uptake, but also through the financing acquired. Businesses can be grown by understanding the environmental challenges of clients, providing products and services to address these challenges, and allowing clients to do business with minimal changes. Data in all the above cases supports the credibility of the sustainability claims of the products, which allowed these companies to use client-driven revenue to raise either market finance or attract non-financial government support for further scale.

3.3. Supply chain resilience

Many nature-related dependencies, impacts, risks and opportunities may be found in a company's supply chain.[37] Dependencies and impacts on nature from the supply chain can lead to potential risks for companies in, for example, the reliability, quality and quantity of inputs. Addressing risks in a company's supply chain can also be a source of new approaches, which are, or give rise to, nature-related opportunities, such as changes to product design or new procurement policies. To better manage dependencies, impacts and risks in the supply chain, companies, for example, can collaborate with suppliers to adopt sustainable practices, diversify sourcing and restore ecosystems important to supply chain sustainability, as illustrated by the example in Box 13.

Nature-related opportunities in supply chains may face both logistical and technical issues. Challenges profiled in this section include:

- **Building both logistical and technical capacity** through the supply chain to implement new methods or use new technology. These might be needed to transform the processes in a supply chain or to support additional activities such as data collection. Box 14 discusses many of these capacities.
- **Tackling outdated practices** that are embedded in local ways of life. These practices could include cultural issues, political, systemic development and others. (Box 14 and Box 15).

Box 12: Application to value chain

The full value chain includes the upstream supply chain (Section 3.3), direct operations (Section 3.1) and the downstream value chain. Nature-related opportunities may also be found in the downstream value chain involving the end user (client or customer), where one challenge that companies face is aligning nature-related opportunities with customer expectations and familiarity with conventional processes.

For example, delivering products with more sustainable packaging or delivery methods can help companies lower footprints, lower resource use and future-proof their business when it comes to regulatory compliance, but may change the experience for the customer. Examples of steps companies are taking with the delivery of their products include increasingly integrating traceability systems to make environmental performance transparent throughout the value chain,[38] establishing reverse logistics programmes that extend product lifespans, promote reuse and prevent waste,[39] developing consumer-facing mechanisms that connect product purchases directly to verified ecosystem restoration or conservation projects,[40] and strengthening accountability and brand trust. These approaches enable organisations to anticipate evolving sustainability regulations, maintain market access and reinforce brand credibility.

37 See TNFD (2024) Guidance on value chains.

38 CircularX. Patagonia – Worn Wear Circular Retail Programme.

39 Timberland. Regenerative Leather Supply and Product Take-Back Initiatives.

40 L'Oréal. SPOT Traceability Platform for Environmental and Social Product Impact Disclosure; L'Haridon, J. et al. (2023) SPOT: A Strategic Life-Cycle-Assessment-Based Methodology and Tool for Cosmetic Product Eco-Design.

Another approach is the product-as-a-service model, where companies retain ownership of products such as lighting, office furniture or machinery and provide them as a service instead of a making a one-time sale. This structure allows for more efficient use of materials, easier recovery and recycling, and improved environmental performance throughout the value chain.[41] While discussed here as a value chain opportunity, this model also overlaps with the category of new business models, as it transforms how value is created and captured.

Supply chain resilience is an area of opportunity within corporate sustainability strategies. Nature-related opportunities that enhance the resilience of supply chains can safeguard input availability and reduce exposure to price volatility or physical disruptions. Producers mitigating negative impacts on nature and improving positive impacts can also help to manage the organisation's social and reputational risks while boosting transparent and robust supply chains.

The changes in the supply chain may be both logistical and technical. Logistical issues may include a lack of facilities to store and process raw materials in order to provide the company with reliable and homogenous inputs. Technical issues may include the need to deploy more sustainable methods such as regenerative agriculture and agro-forestry, circular economy principles or recycling methods. Either or both may require additional knowledge, training, access to experts or new equipment or infrastructure.

Box 13: Example of a supply chain model

Concepta Ingredients developed a Bio Abundance Program, a supply chain model that engages local and traditional community harvesters, paying a fair price while promoting stewardship of native species. With a traceability system that reaches down to individual families and hectares, the programme provides accountability to buyers, reduces sourcing risks and strengthens resilience. The model spans four major Brazilian biomes – the Amazon, Caatinga, Cerrado and the Atlantic Forest – and involves 6,500 families, linked through cooperatives and associations. Communities carry out primary processing of non-timber forest products, while secondary processing takes place in Concepta's facilities. Certifications such as organic and fair trade add third-party verification. In total, the programme supports conservation outcomes across an estimated 580,000 hectares. For Concepta Ingredients, this structure mitigates risks linked to input availability and quality, expands access to certified raw materials, and opens markets in the food, beverage, pharmaceutical and cosmetics sectors. For nature, the programme incentivises standing forest conservation and regenerative agriculture practices, reducing land-use change pressures while supporting biodiversity.[42]

A challenge when transitioning a supply chain to a new sustainable method is capacity building. Producers may require knowledge, technical expertise or support, human and financial resources or infrastructure changes in order to implement new methods. Companies might work with their supply chain to pilot or implement regenerative agricultural

41 Signify. Light as a service: Circular Business Model.

42 WWF (2024) Bankable Nature Solutions Case Studies.

practices, provide training and monitoring.[43] Givaudan is mitigating supply chain risks by piloting regenerative agriculture projects. In collaboration with local guaraná farmers and cooperatives, the company has provided training in good agricultural practices that support price and volume security while protecting local biodiversity. Practices that are new to the farmers include adapting fertilisation to soil characteristics, pruning, applying green manure and using cover crops to improve soil health and strengthen biodiversity.[44] The case study in Box 14 provides a further example of a company that worked with its supply chain, local authorities, NGOs and cooperatives to transition farming to organic methods.

Box 14: Organic certification to unlock expansion and supply chain resilience

Vinasamex is a producer and trader founded in Vietnam in 2012. It started as a conventional spice trader selling to a few Asian markets. When price volatility and the power of intermediaries compromised the long-term success of its company and supply chain, Vinasamex identified organic certification as a nature-related opportunity. This would both help increase revenue and improve farmer income based on a premium product.

In 2017, Vinasamex achieved its first international organic certification and, as of 2024, has obtained 16 international certifications of organic practices, including from USDA, the EU, Japan, Korea, Switzerland Organic, the FDA, FairTrade and others. To achieve these certifications, Vinasamex works directly with its value chain – almost 3,000 farming households, 90% who are Indigenous Peoples (e.g. Tay and Nung Peoples) and mostly women. This collaboration has resulted in a 20-fold increase of farming household income in 10 years.

Funding: Corporate equity and grants, such as a grant from the Dutch Fund for Climate and Development (DCFD) in 2023.

Impact on the business	Impact on nature
Increased production capacity with second plant under construction and two more planned.	**Soil and water quality** are improved due to the elimination of chemical pesticides in over 6,000 ha of organic farmland.
Diversified client basis in multiple international markets that seek **accountability and transparency** associated with organic products.	**Reforestation**, intercropping, elimination of 'slash and burn' practices, integrated pest management, and establishment of **buffer zones** are helping to **protect biodiversity**.
A more **resilient supply chain** due to improved growing conditions, education, a cooperative model and more stable income – all of which also has strengthened Vinasamex's **relationship** with the farmers.	**Reduction of GHG emissions** from use of sustainable farming practices. Social programmes with farmers include **waste management** and composting.

43 Mars (2024) Cocoa for generations progress report describes training on agroforestry integration and biodiversity restoration that improves climate resilience and soil health while diversifying income sources for the farmers; Friesland Campina runs a programme to train farmers on livestock health and monitor impacts.

44 WBCSD (2024) The NbS Blueprint – Building business cases for Nature-based Solutions; Givaudan. Spotlight on Sourcing4Good Advanced Level.

Multi-year effort to establish and maintain organic certifications

It took Vinasamex almost five years to achieve its first organic certification, but having achieved 16 certifications, it can now complete the process in around one year. Each certification requires regular requalification, including audits by international third parties. To support these ongoing renewals, the company has implemented its own internal auditing system and human resources to support it.

Moreover, the farmers are organised in a cooperative model that has proved an effective way of integrating the supply chain into Vinasamex's organic certification processes. Each farmer has a contract with Vinasamex, which allows them to retain independence in cultivation while actively participating in quality management and logistics. Led by up to three farmers, the cooperatives are responsible for quality control, implementing certification requirements and general administration. They also coordinate technical training and collect feedback from farmers.

Time and effort invested into the value chain

Most farmers in Vinasamex's supply chain had practised traditional cultivation for generations, particularly since some spices come from culturally significant plants. The company faced the challenge of convincing farmers of the advantages of switching to organic practices and supporting them in developing those skills.

Vinasamex overcame this challenge by demonstrating how organic certifications contributed to a more stable cash flow for both the company and the farmers. A demand for traceable organic produce meant that the company was able to develop long-term contracts with its clients, with distributors in international markets, or with manufacturers that use the spices in other products.

Moreover, the company helped farmers to upskill on the technical aspects of organic farming and its benefits to yields. For example, under conventional farming, a farm could plant 10,000 trees/ha, which was more than the soil could support. Under the organic practices, only 6,000-7,000 trees/ha are planted. This results in a higher quality and quantity of product due to the soil's capacity to provide appropriate nutrients for the lower number of trees.

Source: WWF Netherlands (n.a.) DFCD to support organic spice producer Vinasamex in Vietnam; Vinasamex (2025) Certifications; Vinasamex & WWF (2025) personal communication with the TNFD [interview].

Where supply chains comprise smaller producers, Indigenous Peoples and Local Communities, and other potentially disadvantaged or disparate groups, companies may also take into account cultural practices, their current socio-economic status and relationships with local authorities. Another challenge for companies is transitioning producers when they are simultaneously managing issues such as access to land, subsistence farming and unpredictability in their jobs and livelihoods. Improving supply chain resilience can address some of these issues at the same time. For example, Green Coffee Company (GCC), a coffee producer, operates a vertically integrated supply chain to ensure traceability and manage nature impacts. Through regenerative practices, the company improves farmer profitability and reduces land-use impacts, while also advancing initiatives that expand employment for women, eliminate plastics from its supply chain and cut water use by 90%. GCC holds

certifications including Café de Colombia, Rainforest Alliance, Fair Trade and BASC.[45] Box 15 describes how a company works to strengthen its supply chain by aligning its corporate targets, and the finance mechanism to achieve them, with goals to support nature and people on the ground.

Box 15: Financing and corporate strategy for a resilient supply chain

Natura is a cosmetics company from Brazil. In 2000, it launched the Ekos line, which uses ingredients of biological origin from species native to the Amazon or sourced from the sociobiodiversity of the region, so called bio-ingredients. As of 2024, the company has developed 46 bio-ingredients, and its target is to increase this figure to 55 by 2030.

Natura recognised it needed financing that works with a business model reliant on a strong supply chain. To this end, instead of using traditional financing, the company chose to raise a bio-asset bond that is linked to its sustainability targets and involves financial institutions that understand those targets. This model is a nature-related opportunity that Natura has used in Brazil and is looking to expand to other countries within the Amazon region, such as Peru and Colombia.

Bio-ingredient collection.

Source: Natura (2025).

Funding: Financial instrument. Anchor financing was provided by the IFC and IDB Invest (the private sector arm of the Inter-American Development Bank), additional funding by local private investors.

Impact on the business	Impact on nature
Secures debt aligned with Natura's targets and business model.	Develops **stewardship of land** by valuing standing forest and indirectly supporting recognition of land ownership.
Further develops a **reliable supply chain** of local, bio-ingredients for an extensive product line.	Increases **protection and regeneration** of multi-species forest land, helping to conserve 2.2 million ha of Amazon forest to date.
Supports achieving corporate targets related to nature and people.	Promotes **sustainable practices to develop and produce** local bio-ingredients.

45 BNEF (2024) Opportunity Blossoms: The Business of Curbing Nature Loss.

Corporate targets to build a resilient supply chain

The bio-ingredient supply chain in the Amazon faces challenges in terms of infrastructure and institutional capacities. Natura understood it had to align its internal strategy to help solve these challenges by setting corporate sustainability targets that support the resilience of its supply chain and, therefore, of its business. Their targets were:

- Sourcing 55 bio-ingredients from the socio-biodiverse Amazon region by 2030 – which is the only KPI linked to the bio-asset bond;
- Purchasing four times more raw material from the Amazon region (compared to 2020);
- Ensuring 100% of the producers supplying key ingredients use ethical sources and regenerative agriculture practices; and
- Contributing to the protection and regeneration of three million hectares of Amazon rainforest.

A significant challenge of the supply chain is meeting the required quantity and quality of raw material, as well as basic labour standards. This relates to fact that Natura develops bio-ingredients that are not usually produced, and to challenges faced by smallholders in the Amazon, such as securing land ownership and access, competing land uses (e.g. illegal mining and logging) and conflicts arising from those. It is also related to the harvesting and storage of material, which must follow specific protocols.

There is no one-size-fits-all solution to these challenges and Natura is working internally backed by its corporate targets. For example, the company has dedicated departments working on these challenges. It has an area for bio-ingredient research and another called 'socio-biodiversity supply and relationship management', comprised of 20 staff members with a multi-disciplinary background. Moreover, Natura has developed a business model that supports producers and avoids deforestation by valuing the forest. The company enters into agreements with producers to purchase bark, fruit and other biological materials, supporting the retention of trees rather than their harvesting for wood. It also supports reforestation projects that must involve a mix of species to avoid monocultures and mimic local natural forests.

The bio-asset bond is Natura's vehicle to bring local and international financing that is aligned with its corporate targets. The bond is a BRL 1.3 billion, five-year instrument that the company developed for general corporate purposes, such as expenses and liability management. It also supports the purchase of bio-ingredients from local Amazonian communities and the construction of a research and development lab in its Belém factory. The bio-asset bond is linked to the target of reaching 55 bio-ingredients by 2030. Should Natura fail to meet the target, it will pay a premium of up to 0.15% over the total issuance to investors. Altogether, these actions help to address the company's supply chain challenges.

Source: Natura (2025) Integrated Report 2024; Natura (2024) Framework de Finanças Sustentáveis para Instrumentos Vinculados a Metas; Natura (2025) personal communication with the TNFD *[interview]*.

The effort and resources needed to transform a supply chain can be significant. Gaining approval for such an initiative may be another challenge faced by the company. Integrating sustainability into the corporate levers at an organisation may help to build support for supply chain initiatives, as illustrated in the case study in Box 16.

Box 16: Managing biodiversity impacts upstream in raw material supply chains

Carrefour identifies that most of its biodiversity impacts occur upstream in raw material supply chains. Sensitive commodities such as beef, palm oil, soy, cocoa, wood, fish and aquaculture are priority areas for action. The Group uses corporate levers including deforestation-free sourcing requirements and supplier standards, and certification supported by developed "commodity zoom" analyses that link volumes to production areas and identify biodiversity hotspots. For the business, this approach increases the visibility of supply chain risks and supports long-term sourcing security by reducing exposure to regulation, reputational damage and supply disruption. For nature, it reduces pressures linked to land-use change and encourages the adoption of more sustainable practices in supplier regions.

Sources: Carrefour (2024) Protect Biodiversity; Carrefour (2024) Fighting Deforestation.

3.4. Business model innovation

Nature-related opportunities in this category involve using a new business model or structure to realise value, although the end product or service is the same, or similar to, what is already on the market. The business value is linked to a sustainable method or source and the new business model or structure may be entirely unique or new to that organisation. For example, Patagonia, which produces higher-end outdoor clothing, was one of the first in the fashion industry to integrate people and environmental sustainability in everything it does. Its structure includes phasing out toxic dyes, using organic materials, working with the company's value chain and using fair trade certification. In 2022, the model changed when the ownership of the company was transferred to a trust and a not-for-profit organisation.[46] Other fashion companies have since adopted comparable business models that embed environmental and social sustainability into core operations from regenerative material sourcing (investing in supply-chain traceability) to applying circular design principles to extend product lifecycles.[47]

There may be different reasons for needing new business models. Drivers include commercialising revenue streams that are different from the company's main business and creating pathways in the market

Innovative business models may be needed to realise the value from different processes or non-traditional sources. Challenges may be related to acceptance by the organisation or the broader market. In this section, the following are discussed:

- **Introducing a model different to the prevailing model** in an established company. Box 17 describes this scenario as the company developed a department and revenue stream for a model that was different to the rest of the 100+ year old company.
- **Valuing nature attributes not currently valued or misvalued**. A new business model may be needed to create a financial valuation path for nature attributes such as ecosystem services. The end product or service might be a conventional one that serves as the physical exchange of value (Box 18, Box 19 and Box 20).
- **Developing proof of value** from the business model. Monetising nature-related, non-traditional sources of value may be new and lack historical data. A pilot or exemplar helps to establish the business case as shown in Box 20.

46 Patagonia Company history; Business Models Inc. The business model of Patagonia; McKinsey (2023) Patagonia shows how turning a profit doesn't have to cost the Earth.

47 Two examples are from Stella McCartney and Eileen Fisher.

for non-traditional sources of value. The former may require marketing, sales, product development teams and client relations that are similar but different than what is used for the company's existing business. The latter may require designing a corporate model that differs from common models in the sector in order to monetise sources such as data in a commodity sector, or ecosystem services in the infrastructure space.

The circular economy model of resource production, use and consumption is a way of redefining value where, in practice, the production and use of resources is regenerative and waste is reduced to a minimum through sharing, leasing, reusing, repairing, refurbishing and recycling.[48] This model can be applied in business and help to avoid and reduce negative impacts on nature by lowering the need for raw or virgin materials and emitting less waste back to nature.[49] Products may be designed to last longer and outputs from one process may be used as inputs to another process in order to source inputs in a regenerative manner. As a business model, there is a shift in thinking that what is traditionally considered waste (and a cost) is actually a resource – thereby redefining value. This can alter the design of products, among other aspects of the business.[50] For example, Arkema and On have designed a shoe that is fully recyclable, uses a bio-based plastic derived from sustainable castor beans and uses the same material for all components to support ease of recycling. Further, Arkema offers a subscription model that includes a take-back scheme to ensure the recycling.[51]

Opportunities concerning new business models may require more risk taking as they may face potential transitory effects as they are put in place and may also face heightened due diligence by debt financiers and/or equity holders. Challenges to developing or implementing a new business model or structure vary, for example, depending on the maturity of the company or opportunity, the size of the company, the available resources and access to financing. In established companies, a new business model might grow from a smaller initiative or pilot and could be supported by existing research and development budgets. Such efforts may build on attributes the company has identified but are adjacent to main business lines. These efforts could be subject to the company KPIs and need to deliver a clear route to market and revenue. The case study in Box 17 provides an example of how a new department was built based on relationships with traditional agrifood producer clients recognising that they comprised the value chain of agrifood traders and is a departure from selling products.

48 European Parliament. Circular economy: definition, importance and benefits.

49 Ellen Macarthur Foundation (2025) Scaling action for nature.

50 Ananas Anam produces a textile-grade fibre from waste pineapple leaves; MYCL turns agricultural waste into a leather-like material.

51 WBCSD (2024) Global Resources Outlook (GRO) 2024: Implications for Business; Arkema Global Cyclon press release.

Box 17: Consulting on a low-carbon and deforestation-free agricultural supply chain in Latin America

Bayer is a global company that specialises in pharmaceuticals, consumer health and crop science. In 2018, it allocated part of its research and development (R&D) budget to develop new approaches to calculate and reduce the carbon footprint of agriculture and designed the PRO Carbono programme.

As part of this programme, Bayer started working with 2,000 farmers in Brazil in 2020, using field soil samples to quantify carbon stocks. A year after, the project expanded to 150 farmers in Argentina. Bayer built a digital tool to calculate the carbon footprint of the farms, which is adapted to the conditions in these Latin American countries. The tool includes a module on regenerative agriculture practices for farmers to decide whether to implement these practices, based on their implications and results.

The programme's revenue stream comes from providing consulting services to clients, comprising traders and food chain companies, who seek transparency on the carbon footprint, deforestation and other nature-related issues of their value chain – often for climate targets or regulatory compliance. Bayer was in a favourable position to connect these clients to the farmers and enable its clients to obtain more accurate data and results than they would by using regional emissions factors in calculations.

Funding: Initial funding from R&D budget, currently from consultancy services sales.

Impact on the business	Impact on nature
The PRO Carbono programme has contributed to the creation of a **new business unit**, the Bayer Ecosystem Services. It has grown its team size 10x in three years. Initially funded by internal R&D budget, PRO Carbono **operations are now self-sustaining** based on client consultancies. Through PRO Carbono, Bayer can initiate conversations with farmers on topics of their interest and build **customer loyalty**.	**Carbon emissions monitoring and reduction strategies** by 2,000 farms in Brazil and 150 farms in Argentina. **Improvement of soil health** in farmland that adopts regenerative agriculture practices as result of participating in PRO Carbono. Agrifood traders sourcing products from the programme mean they come from **deforestation-free farms** and outside protected areas.

A long-term business model underpinned by relationships

Bayer had an opportunity to leverage its relationship with farmers in a way that could answer the need of agricultural traders seeking to reduce GHG emissions in their value chain.

Bayer's consultancy business model is underpinned by farm data and validated calculations from the digital tool, which results in actual carbon emissions rather than estimations from global factors. For example, Brazilian soybean estimated emissions from an international database are 2,600 kg CO_2 eq/t, while the PRO Carbono tool shows average emissions of 925 kg CO_2 eq/t, or 657 kg CO_2 eq/t from farms using regenerative agriculture practices.

The digital tool needs real field data from farms in Brazil and Argentina to account for their unique environmental context. The relationship with the farmers is critical for the programme and Bayer provides them with data analysis and ongoing technical support at no cost – on carbon footprints, socio-environmental analysis, and insights on regenerative agriculture practices. These aspects allowed Bayer to attract farmers' participation. At the same time, Bayer had to be flexible with its data collection modalities and avoid creating a burden that could hinder farmer participation. Ancillary benefits for the farmers include the potential to position themselves as preferred sustainable suppliers with traders, receive price premiums for their products, and access networking opportunities and discounts from Bayer and other third parties.

Location specificity and scalability challenges

The PRO Carbono programme can accommodate other regions and crops and so lends itself to scaling. However, the data underpinning its model is highly dependent on local conditions, such as rainfall patterns or yield, and requires a significant effort from the ground up to collect it, engaging and collaborating with farmers and local experts. Bayer collaborated with 16 research partners, including universities, INTA in Argentina and Embrapa in Brazil (national institutes specialising in agrifood technology and research) to develop the programme's digital tool and they provided the knowledge required to localise the tool.

Other elements of the programme, such as the architecture of the digital tool, data analysis methods, and services to the clients, are transferable. Argentina shows an example of replicability, where Bayer is expanding to calculate the carbon footprint and perform socio-environmental validation for more than 2.2 million ha and include other products such as corn, wheat, sunflower and barley. Despite the complexity of scaling to other countries, Bayer has plans to expand to Paraguay in 2025.

Source: Bayer (2025) Impact Report 2024; Bayer (2025) personal communication with the TNFD [interview].

In newer companies, developing a business model from the ground up may require trial and error and feedback from clients. One challenge related to nature-related opportunities is that ecosystem services are either not valued or misvalued in commodity markets. The end product, such as coffee, timber or milk, is the same as those produced by more traditional companies and competes with those traditional products on price and quality to attract end clients. The more sustainable product may be more expensive to produce, which means the product needs to either create efficiencies or offer something else.[52] For example, Perfect Day, a food tech start-up, uses precision fermentation to produce animal-free protein ingredients identical in structure and taste to dairy equivalents. One aspect of Perfect Day's strategy is to be more land and process efficient than cows, which enables the company to achieve 96%

52 Vertical farming is a method and a business model that produces and distributes uniform produce locally using less land and water. Two examples are eden green and Aerofarms.

lower GHG emissions and 99% less freshwater use.[53] The case study in Box 18 provides an example of a regenerative coffee and chocolate company that changed its business model to overcome limitations of retail pathways and integrate the need for on-location data.

Box 18: An ecosystem services business model for coffee

Slow is a coffee and chocolate company founded in 2018. It runs an end-to-end supply chain managing production, processing and export in Southeast Asia (Laos, Vietnam, Indonesia) and Kenya, to sales and distribution in Europe.

The core of the business model focuses on converting degraded monoculture land into agroforestry systems. For example, coffee plants are grown under the shade of multi-layered forests alongside fruit and timber trees. The mix of vegetation supports biodiversity and local livelihoods as many of the producers are smallholders.

Slow considered selling coffee as a luxury product with a price premium in retail, but this setting was not conducive to showcasing the nature-related added value. Instead, Slow chose a business-to-business (B2B) model, supplying coffee and chocolate to corporates alongside storytelling tools – such as information boards and video content – to highlight the social and ecological value of the products. This pivot enabled Slow to create an ecological business model where the nature impact is as important as the product.

Funding: Debt finance provided by a Danish bank and investor funding rounds in Southeast Asia.

Impact on the business	Impact on nature
Revenue growth is close to two-fold year on year. Expected **sales across Europe** are 1,000 tonnes of coffee in 2025. **Talent growth** from 30 employees in 2022 to around 300 in 2025 after the purchase of a company in Kenya.	**An agroforestry system** in Laos, Vietnam, Indonesia and Kenya covering over 1,000 ha, which creates habitat for wildlife through 430 shade trees per hectare and buffer zones of untouched forest. **Restoration and maintenance of the provision of ecosystem services**, such as soil and water quality, carbon sequestration, pollination and biological control.

53 BNEF (2024) Opportunity Blossoms: The Business of Curbing Nature Loss.

Solving for scalability in a saturated market: an uncommon business model

After facing the challenge of supermarkets not capturing the value of the production model, Slow shifted towards corporate clients, where the entire agroforestry system, not just the final product, was understood as a source of value and communicated as such. For example, at some client sites, coffee machines serve Slow's product alongside video storytelling that aims to connect staff with the forest and farmers behind it, as in the picture.

Video of Slow product displayed on a coffee machine.

Source: Slow (2025).

The company's proposition resonated with businesses that had committed to the Sustainable Development Goals and needed to report credible sustainability outcomes. Slow engaged multiple stakeholders within client organisations, including procurement, sustainability, finance and communications to make the business case. This included:

- Documented impact across nature, climate and social issues, with data to support voluntary and mandatory corporate reporting requirements;
- Coffee grown in farms that enhance and lock carbon, reducing client's Scope 3 GHG emissions;
- Supply chains aligned with sustainable procurement strategies; and
- Reputational benefits, internally among staff and externally among the general public and other stakeholders.

The pivot to a B2B business model led to long-term offtake agreements (typically seven years). Such agreements are common in sectors such as real estate but remain unusual in agrifood. Because this was a fundamental change to Slow's commercial model, the board and management needed to carefully consider the long-term strategic implications. However, the decision created a model that now provides stability for both clients and farming communities.

Value proposition supported by data collected on the ground

Slow views data as a key part of the product offered to corporates, alongside the coffee itself. Every long-term offtake agreement includes commitments on data collection. Slow is responsible for measuring and reporting nature, climate and social performance at the farm level. This data supports Slow's clients with their own sustainability reporting. For example, the data is structured to fit EU Corporate Sustainability Reporting Directive (CSRD) and Science Based Target initiative (SBTi) reporting, or requirements for compliance with the EU Deforestation Regulation (EUDR), and is validated through third-parties such as EU Organic, Fairtrade, Rainforest Alliance, and SBTi.

When Slow realised the importance of data, resources were prioritised to support its collection on the ground. Each of the farms is tracked against more than 100 indicators associated with ecosystem health, climate mitigation and social metrics. The data is gathered by Slow's in-country staff of over 250 members. Staff live in the same communities as the farmers, and this face-to-face interaction is essential for data accuracy, trust and farmer buy-in.

Source: Slow (2025) Impact Report 2024; Slow (2025) personal communication with the TNFD *[interview]*.

Another area where new business models and structures are key is where no traditional commercial product or service exists. Provisioning ecosystem services generally provide a resource that the economy or society can directly quantify. Regulating and maintenance, and cultural services are more difficult to value, although valuation methods[54] and databases[55] are available.

Tourism is one sector where cultural services can enable business development. For example, Shanenawa Village in Acre, Brazil, has developed a community-based tourism model that offers visitors access to forest medicine, traditional rituals and cultural immersion. By generating new income streams beyond subsistence farming, hunting and fishing, the model supports the preservation of the forest. It also creates livelihoods for families, strengthens cultural continuity and encourages young people to remain in the forest, contributing to the long-term stewardship of the ecosystem.[56] A similar example expands tourism to include local handicrafts made by people in the community. The Manatee Association on the north coast of Alagoas, Brazil, organises community-based tourism where local residents conduct manatee observation tours along the Alagoas Ecological Route. The association also promotes handicrafts produced by its members and local partners, diversifying the economy and generating income for socially vulnerable families. By protecting the West Indian manatee (*Trichechus manatus*), listed as Endangered on Brazil's national red list and Vulnerable[57] on the IUCN Red List[58], while generating income for local families, the model demonstrates how community livelihoods can be sustained without causing harmful environmental impacts.[59]

Box 19: Community-based species management that integrates a commercial fishing business

The Coletivo do Pirarucu coordinates community-based management of the Amazonian pirarucu (*Arapaima gigas*), bringing together fishers, Indigenous groups, researchers and government actors to restore populations once depleted by overfishing and listed under CITES Appendix II and IUCN Red List as Data Deficient. By commercialising sustainably managed fish under the collective brand Gosto da Amazônia, with independent traceability and policy support through Brazil's PGPM-Bio programme, the model reduces pressure on wild stocks, conserves aquatic ecosystems and provides fairer, more stable income for Amazonian communities.

Sources: CITES (2023) Appendices I, II and III. Convention on International Trade in Endangered Species of Wild Fauna and Flora; IUCN. Arapaima gigas. The IUCN Red List of Threatened Species; CONAB. Minimum Price Guarantee Policy for Sociobiodiversity Products (PGPM-Bio). Brazilian National Supply Company.

54 See Annex 3: Valuation of dependencies and impacts, in TNFD (2023) Guidance on the identification and assessment of nature-related issues: The LEAP approach and the work of the Capitals Coalition.

55 For example, the Ecosystem Services Valuation Database (ESVD) includes over 2000 valuations based on individual studies.

56 Agência Brasil (2024) Community-based tourism a game-changer for indigenous communities.

57 Brazil (2022) Portaria MMA No 148.

58 IUCN (2023) Red List of Threatened Species.

59 Associação Peixe-boi. Turismo de base comunitária.

In other regions or contexts, valuing nature from a commercial perspective may require establishing demonstration models or including free services. Sources of blended financing may be appropriate to begin this process. The case study in Box 20 describes a business model focused on recognising nature as an asset class in developed markets.

Box 20: Financing nature restoration through the sale of ecosystem services

Nattergal is a nature restoration company working to demonstrate that nature is an investable asset class that provides financial returns alongside climate, biodiversity and societal benefits. Its founders identified an opportunity to restore degraded sites and value nature and the ecosystem services it provides as key infrastructure, enabling them to be accounted for in economic models.

Founded in 2021, the company draws insights from its portfolio of three sites in England, along with evidence from the Knepp Estate – a landscape-scale nature restoration project with over 20 years of ecological data.

Through an innovative business model, Nattergal generates revenue from the commercialisation of ecosystem services resulting from the restoration of these sites. These services can be sold through voluntary and statutory natural capital markets in the form of carbon credits and Biodiversity Net Gain (BNG) units, among others. The company intends to continue to tap into blended financing models.

Funding: Seed equity, UK government grants and sale of products.

Boothby Wildland site (Lincolnshire, UK).

Source: Nattergal (2025).

Impact on the business

The three restoration sites are producing financial instruments that contribute to a **positive cash flow.** For example, the company has registered 1,700 BNG units and built a sales pipeline totalling more than GBP 20 million in the first three quarters of 2025.

Positive reputation as a result of the evidence-based restoration of its sites.

Early mover advantage that allows Nattergal to develop the market and increase its own value.

Impact on nature

Restoration of degraded land through planting local vegetation, reintroducing free-roaming herbivores, among others. Its three sites cover over 1,100 ha in England.

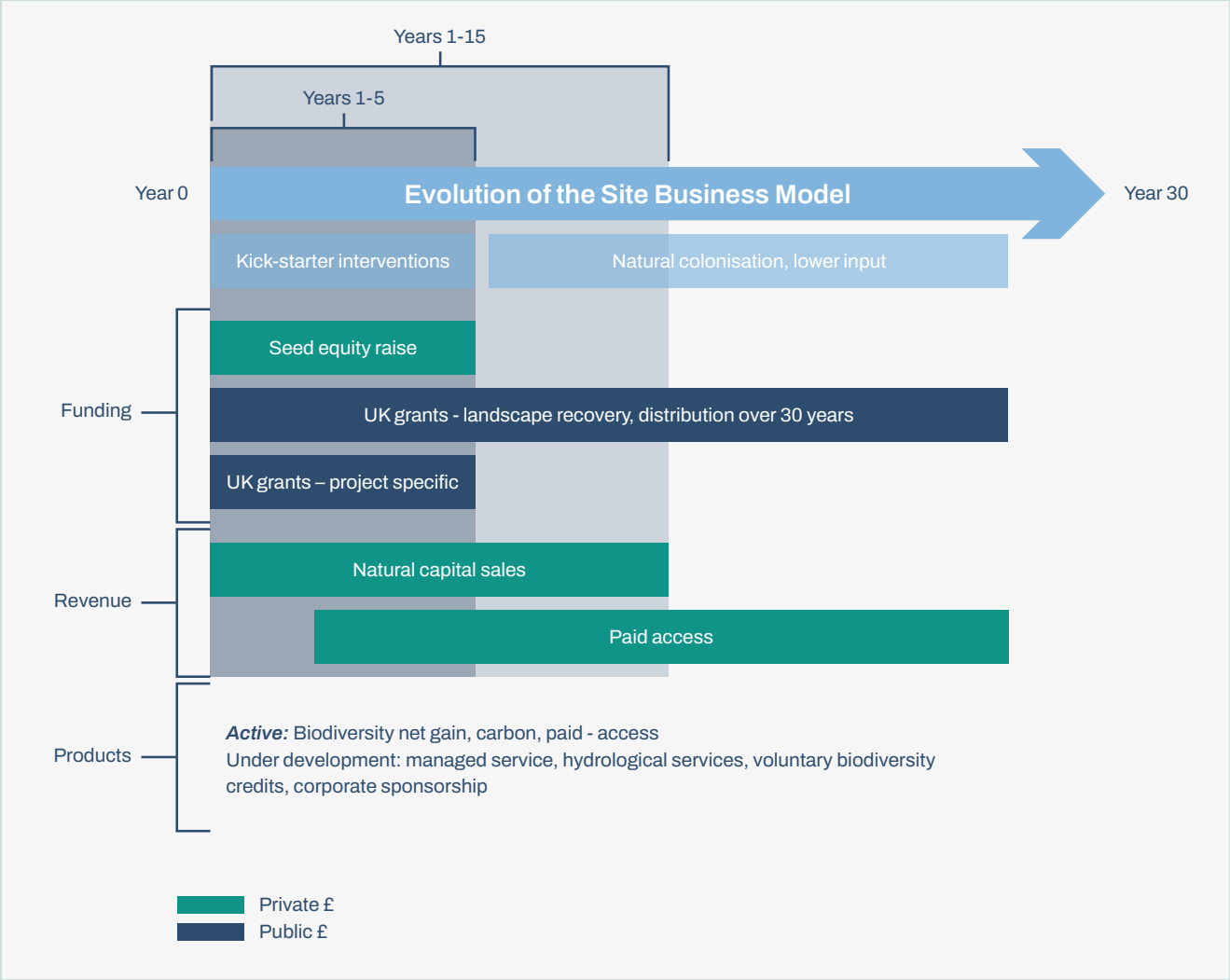
Carbon sequestration on restored land. For example, a portion of a restoration site was verified to sequester 10,000 tCO_2e through the Wilder Carbon standard.

Water management and flood mitigation through nature-based solutions, such as river re-meandering and re-wetting peatland.

Blended finance model

Overcoming the challenge of raising funds for nature restoration and its associated revenue streams required Nattergal to be innovative in leveraging multiple financing pathways (see Figure 11 below).

Figure 11: Evolution of Nattergal's business model



Source: Nattergal (2025) model developed with internal data.

First, Nattergal raised GBP 40 million in seed equity from both private and institutional investors including Aviva and Lansdowne Partners, its cornerstone investor. Most seed capital was used to purchase three flagship sites in England, which served as exemplars of the restoration and commercial model. Some of its work is also funded by public grants from the UK government, for example, to support the management of volunteer work and the construction of permissive public access routes.

Another financing pathway comes from the sale of ecosystem services through England's statutory BNG market and the voluntary carbon market. These are sold to corporate buyers, for example, to ARUP, which secured the rights to 10,000 tCO_2e at GBP 100/tCO_2e in line with its sustainability strategy. Nattergal is exploring future markets such as voluntary biodiversity credits, water-related ecosystem services and offering land management for others.

Internal capacity for nature and finance

To develop its business, Nattergal needed a team capable of implementing both the technical and commercial aspects of its approach. Its technical abilities relate to conducting landscape restoration and managing land over the long term. Its commercial abilities relate to identifying partners and opportunities in a nascent market, and building a business model that would satisfy investor demands. As such, the company structured a team with these complementary capabilities. The team's expertise enabled Nattergal to develop site exemplars showcasing evidence-based ecosystem services and to use such evidence when engaging with industry professionals in fundraising or commercial or advocacy discussion.

Source: Nattergal & Arup (2024) Knepp Wildland Carbon Project; Burrell, N. C. et al. (2024) The inadequacy of current carbon storage assessment methods for rewilding: A Knepp Estate case study. Ecological Solutions and Evidence 5(e12301); Nattergal (2025) personal communication with the TNFD *[interview]*.

Growth of nature-related opportunities dependent on business models can occur through expanding the client base, moving into new regions, or adding products and services based on the business model. The implementation of new business models provide evidence that they can work in one region or for one commodity and that it is possible to modify them for similar or nearby regions or similar commodities. For example, Bayer has already replicated its initial Brazilian program in Argentina and is looking to Paraguay next. The initial programme was also focused on climate and has already expanded to socio-environmental issues such as protected sites and human rights. Nattergal is scaling with a managed-service offering that builds on the experience it gained through restoration exemplars, but avoids the need for land acquisition capital. Slow has acquired chocolate processing facilities where the model the company used for coffee will be applied.

3.5. Financial innovation

Financing – private, public and enabling mechanisms – is an enabler for nature-related opportunities to replicate and scale, and to unlock new markets. However, financing corporate nature-related opportunity activities is also an opportunity for financial institutions to support existing client bases, develop or build strategic lines of business, respond to shifting market demands and react to sustainability-related regulations. It can also be an opportunity for corporates to issue their own nature-related bonds (use-of-proceeds or sustainability-linked). See Box 15 for a case study that includes a corporate bond for a more sustainable supply chain.

There are already a wide range of financial products and services that could be deemed relevant to nature as shown in the 2025 report Finance Solutions for Nature. The WEF reviewed available guidance to 37 financial solutions and prioritised 10 solutions because of their ability to deliver positive nature outcomes at scale with investable returns. Different financial products in the capital stack may be appropriate at different maturity levels, for example, impact or accelerator funding in early stages moving to private debt and equity, institutional investors and retail banks in later stages.[60]

This section covers financial products that are similar to traditional financing and have been adapted to nature-related activities, financial products that are newer and novel, and insurance as an enabling mechanism. While there is no bright line between an adapted traditional product and more innovative ones, the spectrum shows the breadth of solutions currently in use.

Financial products and instruments for nature range from well-known models that are adapted to support more sustainable nature-related activities to new, innovative designs. Challenges span approval issues when adapting an existing product to market acceptance for newer ones. In this section, the following is discussed:

- Whether it is an adapted financing or a new design, **appropriate internal structures for management** are needed. If they do not already exist, organisations will need to assign resources and governance structures. (Box 21)
- Ensuring the **credibility of the use of financing**. Data, assurance and key performance indicators (KPIs) are all quantitative methods of supporting sustainability claims. (Box 22, Box 25 and Box 26)
- **Market acceptance** of new instruments. In particular, acceptance from the institutional investors or 'buy-side' is critical to the survival of new funds. (Box 24)
- **Approval of adapted instruments** depends on internal approvals, acceptance by clients and broader market and partnerships. (Box 22, Box 25 and Box 26)

While this report looked for commercial grade financing examples, blended finance has historically and continues to play a large role in nature initiatives. Public sources of financing are still appropriate at different stages of opportunity maturity, including the funding of research and development and for pilots to provide demonstrable outcomes. Blended finance or inclusion of non-commercial finance such as development or impact is also relevant social objectives and in markets that are deemed high risk, or for broader land or seascapes that are

60 The Rockefeller Foundation (2024) Financing for Regenerative Agriculture; Denke D. et al. (2023) Building a Capital Continuum for Nature-Positive Investments, Coalition for Private Investment in Conservation.

lacking a single market entity.[61] See Box 20 for a case study where a company used public financing to create an asset base that allowed private financing to invest.

Bonds and loans

Adapting bonds and loans to nature-related opportunities has the advantage that they are familiar instruments and are applicable across multiple sectors. Financing solutions may have thematic or use-of-proceeds structures, such as blue bonds where the financing is used for a clearly defined project. These bonds can be issued by either a financial organisation or a corporate. For example, in 2024, IFC invested in a biodiversity bond issued by Banco Davivienda, a Colombian private bank.[62] The proceeds are directed to projects that protect biodiversity, restore ecosystems and promote sustainable production in key landscapes. For Davivienda, the instrument builds new lending lines in sustainable sectors, diversifies its investor base, and positions the bank as a first mover in nature finance while offering investors a familiar bond structure adapted with biodiversity criteria. A corporate example is that of Ørsted, the Danish renewable energy company, which issued a blue bond of EUR 100 million through a private placement.[63] Proceeds are directed to ocean-related activities, including marine ecosystem restoration and sustainable maritime projects. This provides Ørsted with access to new investor demand while supporting the integration of nature considerations into core financing.

As financial organisations begin to include such instruments in their offerings, one of the challenges is ensuring there are appropriate internal structures within the organisation that can manage the nature-related issues and the knowledge required for the instrument. Initial backers of the instrument may be mission-driven, including public sources of funds, which bring accountability structures but also require robust governance and management of the instruments. One solution to this is to strengthen the internal structures that manage the nature-related financial instruments and orient the governance to sustainability.

Box 21 describes how a bank issued the first blue bond, and in doing so, created a governance structure with clear reporting to senior management and a new nature-risk management system that will support future offerings.

61 Denke D. et al. (2023) Building a Capital Continuum for Nature-Positive Investments, Coalition for Private Investment in Conservation; WBCSD (2025) Guidebook for Landscape Investments.

62 IFC (2024) IFC invests in biodiversity bond issued by Davivienda to support sustainable finance and biodiversity protection in Colombia.

63 Ørsted (2023) Our blue bond is enabling resilient renewable energy projects that contribute to a sustainable ocean economy.

Box 21: A blue bond that accelerated bank growth

Banco Bolivariano is the fifth largest bank in Ecuador. In 2023, it issued a blue bond for USD 80 million with a five-year maturity that focused on the protection of the ocean and water resources in Ecuador.

The funds of the bond are used to provide debt to companies with ocean-related activities to develop new projects that would contribute to ocean health. These companies benefit from an extended repayment period and a longer grace period compared to traditional debt. This initiative also presented the opportunity – and challenge – for Banco Bolivariano to create a sustainability department and disclose its nature-related issues in alignment with the TNFD, as requested by its investors.

Funding: Financial instrument, backed by IDB Invest and FinDev Canada.

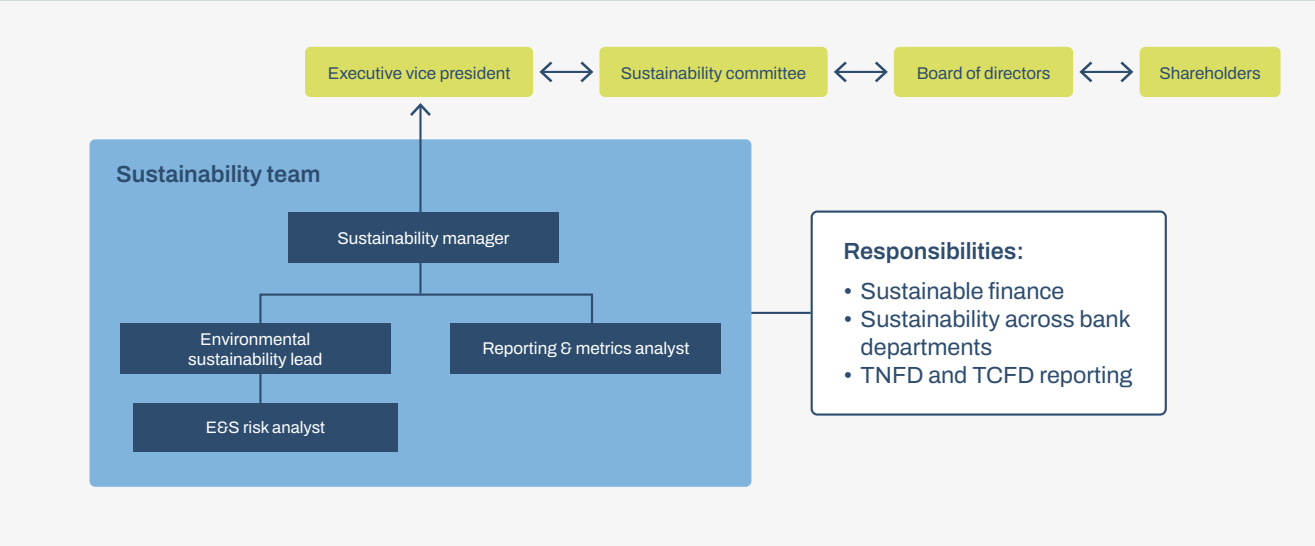
Impact on the business	Impact on nature
Expanded blue debt placement. By 2024, the bank had allocated the funds across 37 operations for eight clients, totalling nearly USD 145 million.	Over 400 tonnes of **seafood produced according to sustainable certifications** (e.g. MSC, ASC and BAP) in 2024.
Strengthened the bank's **sustainability strategy,** significantly influencing corporate governance of nature-related topics.	Over **170,000 m³ of wastewater has been saved**, preventing it from being discharged untreated in 2024.
Attracted a **new investor** and informed its upcoming **biodiversity bond**, which will be issued for USD 120 million: USD 50 million by IFC, USD 50 million by IDB Invest and USD 20 million by FMO (the Dutch Entrepreneurial Development Bank).	About 130 tonnes of plastic and 1,800 tonnes of other **solid waste were recycled or reused** in industrial processes, substituting new raw material in 2024.

Stronger governance for sustainability

To invest in the blue bond, IDB Invest required the bank to strengthen its management of sustainability-related topics, which included creating a sustainability department and hiring nature and social risk experts. Prior to this request, the bank's oversight of sustainability fell under the risk management department.

Banco Bolivariano recognised a sustainability-oriented governance structure would provide accountability for nature-related bond products, even though transforming its internal corporate governance was a significant logistical and financial challenge. This led to the creation of a sustainability team of four members and a Sustainability Committee (as seen in the diagram below) comprised of senior executives from key areas such as risk, finance, corporate banking, innovation, sustainability and marketing.

Figure 12: Sustainability governance structure of Banco Bolivariano



IDB Invest also asked the bank to make at least two disclosures in alignment with the TNFD between the bond issuance and the maturity date. Meeting this and other sustainability objectives is linked to a financial incentive – a 20-basis-point reduction in the interest rate on the bond. However, this incentive alone did not justify the resources and time needed to change the bank's corporate governance and establish new reporting procedures. Banco Bolivariano factored in its ambition to position itself at the forefront of ocean sustainability, as well as the technical support that IDB Invest provided to fulfil the bond's requirements, when making the decision to proceed.

Bonds fit for purpose: challenges to identify clients

The funds from the blue bond are specifically designated to finance new projects in three eligible categories – seafood, water and wastewater management, and circular economy. A key challenge during the bond's implementation was the difficulty in identifying eligible projects for the latter two categories. As a result, 99% of the disbursed funds were allocated to seafood companies.

Identifying eligible seafood companies was straightforward due to the maturity of aquaculture in Ecuador and it was facilitated by specific certifications such as Marine Stewardship Council (MSC), Aquaculture Stewardship Council (ASC) or Best Aquaculture Practice (BAP, minimum 2 stars). In contrast, Banco Bolivariano disbursed funds to only one water and wastewater management company. Identifying clients for this category proved challenging because of the lack of certifications for this sector and it being less familiar to the bank. Furthermore, no funds have been disbursed to the circular economy category as its activities were restricted to solid waste recycling near the coast or rivers, which greatly constrained eligible projects.

This learning has informed Banco Bolivariano's strategy for future thematic bonds. For example, it is currently working on Ecuador's first biodiversity bond, engaging with clients to understand existing certifications and projects to find eligible companies prior to issuing the bond. The biodiversity bond is expected to have the financial support of IFC (through IFC's subscription) and was conceptualised after the bank carried out the LEAP approach to measure the nature-related issues of its portfolio.

Source: Banco Bolivariano (2025) Segundo Reporte Bono Azul 2024; Banco Bolivariano & IDB Invest (2025) personal communication with the TNFD [interview].

The use of these instruments is still fairly new in the market. When the Bank of China issued the first biodiversity-themed bond by a Chinese bank in the European market, it involved developing strong governance and transparency mechanisms and regular reporting in the bank.[64] These structures included a dedicated register for the bond proceeds and recording inflow and disbursement data. A two-tier governance mechanism was also developed, comprising a sustainability framework and project screening criteria with a cross-departmental review process. Another solution the Bank of China implemented was an independent assurance review by a third-party. This process supported internal learnings and long-term capacity building. Altogether, this bond issuance has expanded the bank's European investor base, contributed to the bank's expertise on biodiversity finance, and strengthened alignment with evolving global regulations. In addition, it has successfully financed eight conservation and restoration projects across multiple ecosystems that will provide ecosystem services from climate change adaptation to pollution prevention to water infrastructure.

In contrast, sustainability-linked bonds or loans are linked to specific key performance indicators (KPIs) or targets, which enables the financing to be used more broadly, giving the company flexibility in how it reaches the targets. The targets may be designed so that the issuer or borrower receives a rate reduction if KPIs are met or receives a rate increase if KPIs are missed. Some instruments only incorporate either the incentive or disincentive. This implies a degree of measurement, reporting and verification is needed throughout the life of the financing, possibly requiring additional expertise and expenses to hire auditors and other technical specialists.

As financial organisations begin to offer such instruments, one of the challenges is to set robust, credible KPIs that can be practically measured by the client. This challenge may arise for multiple reasons stemming from inconsistencies between the desired nature outcomes and practical realities. For example, KPIs must be ambitious and linked to real impact on the drivers of nature change to be credible, while financial organisation commitments are often made to be consistent with global goals. In both cases, multiple steps or stages may be needed to bridge between the local context and the organisation's objectives where knowledge capacity, technical know-how, access to measurement and verification technology, and processes and regulatory ability may be lacking. One solution is to work

64 CBI (2025) China debuts landmark sovereign green bond on global stage.

with a client to understand the practicalities on the ground, while keeping in mind the global commitments of the issuing organisation. Another is using third-party standards for KPIs. For example, GRESB provides the real estate industry with a standard for benchmarking the sustainability performance of real assets with methodologies developed since 2009. Inclusion in the Dow Jones Sustainability Index (DJSI) may also be the basis for a KPI as the index is determined by its underlying ESG analysis of 23 sustainability topics.[65]

The case study in Box 22 describes how a local subsidiary of an international bank co-developed a sustainability-linked loan (SLL) with a local farmer.

Box 22: Supporting the agrifood transition through a sustainability-linked loan

Rabobank is a global commercial bank present in 35 countries. Its Chilean subsidiary, RaboFinance Chile, primarily focuses on the food and agriculture industry. In 2024, the bank's subsidiary (hereafter referred to as "Rabobank") adapted its sustainability-linked loan offer to integrate regenerative agriculture practices and issued its first SLL for the rural portfolio.

This SLL was issued to a large-scale fruit farm named Hacienda Los Quillayes (Quillayes), which initially participated in a pilot on 10 ha of land, led by Rabobank and WWF Chile. The farm has independent use of the funds, as long as it meets sustainability Key Performance Indicators related to regenerative agriculture that are integrated into the credit structure.

Quillayes fruit farm.

Source: Rabobank (2025).

Funding: Financial instrument purchased by farming companies.

Impact on the business	Impact on nature
Adaptation of other SLLs (from wholesale and retail portfolios) to create the **first SLL for the Chilean rural portfolio**, which can be **replicated to other clients.** **Alignment with Rabobank's internal sustainability strategy** and with the global market. **Increased expertise** on regenerative agriculture, which started through the pilots with WWF.	**Improvement of soil quality** with the aim to increase organic matter by 0.01% per year, which in turn improves water retention, nutrient cycling and soil fertility. **Mitigation of soil pollution** by reducing the application or replacing agrochemicals (insecticides) on site. This also prevents water pollution. **Biodiversity increases** by introducing native flora in non-productive areas of the farm.

65 GRESB rating assessment was used by BNP Paribas to finance a Chinese real estate developer's work to meet its GHG reduction targets. GRESB. Sustainability-linked loans; The Bank of East Asia provided a sustainability linked loan to an agrifood company in Asia and Africa with KPIs that include the company being included in the DJSI World Index BEA (2024) BEA Closes a Second US$100 million Sustainability-linked Loan with Wilmar.

Loan co-creation and KPI negotiation

Being the first SLL in this modality for the Chilean rural portfolio, the bank and the farm initiated a co-creation process to define the terms of the loan. This process was especially relevant because the attractiveness of the SLL was not financial in the first instance – it offered a modest reduction in interest rates that was partly offset by the significant monitoring commitment from the client. The main value to Quillayes was increasing the resilience of its farm to ensure future exports.

Defining KPIs that would work for both the bank and the farmer was challenging. For the bank, the KPIs needed to support accountability and a tangible transition to regenerative agriculture in the short to medium-term. For the farmer, the KPIs had to be measured accurately with available tools and at a reasonable cost. For example, complying with the KPIs could incur additional costs for the farm such as third-party verifications, a trade-off it had to consider. Taking this into consideration, Rabobank decided on three KPIs that the client had to report annually. These KPIs will form the basis of rural SLLs for future clients in Chile and can be adapted to their specific context:

1. Increased organic matter in soil and within the optimal range for the specific soil type on the farm;
2. Reduction in insecticide applications or replacement of active ingredients with lower-toxicity alternatives; and
3. Incorporation of native flora in the non-production areas of the farm.

The KPIs were also reviewed by the bank's Sustainable Finance Panel, formed by headquarter and regional experts, and the Risk Committee. The Sustainable Finance Panel had a continuous dialogue with Rabobank in Chile to bridge understanding of the cultural, technological and policy context surrounding the SLL, and ultimately approved KPIs that were appropriate.

In total, the development of the SLL lasted 1.5 years, a lengthy process that involved an iterative approach with Quillayes, external advisors, internal experts and the approval of the loan by Rabobank's Committees.

Source: Rabobank (2025) personal communication with the TNFD *[interview].*

In addition to themed and sustainably linked bonds, use of proceeds (UoP) bonds such as green bonds or sustainability bonds are another well-known debt instrument. UoP bonds ringfence financing to specific activities, offer a clear understanding of the direct impact of the financing, and provide credibility by generating reporting that is specific to the project or set of activities.[66] Corporates have used such bonds to finance nature-related activities that connect to the dependence or impact of the main business on nature. For example, a forestry company may use green bonds to raise financing for sustainable land management, including restoration of sites or conservation of standing woodlots.[67] Another example is a water utility issuing market rate green bonds to support activities that contribute to the long-term resilience of a region, such as flood and drought protection.[68]

66 ICMA (2025) Sustainable Bonds for Nature: A Practitioner's Guide.

67 Tornator Oyj (2023) Green Finance Framework.

68 Anglian Water Group Limited (2025) Sustainable Finance Impact Report.

Investments

Investments through vehicles such as funds follow an investment strategy that may be themed in various ways. Common themes focus on one biome, such as the ocean, or one sector, such as agrifood. Innovative themes may include drivers of biodiversity or nature change. Newer instruments include the more direct valuation of nature in situ or ecosystem services using credits as proxies. Innovation may come in the form of a new financial product, an extensive restructuring of a product, or a new conceptual asset class.

Box 23: Nature-related fund examples

Funds for specific sectors include BTG Pactual's Timberland Investment Group (forest conservation and restoration), Lombard Odier Investment Managers' New Food Systems Strategy and others. For example, Ocean 14 Capital is a private equity firm focused on the blue economy, investing in growth-stage ocean and marine businesses such as sustainable aquaculture, circular plastics and ocean data. In 2021, the firm completed an EUR 80 million first close of its inaugural EUR 150 million impact fund, with backing from the European Investment Fund and other institutional investors.[69] Ocean 14 applies natural capital and ESG criteria across all investments, channeling private equity into companies that alleviate pressures on marine ecosystems and support their regeneration. As a growth investor, it acts as an enabler, scaling innovative business models that deliver both financial returns and ocean resilience.

Another example is from Mirova, an affiliate of Natixis Investment Managers. Mirova manages natural capital strategies that channel private equity into land restoration and ecosystem protection. In 2025, the firm announced three investments in Argentina, Costa Rica and Madagascar under its USD 350 million nature-based carbon strategy.[70] For Mirova and its investors, this expands exposure to natural capital as an emerging asset class, diversifies portfolios and aligns with regulatory and market demand for sustainable finance. For nature, the strategy mobilises large-scale capital for ecosystem restoration, carbon sequestration and biodiversity protection, embedding ecological outcomes directly into investment structures.

Impact funds and blended finance vehicles were early in the nature-related opportunities space and continue to play a key role, especially for early stage or riskier ventures. Two such examples are shown in the WWF's Bankable Nature Solutions network – a group of mainly blended finance initiatives, which seek to mobilise private sector investment in businesses that benefit nature. WWF supports the route to market with other assistance. Another is the UNDP BIOFIN initiative that is tackling biodiversity conservation financing by providing technical support across 133 countries in order to develop a strategy for biodiversity financing, named Biodiversity Finance Plans (BFP). National BFP are increasingly being developed and scaled up with the support of the Global Environmental Facility (GEF) and include a range of financial solutions including grants, debt and equity, and market-based financial instruments.

69 EIF (2021) Ocean 14 Capital completes €80m of €150m inaugural impact fund.

70 Natixis Investment Managers (2025) Mirova unveils three new high-impact deals with its USD 350 million nature-based carbon strategy.

Private sector funds are more scalable, but are newer in the nature and biodiversity space and ranked lower for nature impact in the 2025 WEF study.[71] One possible reason is the specificity of the focus. The investment strategies for funds often focus on specific themes such as sectors, for example energy or forestry, or the fund assets have another common thread that helps to direct origination, the pattern of expected returns and portfolio management issues.

More innovative financial instruments are being developed that attempt to solve for the intrinsic and instrumental value of nature by assigning value to intact nature, rather than just the extracted commodities. For example, The Intrinsic Exchange Group has developed a new financial model, the Natural Asset Company (NAC), which is a company with all the normal elements of governance, management team and business plan, but its value is based on the value of the ecosystem services in the geographical area it represents. This structuring allows investors to treat the NAC like any other long-term equity asset, but the value of the asset is dependent on the growth of natural assets.[72] Another model is that of the Landbanking Group. It assesses the state of land with a set of indicators covering soil, water, biodiversity and carbon and uses these to create a transferable, bankable and investible asset called 'Nature Equity'. Businesses can use the Nature Equity instrument to create finance agreements, for example, between a food company and its supply chain, or between a construction company and its properties.

Another area of innovation is recognising nature and biodiversity as a financing area across traditional economic sectors. Nature-related opportunities may involve solutions that do not fit neatly into an economic sector, or the grouping of such opportunities may span multiple sectors. A limited number of funds focus on biodiversity directly. The sector exposure of such funds range from communication services to utilities, but the funds are overweight on industrials compared to global benchmarks.[73] Across these funds, there are diverse approaches to investing, and biodiversity may be a core or related theme for the fund, producing differing investment strategies, sector exposure and results.[74] For example, Federated Hermes has a Biodiversity Equity Strategy focused on companies with innovative solutions to biodiversity loss particularly that involve circular economy principles, Robeco's Biodiversity Equities looks for companies that support the sustainable use of nature resources and ecosystem services, and Fidelity's Sustainable Biodiversity Fund uses the SDGs as a guide.[75]

Some opportunities cross sectoral lines and some sit outside sectors altogether. For example, a circular economy timber company might operate in forestry, building materials or biotechnology. One resource looking at nature technology is the Nature Tech Collective's

71 WEF (2025) Finance solutions for Nature.

72 Intrinsic Exchange Group. How NACs Work.

73 Morningstar (2024) The Biggest ESG Risk You May Not Know About; Bioy, H et al. (2024) The Landscape of Biodiversity and Natural Capital Funds.

74 MSCI (2023) Biodiversity Funds: Welcome to the Jungle.

75 GFI Hive. Federated Hermes Biodiversity Equity Strategy; Federated Hermes (2024) Biodiversity Equity Annual Report; Robeco Biodiversity Equities D EUR; Fidelity International (2024) Sustainable Biodiversity Fund.

sector map for biodiversity. This effort, in collaboration with Conservation International, provides a view of the biodiversity technology landscape, organised by the needs of practitioners rather than economic sectors. They have developed a 5M model for technology as follows:

- Material change: Replaces traditional materials with nature-based alternatives and drives cross-sector collaboration to implement innovative practices that contribute to nature positive outcomes;
- Market pressures: Drives global action by identifying and addressing nature-related market failures and compelling action;
- Modelling: Translates raw nature data into actionable insights;
- Monetisation: Engages in financial transactions that leverage nature tech and data to facilitate, mediate, secure or record these transactions; and
- Measurement: Gathers primary data fundamental for measurement, reporting and verification.[76]

Box 24 provides a case study of how a venture fund is offering exposure to companies that may not fit neatly into traditional allocations. The fund considers biodiversity as an investible theme that can provide commercial benefits to investors. Growing this market required helping investors to deepen their understanding on biodiversity by providing credible and comparable nature-related metrics.

Box 24: A biodiversity approach for venture capital

Superorganism is a venture firm dedicated to biodiversity startups, focusing on pre-seed and seed financing. Its founders realised that, while climate tech had been well established as a venture approach for climate change, no equivalent approach had been tried within biodiversity. This is partly because the finance community does not fully understand biodiversity and its linkages with industry.

Superorganism recognised that there was a portfolio-based venture capital approach that could drive both financial returns and positively impact biodiversity, while building the nascent 'nature tech' space. It provides a structure that makes investing in nature tech and biodiversity as easy as in any other venture fund and provides an investing network to limited partners (LP) and founders.

76 Nature Tech Collective (2025) Unveiling the Nature Tech Collective sector map for biodiversity.

Funding: Commercial fund raising for venture capital.

Impact on the business	Impact on nature
New business opportunity in developing and growing venture capital investment in biodiversity – already invested in 19 companies, expanding to 35. Aiming for **top decile returns** for the first fund. Developed a community of biodiversity-informed investors and company founders to **expand financing of nature-related opportunities in the commercial market.**	Financing and growing **solutions to nature and biodiversity loss**, as well as **climate change**, with impact across regions and sectors. Proving the **investability of companies that tackle the drivers of nature change** to accelerate LP interest in this space.

Building the biodiversity venture capital fund

Conservationists and companies focused on biodiversity face challenges in raising capital to grow and scale because they do not fit into traditional mandates or allocations, such as sectoral exposure in agriculture or others. Often, companies are unsure how to describe themselves or the best market reception, for example, as climate tech or an agrifood tech company. Superorganism tackled these challenges by grouping companies under three themes:

- Extinction drivers: Companies offering solutions to reimagine the industries historically associated with biodiversity loss, such as timber, fisheries and agriculture. This theme encompasses new technologies and new business models.
- Climate-nature nexus: Startups working in areas with high climate-nature overlap, such as nature-based solutions for carbon sequestration and mitigation, wildfires and oceans.
- Enabling technologies: These range from AI to biotechnology and stemmed from the insight of conservationists often using new technologies creatively to develop new capabilities, or to do more with fewer resources.

This grouping of companies offered advantages for investors, such as market diversification for a strategic generalist portfolio and in themes that complement existing climate mandates.

Investment mandates and building biodiversity capacity

Superorganism realised the idea of a 'biodiversity fund' was novel for investors and that it needed to find those who were either already interested in the topic, or who were looking for first-of-a-kind venture mandates.

The venture firm used its initial funds to invest in a select number of companies to demonstrate early results to potential investors. These examples not only showed growth and the broad impact possible, but also how the companies did not compete with climate investments, giving investors diversification. For example, Inversa Leathers was an early investment that creates luxury leathers from invasive species, replacing exotic leathers and removing invasives at the same time. Its multiple impacts on ocean, land and fashion were felt as too broad by many single-impact investors. Superorganism's focus on biodiversity impact meant this company fell directly into its mandate.

One way in which Superorganism is addressing the challenge of gaining investor confidence is through metrics to build biodiversity capacity. Impact metrics are common in the venture capital space and investors are already familiar with climate metrics, such as GHG emissions. Superorganism developed a practical metrics template for its portfolio. Companies are encouraged to track metrics of their intervention, the outcome and the biodiversity uplift. The first two metrics are operational, while the third is a longer-term impact. Each company has different metrics in each category, but all show their progress in the same template, and this provides insights to investors.

Source: Bloomberg (2023) Venture Capital Firm Focused on Biodiversity Crisis Launches; Superorganism (2025) personal communication with the TNFD *[interview]*.

Market instruments that are not new, but still being developed, are credits. More familiar to the climate change space, credits are a financial instrument that represent the desired behaviour, for example, the removal of GHG emissions, that can have a monetary value and be sold to others. For example, Reservas Votorantim Ltda. develops methodologies for generating carbon credits from specific Brazilian biomes such as the Atlantic forest and participates in the Brazilian carbon market.[77]

Biodiversity credits are newer and still have to solve for location fungibility as biodiversity is not as universal as GHG emissions. Organisations may include nature-related carbon credits or biodiversity or nature credits in transition plans voluntarily, or if required to do so. Such credits could be considered at the planning and operations stage, especially where the credits align with the management of nature-related dependencies, impacts, risks and opportunities. Biodiversity or nature credits are defined by the Biodiversity Credit Alliance 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'. In 2025, the *High-level Principles to Guide the Biodiversity Credit Market*[78] were jointly developed by the Biodiversity Credit Alliance (BCA), International Advisory Panel on Biodiversity Credits (IAPB), and the WEF Biodiversity Credits Initiative to promote good practices and ensure that the market's

77 Reservas Votorintim (2024) Institutional report.

78 WEF, BCA and IAPB (2025) High-Level Principles to Guide the Biodiversity Credit Market.

growth benefits both nature and its protectors, while the European Commission published its draft Nature Credits Roadmap in July 2025.[79]

The UK's Biodiversity Net Gain regulation has shown promise in placing a value on habitats and supporting a burgeoning private market for biodiversity units.[80] Several companies are producing carbon credits linked to nature solutions or biodiversity credits directly. Examples include Terrasos, a company in Colombia that develops habitat banks and pairs the biodiversity credits from the banks with blockchain technology to ensure authenticity and traceability, and Green Earth that produces carbon and biodiversity credits from nature-based solutions projects.[81]

Insurance

The Principles for Sustainable Insurance (PSI) recognised that nature-related risks had been traditionally considered within specific lines of insurance, rather than broadly across underwriting, and have initiated a number of projects addressing this subject.[82] Building on this, they have laid out two roles for the insurance industry:

- As an enabler of economic activities, addressing nature-related issues, including negative externalities such as drivers of nature loss; and
- As a risk manager and risk carrier addressing emerging risks from nature loss and absorbing financial shocks to build resilience for communities and economies.

Both roles support the development and implementation of nature-related opportunities, either through existing solutions or innovation for new solutions. As risk managers, insurers can work with marine areas. For example, in Quintana Roo, Mexico, a parametric insurance policy was developed to protect the Mesoamerican Reef from hurricane damage.[83] Swiss Re structured the policy, with premiums financed by a trust supported by coastal hotels, local government and tourism fees. If a storm exceeds predefined wind speeds, payouts are triggered automatically and directed to rapid reef repair and restoration. Similarly, AXA Climate designed business interruption coverage for marine protected areas and reef positive businesses.[84] An example of integrating new solutions is the reinsurance firm that developed community-based flood insurance linked to wetland and floodplain restoration using natural buffers.[85] This shifts part of the financial responsibility for maintaining

79 European Commission (2025) Roadmap towards Nature Credits.

80 DEFRA (2024) Reflections on Biodiversity Net Gain: 9 months after going live.

81 Terrasos. Tebu: Terrasos Biodiversity Unit; Green.earth.

82 UN PSI (2024) Insuring a Resilient Nature-Positive Future; UN PSI (2023) Nature-Positive Insurance: Evolving Thinking and Practices.

83 GFI (2024) Quintana Roo Reef Protection – Parametric Insurance.

84 Blue Alliance (2023) Revolutionising marine conservation.

85 MunichRe (2020) Munich Re continues its flood mitigation work with resilience risk transfer solutions.

ecosystem services onto an insurance mechanism, reducing risk for the tourism industry while supporting the resilience of the reef ecosystem.

The UN PSI mapped a theory of change that could be supported by insurance. The mapping shows how an insurer can engage with stakeholders, apply risk analysis and management, and then underwrite and transfer risk to enable outcomes that contribute to building resilience and moving toward the GBF goals.[86]

The challenge to developing these insurance products is finding the data to set appropriate parameters to trigger the insurance. Box 25 provides a case study of how traditional index insurance was modified so that it could provide support to farmers transitioning to more sustainable agriculture methods by insuring against losses that take into account these new processes.

Box 25: Supporting the transition in agriculture: a role for insurance

AXA is a global insurer operating in 50 countries. It offers a broad range of property and casualty, life and health products and expertise, including weather-based insurance for agriculture. Its agricultural insurance team and consulting team (AXA Climate) identified that while farming contributes to climate change, it is also increasingly vulnerable to it. They recognised that certain agriculture practices can reduce GHG emissions and increase resilience, but these need to be scaled up.

Supporting this transition presents a nature-related opportunity for AXA to develop new insurance products that give farmers the confidence to try new processes and crops. Launched in 2023, these products insure farmers' margins based on field costs and yields, and are triggered by external events such as adverse weather or other perils. The insurer and technical advisory partners also support the farmer with data, expertise and technical knowledge.

Funding: Financial instrument purchased by farmers.

Impact on the business	Impact on nature
Building **expertise to strengthen AXA's positioning** in supporting the agricultural transition. Commercial insurance product that will **expand the specialty business line** within the company (which acquired 10 new clients over the past two years). **Synergistic advantages** where insights from the new products will feed the consulting team learnings and vice versa, creating value for both.	Helping farmers to gain the confidence to try new crops for rotation, for instance, peas that fix nitrogen and have **less carbon intensive inputs**. Helping farmers to gain the confidence to implement sustainable farming practices that will **improve soil health and reduce water usage, among other nature benefits**. Covering approximately **10,000–15,000 ha of agricultural land and 800 farms** through the new insurance products.

86 UN PSI (2024) Figure 3 in Summary version of Insuring a Resilient Nature-Positive Future.

Showing viability of the insurance products for underwriting approval

AXA considers two types of farming activities consistent with the transition where its new insurance products can apply:

- Sustainable farming methods, including less irrigation or pesticide use. In this case, farmers risk lower yields by foregoing this physical insurance; and
- Planting alternative crops to adapt to a changing climate or that are a source of plant-based protein. Some of these crops are considered riskier (such as peas) because their yields are more sensitive to weather, water availability and other variables.

A key challenge for the agriculture insurance team working on the new insurance products was demonstrating to AXA's underwriting committee that these were fulfilling the purpose of insurance – protecting farmers against external events, not against the risks of a voluntary change in practice. The team demonstrated this by using analogies that apply to other classic agricultural insurance products. For example, insurance for drought can cover both irrigated fields and non-irrigated fields, even though they have different risk profiles for the same drought conditions. Similarly, a field with cover crops, an agroecological practice that might impact irrigation needs, will also have a different risk profile. This argument showed that a farmer using new agroecological practices could also be insured, as long as the product is adjusted to the respective risk profile.

Accurate data presented another challenge for product approval – it needs to be specific to the crop, the location and the sustainable farming practice considered in the insurance, and it was difficult to find data for the clients' exact conditions and practices. Fragmented data meant the team could not conduct a statistical analysis and used other methods to support the best estimation for the coverage trigger. The agriculture team examined data and historical yield trends for different crops and growing conditions, conducted expert interviews, and used data modelling to develop an appropriate insurance structure and calculate an adequate insurance premium. The underwriting committee approved the products on this basis.

Source: AXA (2025) Agricultural Transition: How to Succeed and Manage its Economic Risks; AXA (2025) personal communication with the TNFD *[interview]*.

Another line of insurance related to the conservation and the protection of species is livestock insurance with predation compensation. Predation compensation is not new, as shown in a literature review of compensation schemes including insurance.[87] Insurance on a regional level can target specific species conservation efforts. For example, the Snow Leopard Trust works through community-based conservation projects and provides a community-run insurance scheme. Herders sign conservation agreements that they will guard against the poaching of snow leopards and wild prey and set aside grazing free areas for the snow leopard's prey. In return, they are compensated when they lose livestock to a snow leopard. Another example is in Sri Lanka, where UNDP BIOFIN, in partnership with Wildlife and Nature Protection Society (WNPS) and LOLC Insurance, provide compensation to farmers who

87 Harris, R. (2020) Literature Review of Livestock Compensation Programs: Considering Ways to Assist Livestock Producers with Grizzly Bear Conservation Efforts in Montana.

lose livestock to leopard predation.[88] Some of the challenges with these types of insurance products include obtaining the data to develop the product, credibly delivering compensation, including the conservation element, and making the product available to the subsistence livestock farmer, who may be more likely to retaliate against the predator.

Box 26 describes an innovative partnership between an insurance company and a government to tackle a base that did not lend itself to traditional predator insurance. In this region, the stakeholders losing livestock to jaguars were small households with animals for personal use, not farms or commercial operations. The insurance policy covers all households within a region, rather than individuals, reaching a demographic that would not normally consider insurance, but may have protected their animals on their own. This partnership, and a novel application of the insurance, set out to solve the predation and conservation problem.

Box 26: Insurance for endangered species conservation

Río Uruguay Seguros (RUS) is an insurer in Argentina that offers individual and corporate insurance under a cooperative model. In March 2025, RUS, in collaboration with the government of the Province of Misiones and UNDP, launched an insurance policy that protects jaguars by preventing retaliatory killings. It covers livestock and pets against losses caused by jaguar predation. The insurance product was purchased by the local government in the Misiones province and it is provided free of charge to all inhabitants and farmers in its Andresito municipality, the pilot area. The insurance claim process is shown in the diagram below.

Jaguars are critically endangered in Argentina, with 200-250 individuals remaining in the country. As the habitat of the jaguar is shrinking and becoming fragmented, jaguars get closer to human settlements, which increases the risk of predation on livestock and domestic animals, and often leads to retaliatory killings. The government of Misiones has a compensation fund for predation events by jaguars and other wild predators, but it faces operational challenges that often hinder communities from reporting incidents.

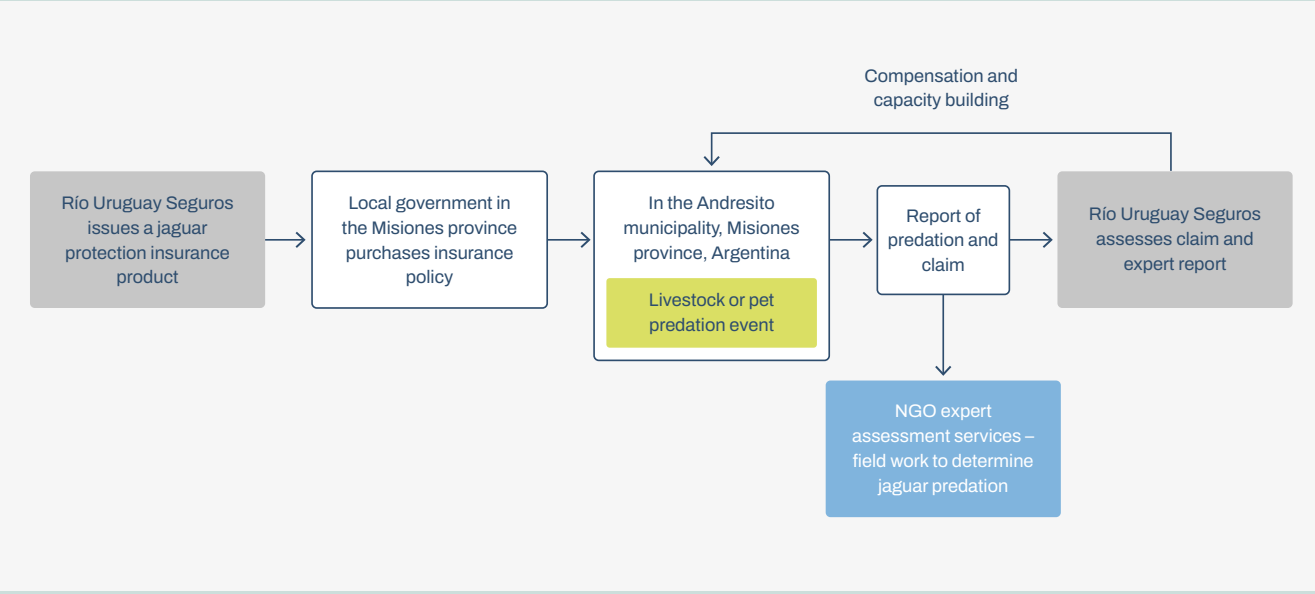
Jaguars in Argentina.

Source: RUS (2025).

The jaguar protection insurance was proposed by UNDP as a complementary conservation measure. This financial mechanism presented is a nature-related opportunity to reverse decline of the jaguar population in Argentina and create a new business for the insurer.

88 UNDP BIOFIN (2025) Sri Lanka Launches First Livestock Insurance Scheme to Protect Leopards and Livelihoods.

Figure 13: Claim process from jaguar predation event



Funding: Financial instrument purchased by the local government in the Misiones province.

Impact on the business	Impact on nature
Indirect economic impact from the **positive reputation** that the jaguar protection insurance affords to RUS, particularly among younger clients that may choose to purchase other insurance products from the company (e.g. car insurance). This product creates a **new business line** for RUS. **Relationship building** with the local government, UNDP and local NGOs.	Expected **reversal of jaguar population decline** by preventing retaliatory killings. Jaguars are a keystone species that affect ecosystem condition and integrity. Their conservation through the insurance mechanism intends to have **positive ripple effects to the ecosystem, such as water and erosion regulation, or reduced pressure on vegetation** through herbivore population control.

Filling baseline data gaps for insurance policy development

RUS faced data challenges to determine the assured sums and premiums for the jaguar protection insurance. There was limited historical data available about jaguar incidents because the local community was not incentivised to report them. This made it challenging for the local government to maintain an official record of jaguar incidents. There was also limited data available about farm borders as most are small-scale rural farms for self-consumption. These two factors were key to calculating the policy's terms.

The insurer overcame this challenge by pairing the limited available data with field visits. These visits significantly broadened its understanding of the local conditions and enabled it to estimate and establish the policy's assured sums, taking into consideration animal type, their market price and an indemnity cap per farmer or affected inhabitant.

Moreover, RUS' collaboration with two local NGOs (Aves Argentinas and Proyecto Yaguareté) was key to representing the local context of Misiones in the policy's terms and overcoming the lack of baseline data. The NGO had a pre-existing relationship with the local community and knowledge in jaguar behaviour. As such, it also examines claims from predation events by assessing paw prints, predation patterns, camera traps and interviews, among others.

This approach has enabled the development of near real-time data that will inform adjustments to the assured sums and premiums, and support the extension of the policy to other areas. Between April and August 2025, four predation events were verified and compensation issued to farmers, while a total of 12 claims were reported to RUS. Three predations were attributed to pumas, currently not categorised as an endangered species, and those compensations were covered by the Government of Misiones. The number of reported cases exceeded the estimates calculated based on stakeholder inputs during the risk modeling process. The insurance mechanism functions as an incentive for reporting predation incidents and further refines premium calculation.

Adaptation of traditional insurance to species conservation

Once the policy terms were stablished, RUS and UNDP presented the new product to the Argentine Insurance Regulator (Superintendencia de Seguros de la Nación) for consideration. RUS already commercialised livestock insurance, however this was not the typical product. It was a new approach that required formal approval by the insurance regulator, which showed interest and support for this novel insurance product.

However, it was crucial to explain and delimit to the regulatory body the difference between traditional livestock insurance and the species conservation approach of the new product. Firstly, that both products compensate the farmer for losses, but the latter reduces incentives for retaliatory killing and promotes coexistence through local expert guidance and the adoption of better livestock management practices. The insurance product aims to encourage the local community to report incidents and builds a database on a keystone species. Secondly, that RUS' insurance covers a geographical area and all its inhabitants, rather than individual households or farmers.

Source: UNDP (2025) UNDP Argentina and the Government of Misiones Launch the World's First Jaguar Protection Insurance; RUS (2025) personal communication with the TNFD *[interview]*.

Conclusion

The information synthesised in this report, including the case studies and publicly available examples, demonstrates that nature-related opportunities are being found, financed, implemented, replicated and scaled across sectors and geographies. However, the variety also demonstrates that market understanding and perception of nature-related opportunities is nascent, and a cohesive nomenclature to support consistency and the scaling of market education, capability building and practice is absent – both key requirements for accelerating action and shifting the flow of finance to nature-positive outcomes. The Taskforce hopes this paper will help to form the foundations for joined-up, collaborative further market exploration of nature-related opportunities.

Main findings:

- **Nature is already investible, but replicability of opportunity models and structures remains a key challenge, as does the scaling-up of the capital that can be deployed into nature-related opportunities.** The commercial and financing space for nature-related opportunities needs to evolve out of an experimental phase – characterised by niche and highly bespoke opportunities and financing structures – into one that commoditises product and financing solutions – that can be repeated at a reasonable transaction cost and scaled in terms of ticket size.
- **Identifying and executing opportunities depends on strong internal champions**. At present, the passionate commitment of the few, rather than the commercial instincts and skills of the many, are driving the pipeline of financed nature-related opportunities. Organisations bringing forth opportunities range from small start-ups that benefit from blended finance strategies to separate business lines within large corporations that may draw from general financing. In order to grow the space for commercially-viable nature-related opportunities, project proponents will likely need to position nature-related opportunities as less exotic and more mainstream within existing business processes, budgets and financing structures.
- A **shift in the conversation would be helpful to accelerate activity in nature-related opportunities**. In the literature, and through the interviews conducted, the imperative of delivering dual outcomes for the business and for nature was often unacknowledged, or needed to be clarified. This is likely a vestige of nature being perceived as a corporate social responsibility 'nice to have', rather than a strategic imperative linked to business risk, resilience and value. Recognising that a nature-related opportunity is an activity that produces real and relevant business benefits in project proposals and plans will help raise the profile of these activities among management, decision-makers and financiers, and in strategy discussions. The value proposition of nature-related opportunities should also be put in the context of a corporate or financial institution's understanding of

its nature-related dependencies, impacts and risks, which can be achieved by using the TNFD's LEAP assessment approach.

- In the process of securing approval and executing a nature-related opportunity, **challenges ranged from technical issues to market understanding and acceptance**. Some recurring themes were the need for technical and knowledge capacity building, either in value chains or within corporates and financial institutions, which was often solved with external expertise; the lack of data or historical exemplars solved with pilot projects and post-pilot monitoring; and the need to adapt existing products and services to locations, contexts and commodities in order to replicate or scale. Many of these point to the nascency of understanding about nature-related opportunities as a concept that can be managed, developed and supported, similar to risk.
- **Nature-related opportunities can be found across sectors, ecosystems and regions, but understanding is uneven among market participants about this breadth**. Encouraging increased identification of, and engagement with, nature-related opportunities will depend upon understanding that nature-related opportunities exist in all sectors, stemming from nature-related dependencies, impacts and risks to the organisation and to society more broadly; that opportunities could include the development of new products and services, the adaptation of existing products and services and the application of existing products, services, methods and instruments; and that opportunities can include physical products, services and conceptual methods and models, depending on the source of value that is being brought to market.
- **More innovative thinking and implementable guidance is needed**. The literature and market understanding of nature-related opportunities has been dominated by attention on Nature-based Solutions, which in some cases deliver benefits to nature and society, but not to the business. As such, they are often not pursued on a commercial basis. Current attention has also been focused on broad nature-positive pathways, positive impacts for nature or specific opportunities like biodiversity credits and green and blue bonds. What has been lacking has been a broader landscape-scale view of the nature-related opportunities space – what they are and what they could be with additional product and financial structuring innovation. In order to advance conversations between financial institutions and corporates, within financial institutions and between corporate management and staff, an innovation mindset, fostering cross-sector and industry-specific collaborations, needs to be encouraged and more implementable guidance is needed for private markets.
- **Strong signals from the policy and financial enabling environment for nature-related opportunities would be helpful to create systemic engagement with nature-related opportunities**. Policy and regulatory signals that nature-related risks and corresponding financial concerns are significant are louder and clearer than comparable signals around nature-related opportunities. Opportunities that deliver benefits for nature, and could be commercially attractive for business and finance, also face considerable headwinds from government subsidies that support business-

as-usual activities and drive significant negative impacts on nature (estimated at at least USD 2.5 trillion per annum).[89] Policy and regulatory support for nature-related opportunities would be dramatically strengthened if subsidies and other government assistance programs were repurposed to support the achievement of nature-positive outcomes.

Notwithstanding these challenges, the global financing gap for halting and reversing nature loss of USD 600–900 billion annually[90] represents an enormous opportunity for business and finance to support the transition to nature positive world and improve business resilience.

89 Earth Track (2024) Protecting Nature by Reforming Environmentally Harmful Subsidies: An Update. Dasgupta, P. (2021) The Economics of Biodiversity: The Dasgupta Review.

90 Barbier, E. (2022) The policy implications of the Dasgupta Review: Land use change and biodiversity. Deutz, A. et al. (2020) Financing Nature: Closing the global biodiversity financing gap.

Annex 1: Further examples of positive outcomes for organisations and nature

The following examples are offered to illustrate corporate and financial institution activity for peer learning. This report is not an endorsement of any particular type of nature-related opportunity or organisation profiled. This report did not validate assessments of the outcomes of opportunities provided here as case studies. Understanding trade-offs and unintended consequences of any action across full business models and value chains is important in an assessment of any opportunity, but this is not covered in this report.

Positive outcomes for an organisation

Business performance benefits from nature-related opportunities may be financial and non-financial. Financial benefits may include:

- Cost savings from resource efficiency, regulatory compliance or reduced exposure to nature-related risk (for example, micro-irrigation reduces water use and costs);
- New or increased revenue, for example, through access to new markets such as biodiversity or ecosystem service credits, dual-use development such as renewable infrastructure alongside agricultural land use, or new product or service creation including technological innovation;
- Improved access to capital markets, more favourable financing terms or financial products; and
- Increased market valuation, for example, due to reputational capital, stronger brand or improved resilience planning to secure supply chains against nature-related risks such as unpredictable water supplies.

Strategic and operational benefits of nature-related opportunities may include:

- Strategic positioning in markets or regions;
- Meeting internal or external non-financial goals such as sustainability targets;
- Supporting social licence to operate;
- Improving resilience for future-proofing or acute stresses in the organisation or its value chain;
- Risk management; and
- Improved reputation and stakeholder relations.

Benefits to financial institutions from nature-related opportunities: Financial institutions are both capital providers but also potential proponents of nature-related opportunities by developing, scaling, replicating and implementing new financial products and services and adapting existing instruments to support corporate nature-related opportunities. Benefits to financial institutions may include:

- New or increased revenue, for example, through new financial products or services or retaining existing clients that are implementing nature-related opportunities;
- Increased valuation, for example, through biodiversity-focused funds or lines of business;
- Strategic positioning, for example, supporting transition in sectors such as agriculture; and
- Reputational, for example, by meeting sustainability targets.

Positive outcomes for nature

Nature-related opportunities can be categorised by how the actions link to the five drivers of nature change.

Figure 14: Five drivers of nature change

Source: Adapted from IPBES (2019) Global assessment report on biodiversity and ecosystem services.

Individual nature-related opportunities may address more than one driver. For example, technology to increase the efficiency of irrigation on farms may improve both resource use and pollution removal as less water is used and produces less run-off. This categorisation may be helpful where organisations have goals for one or more of the drivers and/or wish to analyse the impact or influence of their operations or portfolio.

Table 2 below provides examples of nature-related opportunities mapped to the drivers of nature change.

Table 2: Examples of nature-related opportunities by opportunity elements and drivers of nature change

Element	Driver of nature change				
	Climate change	Land/ freshwater/ ocean use change	Resource use/ replenishment	Pollution/ pollution removal	Invasive alien species introduction/ removal
Product	Methane-suppressing feed products that lower livestock emissions by reducing methane released during digestion	Peat-free soil that reduces stress on wetlands by eliminating the need for peat extraction	Food products designed to reduce their footprint on nature by using excess production or byproducts as an input	Probiotics and biocontrol agents to remove pollutants, e.g. from contaminated soil and water	Leather from invasive species that supports biodiversity by reducing IAS populations and creating value from their removal
Service	Bird detection and deterrence systems that mitigate biodiversity impacts by lowering bird mortality at wind farms	Coastal protection that stabilises shorelines and restores habitats by using natural materials such as plants, sand and oyster reefs	Building information modelling that reduces land conversion by integrating nature-based solutions into infrastructure design	Bioremediation technologies to clean up contaminated soil and groundwater at construction sites	Port-based pest control and monitoring services that protect ecosystems by reducing the spread of IAS through cargo and shipping
Financial instrument	Equity financing that restores land and provides revenues from carbon credit sales	Sustainability-linked loans that protect ecosystems by tying lending conditions to deforestation-free supply chains	Green leasing models that reduce extraction by financing energy- and resource-efficient equipment upgrades	Sustainability-linked loans that reduce pollution by linking financing terms to targets on waste and emissions	Financing for companies removing invasive species from the ecosystem

Element	Driver of nature change				
	Climate change	Land/ freshwater/ ocean use change	Resource use/ replenishment	Pollution/ pollution removal	Invasive alien species introduction/ removal
Model	Agrivoltaics that reduce land-use change by combining food and energy production on the same land	Urban vertical farming that reduces pressure on natural land by producing food in stacked indoor systems close to consumers	Circular economy models that reduce resource use by turning local waste wood into viable timber	Reduce pollution and resource demand by leasing solvents and lubricants with full take-back and recycling	Designing green infrastructure to include native flora to support native fauna
Method	Biochar production that mitigates climate change by converting agricultural residues into stable carbon in soils	Cover crops that reduce land-use pressure by improving soil health and lowering erosion	Precision agriculture that reduces resource demand by optimising fertiliser and water application	Integrated multi-trophic aquaculture that reduces pollution by reusing waste from one species to feed another	Biological control that restores ecological balance by introducing natural predators, fungi or pathogens targeted at IAS

Examples of nature-related opportunities that can deliver positive outcomes

Numerous products, services, financial instruments and methods or models can deliver outcomes that are positive for both organisations and nature, and can also have benefits for wider society:

- A corporate incorporating green roofs into building design, which reduces urban heat impacts from land-use change and provides biodiversity habitat, while lowering heating and ventilation operational costs.
- A corporate replacing chemical dyes with natural alternatives, reducing pollution and creating value from a sustainable product line that meets shifting market demands.
- A financial institution funding mangrove restoration through carbon credit mechanisms, strengthening coastal resilience while generating financial returns.
- A corporate developing low-carbon concrete products and a financial institution providing seed funding, reducing emissions while meeting the demand from emerging green construction markets.

- A corporate creating treatment solutions for ballast water to eliminate viruses, bacteria and other invasive alien species, reducing ecological and health risks, while providing a solution to ensure compliance with international regulations.
- A corporate adopting regenerative agricultural practices that support the recovery of pollinators, increasing crop yield from better pollination and adding broader ecosystem benefits by boosting fauna and supporting wild flora.
- A financial institution providing general finance to restructure a company into a circular business model to reduce its material footprint, which reduces resource use and future-proofs the company with a more resilient supply chain.

Table 3: Examples of nature-related opportunities by elements and actions

	Action			
Outcome	**Develop**	**Adapt**	**Replicate or Scale**	**Implement**
Product	Developing pigments from biological sources to replace those from minerals or metals	Adapting a more sustainable pigment to different industrial applications such as textiles or cosmetics	Scaling production of bio-based pigments across global consumer markets	Implementing bio-based pigments in product lines to replace conventional mineral pigments
Service	Supply chain capacity building for education on sustainable methods to reduce emissions and other nature-related impacts	Adapting supply chain capacity building programmes to specific industry sectors and local contexts	Scaling sustainable supply chain education across global operations	Implementing supply chain education directly with suppliers and local partners
Financial instrument	Developing biodiversity credits as a new mechanism to value ecosystem services	Adapting loan facilities to include nature-related key performance indicators (KPIs)	Creating pipeline of bankable projects by sharing bond standards for financing	Providing green loans to client base
Method/Model	Developing new business models that integrate ecosystem services into value creation	Applying circular economy principles to adapt production process using waste streams	Scaling the use of regenerative agriculture across corporate supply chain	Implementing wetland restoration models directly in degraded catchments

Annex 2: Further guidance and examples of nature-related opportunities

Below are a number of sources, initiatives, reports and other resources on nature-related opportunities that were found in the course of this work. This is not an exhaustive list.

Table 4: Compilations of solutions

Organisation	Notes	Sources
Biomimicry Institute	Online catalogues showcasing solutions, offering inspiration, business and operational lessons learned and implementation of innovative technology	Ray of hope accelerator asknature
Business for Nature		It's Now for Nature
Green Finance Institute		GFI Hiveg
Project Drawdown		Nexus-related Climate Solutions Drawdown Explorer Drawdown Food
BloombergNEF	Focuses on examples that avoid and reduce negative impacts on nature, rather than positive impacts such as conservation and restoration	(2025) The Growing Role of Nature-Related Business in the UK Economy (2024) Opportunity Blossoms
Global Canopy	The ninth book of the "Little Book" series offers a sector-based framework showcasing currently available and scalable NbS and nature innovations	Tobin-de la Puente, J. and Mitchell, A.W. [Forthcoming] The Little Book of Nature Business. Global Canopy, Oxford

Table 5: Guidance on solutions

Organisation	Notes	Sources
WEF	Guidance for a number of sectors that identify actions to support the transformation of the sector to achieve nature-positive outcomes	Nature Positive Transitions: Sectors
WBCSD		Sector Actions Towards a Nature-Positive Future
Business for Nature		

Table 6: Solutions in specific regions or ecosystem types

Organisation	Notes	Sources
Climate focus	Examples of sustainable projects being supported as part of a regional transformation include enabling conditions for voluntary carbon market investment in sustainable agriculture in Latin America and the Caribbean	(2023) Agricultural and blue carbon market opportunities in Latin America and the Caribbean
WEF	Examples of sustainable projects being supported as part of a regional transformation include policy, financial support and supervision to introduce more investment as China builds out technology and innovation	(2022) Seizing Business Opportunities in China's Transition Towards a Nature-positive Economy
Seeing the Forest for the Trees, developed by WWF	Highlights opportunities for financial institutions to engage with companies to mitigate deforestation and land-use change risks within financial portfolios	(2022) Seeing the Forest for the Trees: A Practical Guide for Financial Institutions to Take Action against Deforestation and Conversion Risks
Ocean Panel	Contains ocean solutions for climate change, including working with ocean-based sectors on their GHG emissions, alternative protein products and emerging technologies in all areas	Hoegh-Guldberg, O. and Northrup, E. (2023) The ocean as a solution to climate change: Updated opportunities for action
UN Global Compact and UNEP FI	An initiative that aims to provide financial institutions, policy makers and industry a framework to grow the sustainable ocean economy	Ocean Investment Protocol

Annex 3: The enabling environment for nature finance and investment

Nature-related opportunities are supported by policies that signal feasibility and attract financing at scale. One persistent challenge, identified by the University of Cambridge Institute for Sustainability Leadership (CISL), is that nature finance is often narrowly perceived as conservation finance, with low returns. Governments play an important role, not only in establishing supportive regulation, but also in ensuring policy coherence, phasing out environmentally harmful practices and promoting cross-sector cooperation.[91] Clear policy and regulatory instruments can send strong signals that nature and biodiversity are priorities for the private sector. Examples include integrating National Biodiversity Strategy and Action Plans (NBSAPs) into fiscal planning, repurposing environmentally harmful subsidies, and integrating nature risks into financial supervision.[92]

International frameworks reinforce these signals. The Kunming-Montreal Global Biodiversity Framework explicitly recognises the role of the private sector in financing and disclosure.[93] Similarly, the G20's recognition of the bioeconomy, G20 Bioeconomy Initiative (GIB) and associated high-level principles illustrates growing alignment around the potential for sustainable economic transformation.[94]

At national and regional levels, the public sector can influence the enabling environment through transition plans, national accounting systems and market rules.[95] Broader policy focus can help acknowledge that nature finance can include avoiding and reducing harm.[96] Examples of key policy levers include:[97]

- Agricultural and land-use policies;
- Bioenergy polices;
- Bioeconomy policies;
- Circular economy policies;

91 IPBES (2024) Thematic Assessment Report on the Underlying Causes of Biodiversity Loss and the Determinants of Transformative Change and Options for Achieving the 2050 Vision for Biodiversity.

92 WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

93 Targets 14, 15 and 19.

94 G20 Government of Brazil. G20 Sherpa Track Bioeconomy Initiative.

95 WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

96 CISL (2024) Scaling Finance for Nature: Barrier Breakdown; BNEF (2024) Opportunity Blossoms: The Business of Curbing Nature Loss.

97 NatureFinance (2024) The Global Bioeconomy.

- Environmental regulations;
- Subsidies and tax incentives; and
- Green procurement policies.

A further dimension of the enabling environment lies in the role of economic paradigms, narratives that guide how ecosystem services, natural resources and innovation are mobilised within the economy. Bioeconomy and circular economy strategies provide policy frameworks that support the uptake of nature-related opportunities by helping businesses translate ecological functions into value chains.

The G20 Bioeconomy Initiative (GIB) highlights how the bioeconomy framework aligns economic development with ecological stewardship. Its 10 high-level principles underscore the importance of biodiversity conservation, ecosystem service enhancement, inclusive growth, innovation and traditional knowledge integration.[98] These principles are designed to help guide the transformation of sectors like agriculture, forestry and energy toward contributions to nature positive outcomes.

A report by NatureFinance and the World Bioeconomy Forum highlights how the bioeconomy agenda, supported by finance-focused institutions and civil society, can catalyse market-based investments that could contribute to nature-positive outcomes.[99] The adoption of the three core principles of circular economy – eliminating waste and pollution, circulating products and materials, and regenerating nature – helps to identify how changes in economic models can lead to nature-related opportunities.[100]

Translating these paradigms into practice, however, depends on the availability and direction of finance. Financing, including insurance, is consistently identified as a key pillar of the enabling environment. Flows to nature-based solutions were estimated at approximately USD 200 billion in 2023, with private sources accounting for only 18% (USD 35 billion).[101] There are estimates that private finance for nature grew more than 11 times between 2020 and 2024, reaching USD 102.1 billion in 2024.[102]

Financial institutions, including insurers, play a pivotal role in building resilience across economies and supply chains. By integrating nature-related issues into product design, they can help clients to adapt to ecosystem and climate variability. These financial innovations not only buffer against operational losses and supply disruptions, but also can support preventive investment and ecosystem protection, restoration and sustainable resource use. Nature-focused financing is a broad term and can include financial products and services from those

98 G20 (2024) G20 High-Level Principles on Bioeconomy.

99 NatureFinance and World Bioeconomy Forum (2024) Financing a Sustainable Global Bioeconomy.

100 Ellen Macarthur Foundation (2025) Scaling action for nature: How the circular economy can help deliver the Global Biodiversity Framework; European Investment Bank (EIB) (2023) Circular Economy Overview.

101 UNEP FI (2023) State Of Finance For Nature: The Big Nature Turnaround – Repurposing $7 trillion to combat nature loss.

102 UNEP FI et al (2025) New Green Shoots webinar series; UNEP FI (2023) State of Nature.

that use a counterparty's management of nature-related risks as a diligence indicator, to specific themes, such as water or sector-based financing, or focus on solution providers for specific outcomes, such as conservation.[103]

Financing for nature-related opportunities is diverse; there are many possible financial solutions that are also opportunities for financial institutions. The World Economic Forum (WEF) reviewed guidance for 37 financial solutions already available in 2025.[104] The 10 priority solutions identified are a mix of general financial solutions applied to nature and purpose-built products. Cross-cutting challenges to the scaling of nature-related finance include the perception of risk, fragmentation in related guidance and taxonomies, and difficulties developing bespoke solutions. WEF identifies strengthening the enabling policy environment and convergence around the decision-relevant data as requirements to support the scaling of nature-related finance into a mature global market. Other examples of guidance for private sector financial professionals include the Ocean Investment Protocol,[105] which includes priority actions for a sustainable ocean economy, and the Principles for Responsible Banking's report on actions to avoid and mitigate impact on nature at the commodity level in the agricultural, forestry and mining sectors.[106] UNDP BIOFIN provides a Catalogue of Finance Solutions, which categorises and maps a comprehensive list of instruments, tools and strategies (ranging from debt and equity to fiscal tools, grants, market-based mechanisms and policy incentives) that are applicable to the field of biodiversity finance.

The insurance industry illustrates an enabling finance role. It can de-risk projects for clients, catalyse transformative change and provide data that informs broader risk management. Initiatives such as the Principles of Sustainable Insurance (PSI) have begun to examine the link between nature and insurance.[107] Targeted support from the insurance industry for nature-based solutions could also help address systemic risks that directly affect the sector itself. For all these reasons, an individual insurer may find opportunities to develop new products and services to address loss of nature, biodiversity and ecosystem services.

A range of private finance mechanisms have been proposed or piloted in recent years, including both innovative instruments and adapted versions of conventional structures. These solutions aim to align financial returns with measurable nature outcomes, though unfamiliar structures still compete with established tools such as loans, bonds and equity.[108]

Despite the availability of financial solutions, and advances in natural capital accounting and valuation, the WEF notes that the current market infrastructure is not yet fully suited

103 UBS (2024) Nature finance primer; Bioy, H et al. (2024) The Landscape of Biodiversity and Natral Capital Funds. Morningstar, Sustainalytics.

104 WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

105 UNEP FI (2025) Ocean Investment Protocol.

106 UNEP FI (2024) PRB Sector Action Guidance for Nature: Getting Started in Agricultural, Forestry and Mining Sectors.

107 UNEP FI (2025) Rooted in Risk: Framing nature-related assessments for insurers.

108 WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

to support nature-positive investments at scale. Traditional financial models continue to prioritise short-term returns, which constrain the uptake of solutions linked to long-term, nature-positive outcomes.[109]

Although the focus of this report is private markets, public finance remains important, either independently or in blended approaches. Public finance, including grants and development finance, can reduce real or perceived risk to then attract private finance.[110] The Blended Finance Playbook for Nature-Based Solutions notes that public actors can use their balance sheets in targeted ways to mobilise additional sources of capital, especially in contexts where environmental returns are clear but financial risks remain high.[111]

109 WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes.

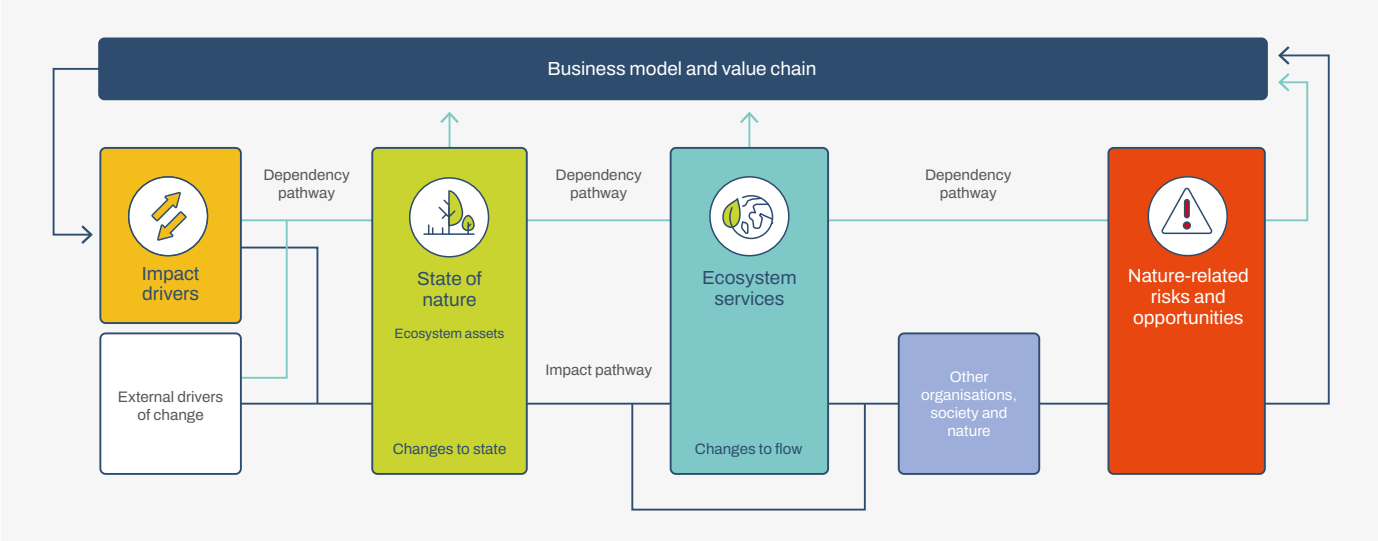
110 Convergence (2020) State of Blended Finance.

111 Earth Security (2021) Blended Finance Playbook for Nature-Based Solutions.

Annex 4: Dependencies, impacts and risks and their relationship to opportunities

Nature-related risks and opportunities for an organisation arise from its dependencies and impacts on nature. The TNFD recommends that these dependencies and impacts on nature are identified and measured using dependency and impact pathways as illustrated in Figure 15.

Figure 15: Connections between nature-related dependencies and impacts and risks and opportunities – Impact and dependency pathways



Source: TNFD 2023.

A dependency pathway describes how a particular business activity depends upon ecosystem services and specific features of natural capital. The organisation's impact drivers can combine with external factors to cause changes in the state of nature and the availability of ecosystem services, leading to changes to the costs and/or benefits of doing business. An impact pathway describes how, as a result of a specific business activity, a particular impact driver can lead to changes in the state of nature and flows of ecosystem services to other actors. Dependencies and impacts can interact, where an organisation's impacts also disrupt

its dependencies. For example, a fishing organisation's capture of fish has impacts on the stock of fish that it simultaneously depends on.[112]

Figure 16 shows how nature-related opportunities arise from an organisation's and wider society's dependencies and impacts on nature and how the organisation or third parties might pursue opportunities.

Nature-related opportunities can occur through three pathways:

1. When organisations avoid, reduce, mitigate or manage their own nature-related risks;
2. Through the strategic transformation of business models, products, services, markets and investments that actively work to halt or reverse the loss of nature or support them through financing or insurance; or
3. Third-party intervention.

An organisation avoiding, reducing, mitigating or managing its own nature-related risks

In this case, Business A in Figure 16 identifies its nature-related risks and works to reduce its risk exposure. It does this by reducing its negative impact drivers or taking action to manage its dependencies more sustainably within its existing business model. This could occur both in its direct operations or in its upstream or downstream value chain.

Such an example constitutes a nature-related opportunity as it leads to a positive outcome for nature due to the change in Business A's impact drivers, and a positive outcome for the business, with a reduction in its risk exposure among other potential benefits, such as cost savings or an enhanced reputation. This is shown by the arrow from Nature-related risks to Nature-related opportunities and to Business A and its Value chain in Figure 16.

Strategic transformation of business models, products, services, markets and investments

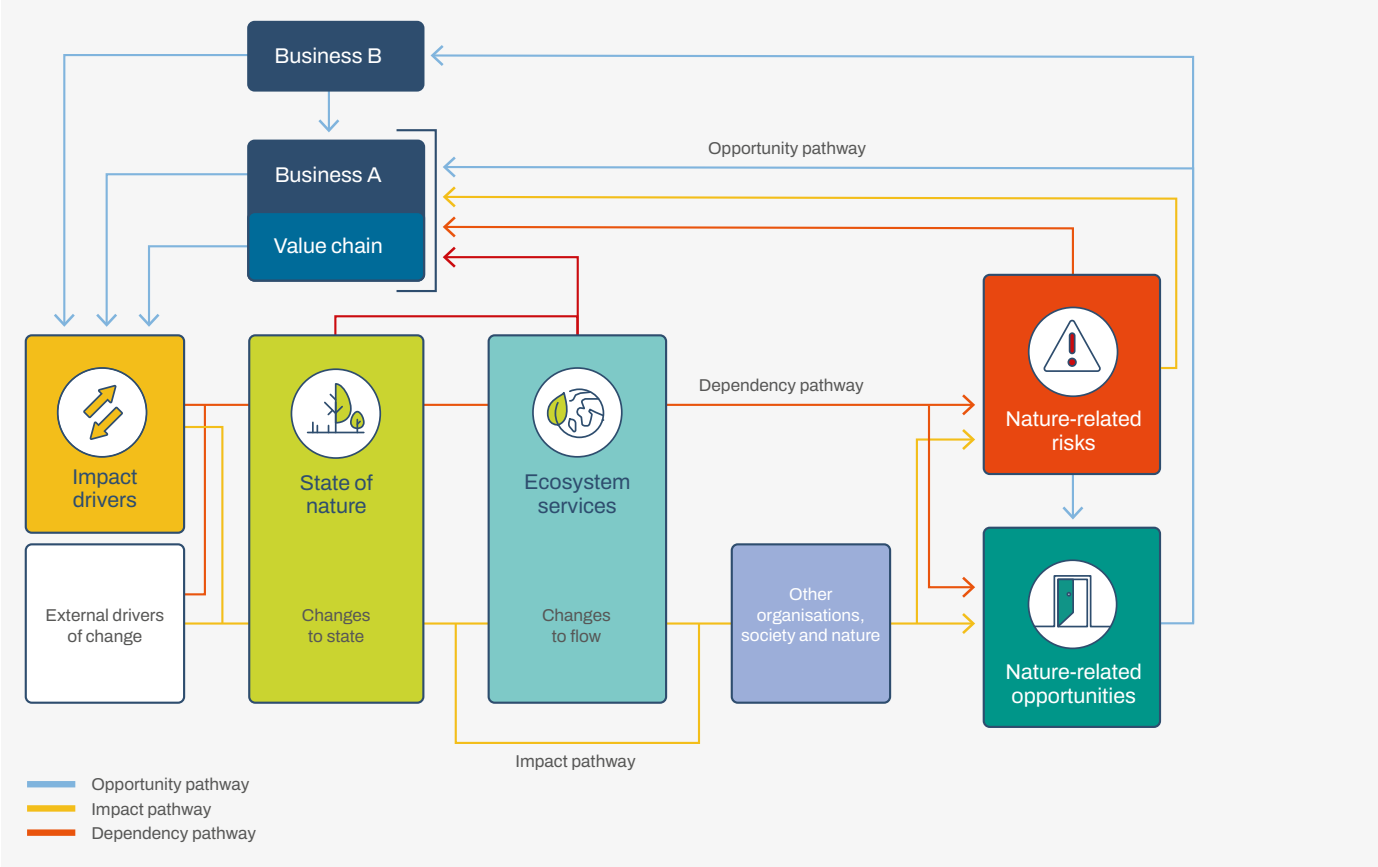
Business A may also decide to undertake strategic changes that manage its dependencies more sustainably and address negative impacts directly. These could include transforming its business model, launching new products or services, entering new markets, or making new investments. This could lead to new sources of revenue, stronger positioning in the market or reduced costs in some way, while also leading to improved outcomes for nature, either as a result of the organisation reducing its negative impact drivers through this new strategy, or increasing its positive impact drivers. This is shown by the arrows connecting Ecosystem Services directly to Opportunity in Figure 16.

112 TNFD (2023) Guidance on the identification and assessment of nature-related issues: The LEAP approach.

Third-party intervention

Business B in Figure 16 is also able to pursue nature-related opportunities even without a direct connection to the dependency or impact in question. As awareness of the importance of nature-related issues grows, fuelled by increased disclosures, ways to manage dependencies more sustainably and to address negative impacts may be developed and scaled by Business B. This is represented by the connection between Opportunity and Business B. Such a solution may be used by Business A to improve its own processes and procedures or in its value chain, or it may be applied by others in general to address broader societal or economy-wide dependencies or impacts on nature.

Figure 16: Connections between nature-related dependencies and impacts and risks and opportunities – opportunity pathways



Note: Nature-related opportunities can stem from:

- Actions to more sustainably manage an organisation's own dependencies (Business A's dependency pathway);
- Actions to address an organisation's own negative impacts (Business A's impact pathway);
- Actions to manage an organisation's own risks (Business A's risk to opportunity pathway);
- Actions by one organisation that help to address another organisation's or society's nature-related issue (Business B's opportunity pathway); and
- Any organisation contributing to the global societal goal of 'nature positive'.

References

Agência Brasil (2024) Community-based tourism a game-changer for indigenous communities.

Anglian Water Group Limited (2025) Sustainable Finance Impact Report.

Arkema Global. (2021) Cyclon press release.

Barbier, E. (2022) The policy implications of the Dasgupta Review: Land use change and biodiversity. Environmental and resource Economics 83, 911-935.

BEA (2024) BEA Closes a Second US$100 million Sustainability-linked Loan with Wilmar. Bank of East Asia.

Bioy, H et al. (2024) The Landscape of Biodiversity and Natral Capital Funds. Morningstar, Sustainalytics.

BNEF (2025) The Growing Role of Nature-Related Business in the UK Economy, BloombergNEF.

BNEF (2024) Wilder Harrier Dog Kibble Exploits Invasive Carp Catch. BloombergNEF.

BNEF (2024) Opportunity Blossoms: The Business of Curbing Nature Loss. BloombergNEF.

BNEF (2023) When the bee stings: counting the cost of nature-related risks. BloombergNEF.

Blue Alliance (2023) Revolutionising marine conservation.

Brazil (2022) PORTARIA MMA Nº 148, DE 7 DE JUNHO DE 2022.

Business for Nature. Sector actions towards a nature positive future.

Business Models Inc. The business model of Patagonia.

Carrefour (2024) Protect Biodiversity.

Carrefour (2024) Fighting Deforestation.

CBI (2025) China debuts landmark sovereign green bond on global stage. Climate Bonds Initiative.

CircularX. Patagonia – Worn Wear Circular Retail Programme.

CISL (2024) Scaling Finance for Nature: Barrier Breakdown. Cambridge Institute for Sustainability Leadership.

CITES (2023) Appendices I, II and III. Convention on International Trade in Endangered Species of Wild Fauna and Flora.

City Developments Limited CDL (2025) Integrated sustainability report.

Climate Focus (2023) Agricultural and blue carbon market opportunities in Latin America and the Caribbean.

CONAB. Minimum Price Guarantee Policy for Sociobiodiversity Products (PGPM-Bio). Brazilian National Supply Company.

Convergence (2020) The State of Blended Finance.

Dasgupta, P. (2021) The Economics of Biodiversity: The Dasgupta Review.

Decathlon (2022) Non Financial Reporting Declaration.

DEFRA (2024) Reflections on Biodiversity Net Gain: 9 months after going live. Department for Environment, Food and Rural Affairs.

Denke D. et al. (2023) Building a Capital Continuum for Nature-Positive Investments, Coalition for Private Investment in Conservation.

Deutz, A. et al. (2020) Financing Nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, the Cornell Atkinson Center for Sustainability.

Dow (2023) Healthy ecosystem: Ash pond to wetland.

Earth Security (2021) Blended Finance Playbook for Nature-Based Solutions.

Earth Track (2024) Protecting Nature by Reforming Environmentally Harmful Subsidies: An Update.

EIF (2021) Ocean 14 Capital completes €80m of €150m inaugural impact fund. European Investment Fund.

Ellen Macarthur Foundation (2025) Scaling action for nature: How the circular economy can help deliver the Global Biodiversity Framework.

European Parliament. Circular economy: definition, importance and benefits.

EIB (2023) Circular Economy Overview. European Investment Bank.

Federated Hermes (2024) Biodiversity Equity Annual Report.

Fidelity International (2024) Sustainable Biodiversity Fund.

Forico (2023) Natural capital report.

FreshPlaza (2021) Solar panels above raspberry crops benefit everyone.

G20 (2024) G20 High-Level Principles on Bioeconomy.

G20 (2021) Sustainable Finance Roadmap.

G20 Government of Brazil. G20 Sherpa Track Bioeconomy Initiative.

Garnett, S. T., et al. (2018) A spatial overview of the global importance of Indigenous lands for conservation. Nature Sustainability 1, 369–374.

GFI Hive (2024) Quintana Roo Reef Protection – Parametric Insurance. Green Finance Institute.

GFI Hive. Federated Hermes Biodiversity Equity Strategy. Green Finance Institute.

Givaudan. Spotlight on Sourcing4Good Advanced Level.

Tobin-de la Puente, J. and Mitchell, A.W. [Forthcoming] The Little Book of Nature Business. Global Canopy, Oxford.

Harris, R. (2020) Literature Review of Livestock Compensation Programs: Considering Ways to Assist Livestock Producers with Grizzly Bear Conservation Efforts in Montana. Montana Fish, Wildlife, and Parks.

Hoegh-Guldberg, O. and Northrop, E. et al (2023) The ocean as a solution to climate change: Updated opportunities for action. High Level Panel for A Sustainable Ocean Economy.

ICMA (2025) Sustainable Bonds for Nature: A Practitioner's Guide. International Capital Market Association.

IPBES (2024) The Underlying Causes of Biodiversity loss and the determinants of transformative change and options for achieving the 2050 vision for biodiversity. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

IPBES (2019) Global Assessment Report on Biodiversity and Ecosystem Services. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

IPBES (2016) Summary for Policymakers of the Methodological Assessment on Scenarios and Models of Biodiversity and Ecosystem Services. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

IFC (2024) IFC invests in biodiversity bond issued by Davivienda to support sustainable finance and biodiversity protection in Colombia. International Finance Corporation.

IUCN Arapaima gigas. The IUCN Red List of Threatened Species.

IUCN (2025) Red List of Threatened Species. International Union for Conservation of Nature.

Jago, S. et al. (2024) Agrobiodiversity conservation enables sustainable and resilient food systems.

Levis, C. et al. (2017) Persistent effects of pre-Columbian plant domestication on Amazonian forest composition. Science 355(6328), 925–931.

L'Haridon, J. et al. (2023) SPOT: A Strategic Life-Cycle-Assessment-Based Methodology and Tool for Cosmetic Product Eco-Design. Sustainability 15(19), 14321.

Macqueen, D. (2023) Agrobiodiversity – the way to save earth's skin. International Institute for Environment and Development.

Mars (2024) Cocoa for generations progress report.

Matter (2024) Impact Report.

McKinsey (2023) Patagonia shows how turning a profit doesn't have to cost the Earth.

Milner-Gulland, E. J. (2022) Don't dilute the term nature positive. Nature Ecology & Evolution 6, 1243-1244.

MunichRe (2020) Munich Re continues its flood mitigation work with resilience risk transfer solutions.

Natixis Investment Managers (2025) Mirova unveils three new high-impact deals with its USD 350 million nature-based carbon strategy.

Nature Positive Initiative (2023) The definition of nature positive.

NatureFinance (2024) The Global Bioeconomy.

NatureFinance and World Bioeconomy Forum (2024) Financing a Sustainable Global Bioeconomy.

Nature Tech Collective (2025) Unveiling the Nature Tech Collective sector map for biodiversity.

NGFS (2024) Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors. Network of Central Banks and Supervisors for Greening the Financial System.

NGFS (2022) Statement on Nature-Related Financial Risks. Network of Central Banks and Supervisors for Greening the Financial System.

Ørsted (2023) Our blue bond is enabling resilient renewable energy projects that contribute to a sustainable ocean economy.

PBScience (2025) Planetary Health Check 2025. Planetary Boundaries Science, Potsdam Institute for Climate Impact Research, Planetary Guardians.

Reservas Votorintim (2024) Institutional report.

The Rockefeller Foundation (2024) Financing for Regenerative Agriculture. Transformational Investing in Food Systems, Pollination.

Schatte et al. (2025) Assessing holistic agroecological resilience of landscapes. Ecology & Society 30(2), 16137–300224.

SNCF Réseau (2023) Vegetation Management.

SOGRAPE (2024) Sustainability Report.

Suzano (2023) Sustainability Report.

Suzano (2024) Sustainability Report.

TNFD (2023) Recommendations of the Taskforce on Nature-related Financial Disclosures. Taskforce on Nature-related Financial Disclosures.

TNFD (2023) Glossary. Taskforce on Nature-related Financial Disclosures.

TNFD (2023) Guidance on the identification and assessment of nature-related issues: The LEAP approach. Taskforce on Nature-related Financial Disclosures.

TNFD (2025) Guidance on nature in transition plans. Taskforce on Nature-related Financial Disclosures.

TNFD (2024) Guidance on value chains. Taskforce on Nature-related Financial Disclosures.

Tornator Oyj (2023) Green Finance Framework.

UBS (2024) Nature finance primer.

ULI. Apple case study. Urban Land Institute.

UNDP (2024) How Açaí berries and agroforestry are boosting food security and income in Brazil. United Nations Development Programme.

UNDP BIOFIN (2025) Sri Lanka Launches First Livestock Insurance Scheme to Protect Leopards and Livelihoods. United Nations Development Programme Biodiversity Finance Initiative.

UNEP (2023) State of Nature Finance: The Big Nature Turnaround – Repurposing $7 trillion to combat nature loss. United Nations Environment Programme.

UNEP FI (2025) Ocean Investment Protocol. United Nations Environment Programme Finance Initiative.

UNEP FI (2025) New Green Shoots webinar series. United Nations Environment Programme finance initiative, Finance for Biodiversity Foundation, Principles for Responsible Investing, EU Business & Biodiversity Platform.

UNEP FI (2024) PRB Sector Action Guidance for Nature: Getting Started in Agricultural, Forestry and Mining Sectors. United Nations Environment Programme Finance Initiative.

UNEP FI (2025) Rooted in Risk: Framing nature-related assessments for insurers. United Nations Environnent Programme Finance Initiative.

University of Oxford et al. (2025) Evidence review on the financial effects of nature-related risks. University of Oxford, Taskforce on Nature-related Financial Disclosures, Global Canopy.

UN PSI (2024) Insuring a Resilient Nature-Positive Future. United Nations Principles for Sustainable Insurance.

UN PSI (2023) Nature-Positive Insurance: Evolving Thinking and Practices. United Nations Principles for Sustainable Insurance.

UN PSI (2024) Figure 3 in Summary version of Insuring a Resilient Nature-Positive Future. United Nations Principles for Sustainable Insurance.

Wase (2023) Clean Growth Case Study

WBCSD (2024) The NbS Blueprint – building business cases for nature-based solutions. World Business Council for Sustainable Development.

WBCSD (2024) Global Resources outlook. World Business Council for Sustainable Development.

WBCSD (2025) Guidebook for Landscape Investments. World Business Council for Sustainable Development.

WEF (2025) Finance Solutions for Nature: Pathways to Returns and Outcomes. World Economic Forum.

WEF (2024) Financing the Nature-Positive Transition: Understanding the Role of Banks, Investors and Insurers. World Economic Forum.

WEF (2022) Seizing Business Opportunities in China's Transition Towards a Nature-positive Economy. World Economic Forum.

WWF (2022) Seeing the Forest for the Trees: A Practical Guide for Financial Institutions to Take Action against Deforestation and Conversion Risks. World Wide Fund for Nature.

WWF (2024) WWF Bankable Nature Solutions Case Studies World Wide Fund for Nature.

zu Ermgassen, S. O. S. E. et al. (2022) Are corporate biodiversity commitments consistent with delivering 'nature-positive' outcomes? A review of 'nature positive' definitions, company progress and challenges. Journal of Cleaner Production 379(2) 134798.

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Financial Disclosures

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