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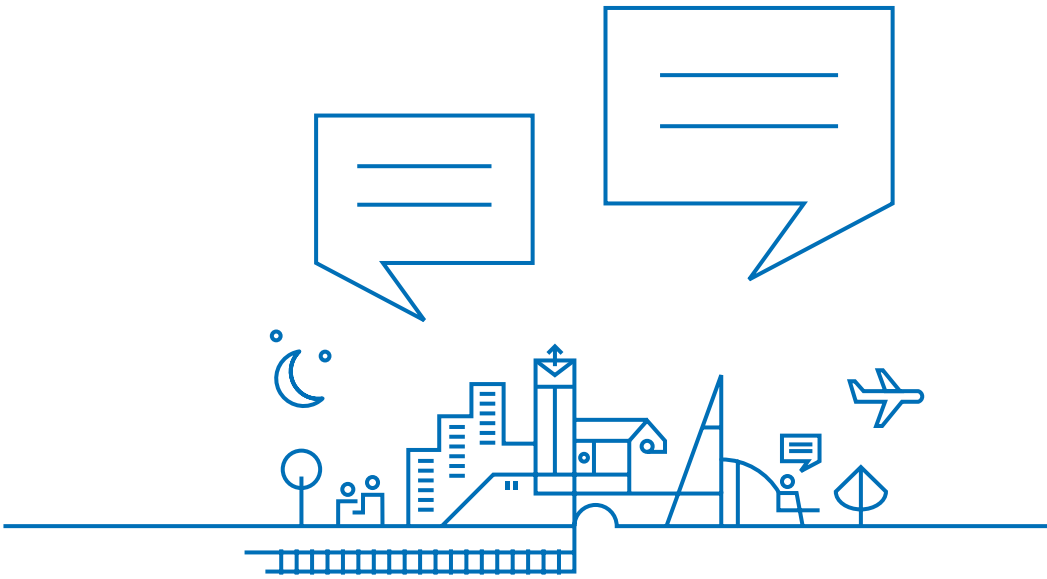
Biodiversity and Nature Finance

Global perspectives from sustainability professionals



Guest Editor
Claire Cummins

Ultimately, a whole-of-government and a whole-of-society approach is needed to halt and reverse biodiversity loss. To this end, mobilising and committing capital for biodiversity protection and restoration will play an increasingly central role.

Claire Cummins

GUEST EDITORIAL

Claire Cummins

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Welcome to Volume 4 of the Sustainable Finance Insight Journal, which brings together a collection of articles on the role of finance in managing, protecting and restoring biodiversity. Alongside an examination of innovative financing instruments, the volume highlights different tools, guidance and frameworks that will enable investment decision-makers to direct capital towards closing the biodiversity funding gap and thereby contribute to the Kunming-Montreal Global Biodiversity Framework to halt and reverse biodiversity loss.

The biodiversity funding gap is enormous, with the Global Biodiversity Framework (GBF) estimating that $700 billion per year is needed between now and 2030 to effectively protect and restore nature. Finance from both the public and private sector is needed to achieve this goal.

Among the range of financing mechanisms available, blended finance – a combination of both public and private finance – offers significant potential, particularly in emerging markets. So, too, does insurance, with innovative products now available that can catalyse investment as well as mitigate loss and help ecosystems recover from damage.

We start by delving into some practical examples of blended finance and insurance instruments being deployed in the UK, Latin America and Europe before moving on to an examination of some of the tools and techniques for defining, measuring and reporting the impact of biodiversity finance. Such tools are essential for investors to make decisions, as well as to report on their contribution to global biodiversity goals.

The first article, by Gabriela Weber de Morais *et al.* of Natura Cosmetics S.A., VERT Securitization, and the Brazilian Biodiversity Fund (FUNBIO), describes the Living Amazon Mechanism; a blended finance instrument aimed at strengthening socio-biodiversity supplier communities in the Amazon. Conceived by Natura Cosmetics S.A., VERT Securitization and FUNBIO, it consists of a credit vehicle and a technical assistance facility that channels resources to help overcome barriers that hinder the development of socio-biodiversity supply chains.

Nicole Pasricha and Catalina Mejia of ALMA Invest explain how collaborative funding models such as the Sunbird 2X $63 million financing facility can mobilise private investment for nature-based solutions as well as improving outcomes for communities, with a strong focus on gender equality and women's empowerment.

Hannah Young of Signature Agri Investments shines a spotlight on the small-scale habitat reservoirs found across land under agricultural tenure in Africa, and their role in climate mitigation and adaptation. She highlights the pros and cons of some options currently available for monetising conservation and the need for blended finance to act as a bridging mechanism for unlocking investment.

Alistair Donohew *et al*. of Crawford & Company examine the role of insurance as a key tool for ecosystem protection and restoration by unlocking long-term capital. Their article demonstrates, with the use of a case study of mangrove protection, how insurance helps to transform conservation from a financial risk into a strategic investment.

Irina Likhachova of the International Finance Corporation (IFC) highlights the need for investors to have clear and transparent guidelines for tracking, measuring and reporting the contributions of their

investments in meeting impact targets such as those defined by the GBF. Irina describes two recent publications from the IFC that are designed for investors: the Biodiversity Finance Reference Guide and the companion Biodiversity Finance Metrics for Impact Reporting guide.

Hamza Butt of the UNEP World Conservation Monitoring Centre emphasises the importance of accurate biodiversity data for assessing ecological and social risks associated with infrastructure development. He highlights the availability of online biodiversity datasets and assessment tools and frameworks such as the Taskforce for Nature-related Financial Disclosures (TNFD) for helping financial institutions understand, assess and report on biodiversity and ecosystem impacts and dependencies.

Rob Selwyn and Jason Hartley of Earth Active highlight the importance of community knowledge as inherent to the success of nature-based financing. In their article, they call for action to bridge the gap between rigid, data-driven risk frameworks and adaptive, participatory models of decision-making. This, they argue, is necessary to fully embrace the complexities of knowledge, power and governance and ultimately, to address the ecological and social uncertainties of our time.

Finally, Julie Rode and Paul LeFebvre of AXA Climate explore the challenges of valuing ecosystem services from a project finance perspective. They highlight certain biases inherent to ecosystem valuation and provide recommendations to ensure that critical aspects are prioritised to draw well-rounded conclusions for robust investment decision-making.

Articles

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Supporting socio-biodiversity supplier communities through blended finance

Overview

The Living Amazon Mechanism is a blended finance instrument designed to help protect the Amazon rainforest by strengthening Amazon socio-biodiversity supply chains. It promotes a development model that empowers conservation stewards by channelling financial resources to the production of non-timber forest products associated with forest protection and income generation for riverine communities and family farmers. Developed by Natura Cosmetics S.A., VERT Securitization and the Brazilian Biodiversity Fund (FUNBIO), the mechanism consists of a credit vehicle and a technical assistance (TA) facility.

Since the early 2000s, Natura, a Brazilian cosmetics company, has been partnering with local cooperatives and associations in the Amazon that supply the company with ingredients such as Brazil nuts, cocoa beans and açaí berries. These community business organisations are led by riverine communities and farming families who primarily rely on plant extractivism from native Amazon rainforest and, in some cases, agroforestry systems in restored areas. The Living Amazon Mechanism builds on Natura's experience with these local communities to scale socio-bioeconomy[1] in the Amazon by directing financial resources to strengthen these sustainable supply chains and local communities, who are often at the forefront of forest conservation as widely discussed in the literature.

Description of the instrument

The credit vehicle uses an instrument called Agricultural Receivable Certificate (CRA, in Portuguese), managed by VERT Securitization. This instrument combines concessional and commercial capital to offer affordable interest rates to local cooperatives and associations that supply Natura with non-timber forest products. Key adaptations made to a standard CRA to facilitate credit access for community business organisations include simplified financing procedures, credit contracts in

1 In the Amazon context, this term broadly refers to economic activities performed by local communities and indigenous peoples in inclusive supply chains centred on forest protection, biological and cultural diversity.

accessible language and annual purchase forecasts from offtakers (currently Natura) as a substitute for formal collateral. By providing working capital, the cooperatives can pay extractivists and family farmers at the start of the annual crop cycle. This strengthens the cooperatives by securing production from extractivist and farming families who, in turn, gain better resources to maintain sustainable livelihoods throughout the crop cycle.

Meanwhile, the TA facility, known as the Enabling Conditions Facility (ECF), managed by FUNBIO, directs resources to address additional barriers hindering the development of socio-biodiversity supply chains. ECF investments focus on three core areas: (i) strengthening the organisational capacities and structure of cooperatives; (ii) supporting farmers and extractivists' good practices and initiatives related to biodiversity and climate; and (iii) promoting decent living standards through activities such as empowering women and fostering youth leadership.

Role of technical assistance

Cooperatives have requested technical assistance from the TA facility to improve their financial management systems. This support has been recognised as a crucial component in preventing indebtedness among community business organisations and implemented as a first activity supported by the TA facility. Cooperatives and associations have also participated in a call for proposals to improve environmental and social performance of their processing units (e.g., installing solar panels, setting up composting facilities, updating facilities, etc.)[2]. Such improvements are expected to enable cooperatives and associations to either reduce their environmental footprint or improve productivity and thereby have a positive impact on families' livelihoods.

Success to date

Since its launch in December 2023, the Living Amazon Mechanism has supported 15 socio-biodiversity cooperatives and associations, positively impacting approximately 2,500 families. The zero default rate on the USD 1.8 million credit provided to date highlights the effectiveness of financial management capacity building offered by the ECF.

Since its launch in December 2023, the Living Amazon Mechanism has supported 15 socio-biodiversity cooperatives and associations, positively impacting approximately 2,500 families

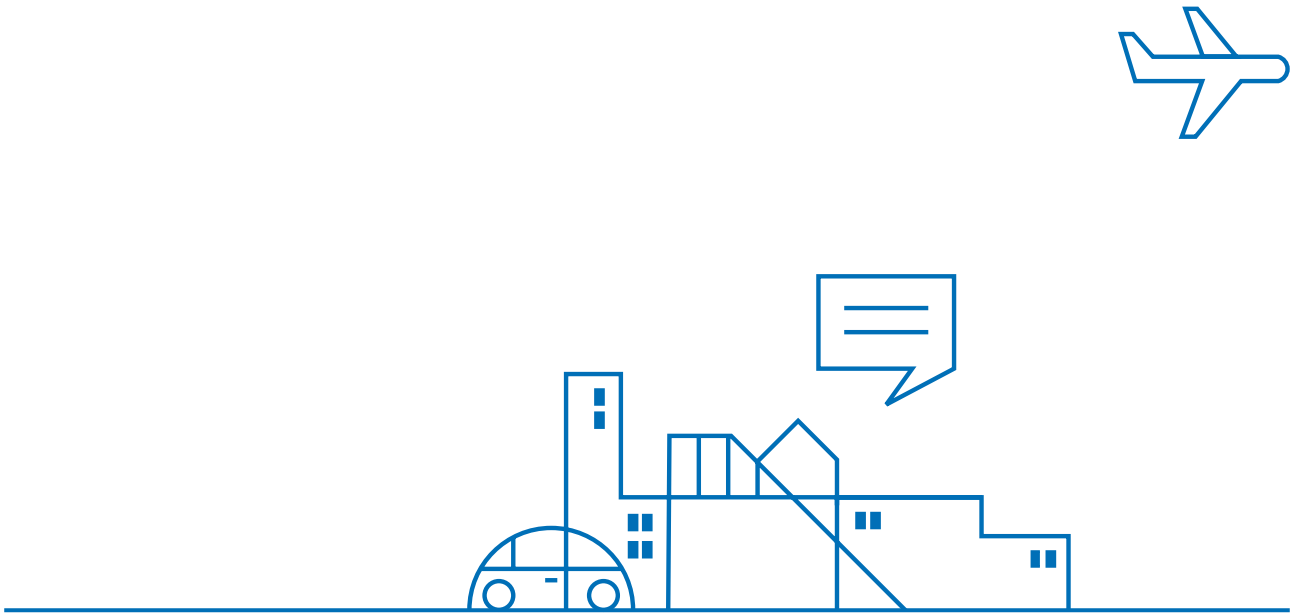
Gender equality and social inclusion

In the coming months, a pilot training programme will be launched to train youth in cooperativism and sustainable production practices. Youth migration from rural areas to cities is a key concern for the succession of socio-biodiversity supply chains, making this pilot programme a vital step in addressing this issue by creating opportunities for younger generations to get involved in the cooperatives' day-to-day operations and potentially continue to work in the cooperatives thereafter. Additionally, support has been provided for the implementation of a 20-hectare Macaúba palm agroforestry project[3] proposed by a women-led cooperative, which also aims to improve food security. Fostering gender equity and youth participation are core cross-cutting themes in this blended finance instrument, alongside ongoing consultation with local communities. This is reflected in the governance structure of the Living Amazon, which includes, among other elements, two community representatives on its governing board.

2 The call for proposals addresses aspects outlined in the UEBT Certification Regenerative Programme, at https://uebt.org/regenerative-programme.
3 Macaúba (Acrocomia aculeata) oil is used in the cosmetics industry.

Concluding remarks

Natura and other investors, including international financial institutions, have already invested in or partnered with the Living Amazon Mechanism. The main challenge ahead now is to expand the credit vehicle to include additional socio-biodiversity supply chains and offtakers, as well as to attract more donors to the ECF. This will enable the blended finance instrument to play an even greater role in protecting the Amazon rainforest, while empowering local communities and supporting sustainable forest-based livelihoods.



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How collaborative funding models can unlock private capital for nature-based solutions in emerging markets: Sunbird 2X case study

Summary

Innovative financing structures are crucial for driving nature investments in emerging markets, where traditional capital falls short due to perceived risks. This article explores how collaborative funding models can mobilise private investment for nature-based solutions that can improve outcomes for communities and the climate. Sunbird 2X, a $63 million facility managed by ALMA[4], is a prime example. Sunbird 2X successfully attracted commercial investors by providing a U.S. International Development Finance Corporation (DFC) guarantee for senior lenders and offering diversification in sectors like nature, energy and financial services. This model offers longer tenors of capital, encourages investment in new sectors like carbon and biodiversity, prioritises gender outcomes and demonstrates a scalable, replicable model for diverse investors and geographies.

SMEs, including nature-based businesses, face gaps in access to finance

According to the IFC, demand for credit from small and medium-sized enterprises (SMEs) continues to rise, and an estimated 40% of SMEs in developing countries face unmet financing needs totalling $5.2 trillion annually[5]. Women owned and led enterprises make up 32% of the SME financing gap. Meanwhile, investments in nature-based solutions (NBS), such as reforestation and sustainable land management, require $384 billion annually to meet climate, biodiversity and land restoration goals, yet current funding is only $154 billion per year, leaving a $230 billion shortfall[6].

As the demand for SME credit and nature-based investments grows, bridging the financing gap requires strategic partnerships and creative financial solutions. However, many institutional investors and asset managers are unfamiliar with SMEs and NBS assets, lack expertise in developing economies and often prioritise short-term investment horizons. To help bridge this gap, since 2020, ALMA has been providing innovative commercial capital to entrepreneurs in the financial inclusion, climate and nature, and energy sectors.

Sunbird 2X: an innovative solution to gender-lens nature financing

The DFC[7], the U.S. government's development bank, shares a similar mandate to ALMA: increasing capital access for SMEs in developing countries through various

4 Visit https://almavest.com for more information.
5 IFC MSME Fact Sheet www.ifc.org/en/what-we-do/sector-expertise/financial-institutions/msme-finance
6 UNEP (2022). State of Finance for Nature wedocs.unep.org/bitstream/handle/20.500.11822/41333/state_finance_nature.pdf?sequence=3
7 Visit www.dfc.gov for more information.

instruments including equity, debt, guarantees, grants and technical assistance. DFC has also invested in climate mitigation and resilience projects worldwide. Recognising these common objectives, ALMA and DFC collaborated to design a new investment vehicle (Sunbird 2X) that meets commercial investor needs while supporting SMEs, including NBS companies.

> *Nature is on an ecological timeframe, which traditional capital markets often do not recognise*

Under the Sunbird 2X structure, DFC provides a portfolio guarantee for senior commercial lenders, with ALMA acting as the facility manager and junior lender. By providing a guarantee, DFC facilitated mobilisation of the full $63M from commercial investors — traditionally difficult to attract for emerging markets and nature-based assets. Through Sunbird 2X, SMEs in Africa, the Indo-Pacific and Latin America are eligible to apply for funding of up to $5M per SME for climate/nature, clean energy and financial services related activities. All SMEs must prioritise gender equality and women's economic empowerment and must meet at least one 2X Challenge criterion[8].

Creating an attractive facility for all types of investors

The Sunbird 2X facility has attracted interest from commercial investors, including a reinsurance company and alternative asset managers, and was attractive to DFC, due to several factors:

- Sector diversification: the facility combines NBS/carbon assets with energy and financial services, allowing investors to explore emerging sectors like NBS alongside established ones like microfinance.
- Risk mitigation through DFC participation: DFC's guarantee provides multiple layers of security, including default protection for SMEs and a market signal that ALMA and the facility are commercially viable.
- Alignment with DFC priorities: the vehicle aligns with DFC's objectives as a gender-focused facility, ensuring that most funded companies meet at least one 2X criterion, such as women's participation in decision-making or workforce inclusion.
- Scalability and replicability: the model allows DFC to reach more SMEs through ALMA, leveraging an intermediary to distribute funds more efficiently.

Sunbird 2X as a mechanism for nature and gender-lens investing

Sunbird 2X is expected to have positive impacts by expanding lending to SMEs and financial institutions to support clean energy initiatives and nature-based solutions, such as forest conservation, reforestation and agroforestry. For example, the facility is assessing potential investments in native species restoration in Southern Africa, community forest management in Mexico and electric bus fleets in West Africa, each of which will also have localised benefits for women in the communities. In addition, because of DFC's eight-year guarantee tenor, Sunbird 2X is able to offer much longer tenor loans, which is critical for NBS projects such as reforestation that take longer to achieve financial returns – nature is on an ecological timeframe, which traditional capital markets often do not recognise. According to the DFC[9], given these characteristics, the Sunbird 2X is categorised as Highly Impactful per DFC's Impact Quotient ('IQ').

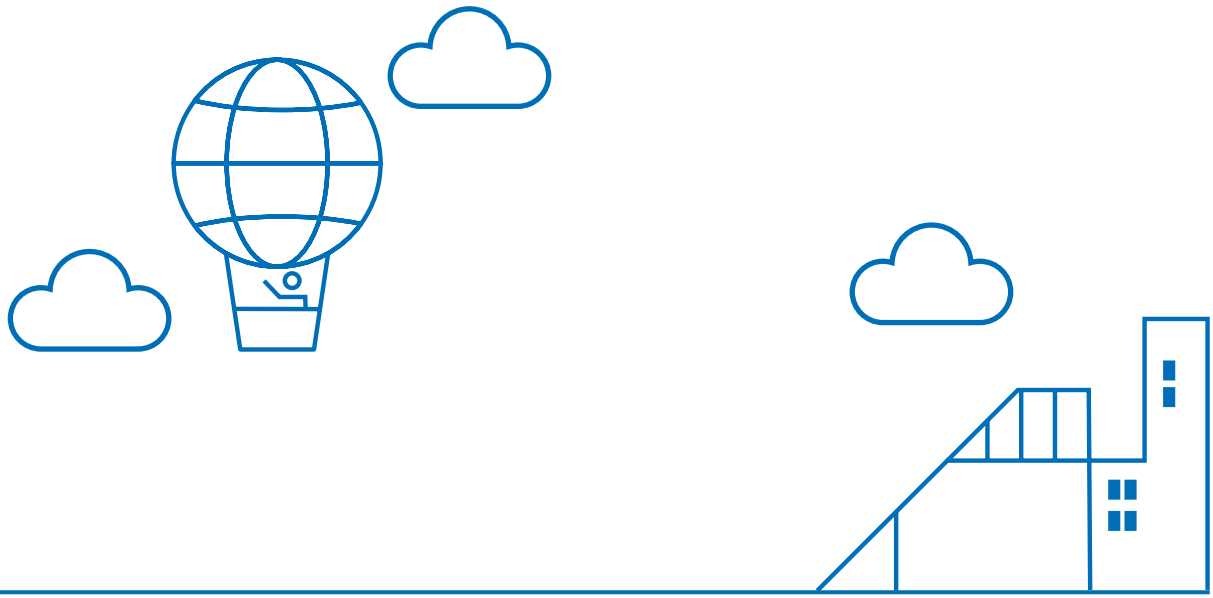
Scaling and replicating the model

The Sunbird 2X facility offers a replicable model for a diverse range of investors – development finance institutions, mezzanine lenders, senior investors and

8 The full list of 2X Challenge criteria is available at https://www.2xchallenge.org/2xcriteria
9 https://ewsdata.rightsindevelopment.org/files/documents/2X/DFC-2024-ALMASUNBIRD2X.pdf

junior investors. Over its lifecycle, the vehicle will finance up to 15 SMEs, deploying up to $30 million to nature- and climate-linked businesses.

The broader goal is to continue scaling this approach, demonstrating how blended finance can mobilise commercial capital for sustainable development assets, especially in underfunded sectors like nature-based solutions. By refining this model, ALMA and its partners can unlock further investment in climate, biodiversity and financial inclusion, ensuring long-term, impactful change.



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Blended finance models for nature in the African agricultural sector

Vast areas of land are under agricultural tenure in Africa; an estimated 1.2 billion hectares in total. These include significant areas of biodiversity and provide invaluable ecosystem services. Much of this land is non-arable and can be conserved or restored without negatively impacting food production. However, finance for nature-based solutions is most often directed towards 'pure' large-scale conservation and biodiversity projects (such as wildlife reserves), and not readily implementable for the 'spare' hectares a farmer may find herself with alongside active cropland.

Although the majority of these areas are too small to be classified as landscapes or sustain the iconic species associated with high-profile financial interventions (see South Africa's 'Rhino Bond[10]' funded by the World Bank and the GEF, or numerous instruments dedicated to protection of rainforests), their cumulative impact is significant. They act as habitat reservoirs for smaller species and are vital for migratory birds and insects. Their role in climate mitigation and adaptation is irreplaceable but underappreciated.

Currently, options for monetisation of conservation in these areas can be categorised as follows:

1. Carbon market opportunities (and the nascent biodiversity credit market)
2. Taxation incentives
3. Export or finance-linked pricing mechanisms.

Carbon and biodiversity credits

The voluntary carbon market (VCM) plays a key role in monetising biomass. However, carbon projects are difficult to implement and expensive to certify; it is typically years before a return is generated. This is true also of the nascent biodiversity credit market. In some circumstances, these projects are an appropriate mechanism and the rigour around tenure requirements makes them valuable for the protection of natural areas, but this option is typically only accessible to those with control over large land areas.

There are carbon projects such as Acorn[11] which aim to convert small-scale farmers from cash crops to agroforestry, seeming at first glance an ideal mechanism for ensuring that trees are planted and maintained. Farmers are paid for the number of trees planted and the resulting credits are sold on a dedicated platform at a robust price. However, registration of an African Acorn project needs a minimum aggregated area of 5,000 ha

10 South Africa Pioneers Innovative Wildlife Conservation Bond to Protect Black Rhinos and Support Local Communities
11 Planting a better future with smallholder farmers | Acorn Rabobank

and the logistical burden of roll-out in an environment where most participants have (insecure) access to half a hectare at most is a deterrent.

Tax incentives

South Africa has pioneered several tax structures which incentivise nature stewardship. However, some do not lend themselves to conservation of land areas where agriculture is also practised, only to areas exclusively given over to protection of flora and fauna. An exception to this is the Protected Area Agreements[12] structure. The primary goal here is to support biodiversity conservation by providing financial support for private initiatives. Eligible land is declared a 'protected area' and registered against the title deed for a minimum 99 years. In return, the landowner can access a deduction on the value of the land declared every year. Crucially, if a right of use (e.g., agriculture) is maintained, the deduction is apportioned accordingly.

Examples of parallel efforts elsewhere in Africa are limited, although initiatives such as Payments for Ecosystem Services have been trialled. The more typical regulatory approach still centres on preventing negative actions rather than incentivising positive ones.

Export or finance-linked pricing mechanisms

These incentives relate to opportunities to secure a higher price for export products (e.g., linked to Sustainable Agriculture Initiative or Rainforest Alliance certification) or a lower cost of capital where development is funded by impact-mandated investors.

This category of incentives is typically applicable to large-scale commercial operators but may also be effective for cooperatives or well-organised smallholder networks. In the African context they are not generally useful for small- or medium-scale farmers who do not have an export focus. Where market forces work as they should, an export producer who has obtained sustainability certification should be able to command a higher price for produce. The requirements for these certifications are typically based on extensive research, resulting in potentially meaningful science-based outcomes for ecosystem protection and management.

The more typical regulatory approach still centres on preventing negative actions rather than incentivising positive ones.

Conditionality from investors, whether provided as grant or technical assistance funding, lower cost of capital in return for agreeing to certain practices, or performance-based payments, can also provide effective mechanisms for the valorisation of natural areas. However, where these conditions are linked primarily to the investor's mandate, and accompanied by bureaucratic hurdles around what may and may not be paid for, they are not optimally effective for on-farm scenarios.

Conclusions

The options for incentivisation of nature stewardship across African agricultural areas are fragmented. Potential solutions vary wildly according to country, land area, ecosystem, tenure arrangement and other factors and there is no single blueprint. For an investor hoping to contribute to the protection of nature, there is little value in a standardised solution. Rather, a systemic lens needs to be applied, first interrogating the contextual constraints to determine where interventions will be most effective. These may include bridging finance for carbon-based projects, investments in supporting structures or initiatives beyond the investee company (e.g., tech for enabling cost-effective biodiversity assessments) or non-financial in nature (e.g., a European investor network lobbying for protected area or ecosystem services tax incentives).

12 Income Tax Act 58 of 1962, Section 37D

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Insurance mechanisms for ecosystem protection

Introduction

Insurance traditionally serves as a financial safeguard, covering business losses as well as land or property restoration after damage. In the context of biodiversity, ecosystems (especially protected ecological sites[14,15]) are increasingly at risk from changes in land and sea use, direct exploitation of organisms, climate change, pollution and invasive alien species[16]. Many of these pressures act chronically over time rather than through sudden events, a distinction that should be acknowledged even though conventional insurance mechanisms may be less suited to chronic losses.

Effective ecosystem protection depends on conservation, sustainable management, restoration, regulation and active community involvement. However, what happens when an acute event occurs, causing sudden harm or loss? Landowners and stewards can use insurance to protect against unexpected, acute ecosystem losses. In addition, insurance can indirectly support ecosystem protection which may address some of the chronic drivers of loss. Figure 1 illustrates how 'direct' insurance mechanisms provide payouts to cover the costs of an event. It also shows how the existence of insurance coverage can offer assurance to stakeholders, enabling the use of 'indirect' mechanisms to support ecosystem protection.

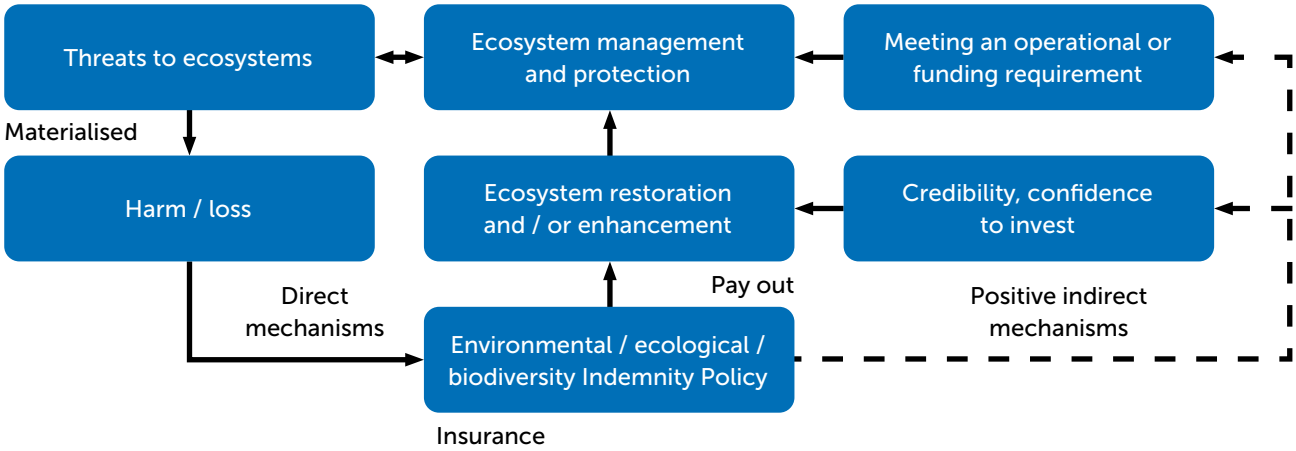
13 Crawford is a global business specialising in managing insurance claims. Crawford Environmental assess environmental, ecosystem and biodiversity loss as well as provide wider environmental services and advice.

14 United Nations Environment Programme (2022), For People and Planet: The United Nations Environment Programme Medium Term strategy for tackling climate change, biodiversity and nature loss, and pollution and waste from 2022–2025: wedocs.unep.org/bitstream/handle/20.500.11822/42683/medium_term_strategy_2022.pdf?sequence=1&isAllowed=y

15 Office for Environmental Protection 2025 Progress in improving the natural environment in England 2023/2024, January 2025: www.theoep.org.uk/sites/default/files/reports-files/Progress%20in%20improving%20the%20natural%20environment%20in%20England%202023-2024.pdf

16 IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. doi.org/10.5281/zenodo.3831673

Figure 1: Traditional (direct) and indirect insurance mechanisms (Source: Crawford)



Insurance covering losses to ecosystems

Insurance coverage for ecosystems varies significantly in both availability and extent. Insurance brokers work with organisations to identify suitable insurance coverage. It is often the case that a number of different policies may be appropriate depending on the site and ecosystem services it provides (Table 1). A broker can help tailor coverage by exploring different options that address specific ecological losses, potentially offering bespoke policies that better account for the value of natural assets.

Table 1. Types of insurance cover applicable to different ecological sites and uses (Source: Crawford)

Type of insurance	Summary and example
Parametric climate and weather insurance	Payouts triggered (pre-defined) by droughts, floods or wildfires; supports e.g., forestry, agroforestry and peatland restoration projects.
Carbon credit insurance	Covers loss or underperformance of carbon credits, e.g., used in Woodland Carbon Code and voluntary markets.
Ecosystem restoration and habitat risk insurance	Protects restored ecosystems from pollution, climate events and human activities, e.g., may apply to BNG and wetland conservation projects.
Biodiversity offset insurance	Guarantees legal compliance of biodiversity offsets, especially relevant to developers delivering BNG.
Environmental liability insurance (ELI)	Covers pollution-related legal and cleanup costs impacting natural assets like forests and water catchments.

Type of insurance	Summary and example
Political and regulatory risk insurance	Protects, for example, conservation and Payment for Ecosystems Services investments against regulatory or policy changes.
Performance guarantee and surety bonds	Ensure delivery of contracted environmental services (e.g., carbon sequestration, biodiversity restoration).
Business interruption insurance for sustainable enterprises	Protects revenue for nature-based businesses (e.g., eco-tourism, sustainable forestry, regenerative agriculture) to cover fixed costs and prevent profit loss from insured perils.
Delay in startup insurance	Covers delays in construction projects – which could include nature-based solutions or renewables – caused by insured perils.
Professional Indemnity	Protects against advisory failures for environmental schemes and investment services.

Insurance and Biodiversity Net Gain (BNG): unlocking green investment

The UK's BNG regulations[17], requiring a 10% net improvement in biodiversity for new developments, create both challenges and opportunities. Insurance plays a key role in ensuring compliance with the BNG regulations by:

- de-risking long-term biodiversity commitments through performance guarantees: insurance-backed products can cover habitat establishment and maintenance for the mandated 30+ years, ensuring developers meet BNG obligations;
- safeguarding against habitat failure through contingency cover: policies can mitigate risks from unforeseen environmental changes, such as extreme weather, disease or species decline, which could impact biodiversity projects; and
- providing financial security for developers, landowners and conservation bodies through surety bonds and financial security: insurers can provide bonds or guarantees to ensure funding remains available for habitat creation, reducing reliance on upfront capital.

BNG is creating a growing market for biodiversity credits, which are tradable units that represent a measurable improvement in biodiversity. As a result of regulation, the demand for these credits is expected to grow, with the market projected to be worth billions in the coming decades. Insurance-backed mechanisms support this market by increasing investor confidence, making biodiversity projects more financially attractive and scalable.

Insurance as a driver of ecosystem protection and climate resilience

Both direct and indirect insurance mechanisms play a role in safeguarding ecosystems, and there are examples where insurance-driven solutions actively promote conservation and resilience. The Restoration Insurance Service Company (RISCO)[18] is a social enterprise and a pioneering financial model that leverages insurance and blue carbon markets to protect and restore mangrove ecosystems.

By incorporating mangroves' flood reduction benefits into insurance products, RISCO ensures that insurers, who benefit from reduced storm damage costs, contribute financially to conservation efforts. Simultaneously, the company monetises the climate mitigation value of mangroves through blue carbon credits, creating a dual revenue stream for long-term ecosystem protection. This innovative model funds conservation and shifts ecosystem protection from being an overlooked externality to a financially integrated solution in climate adaptation and mitigation.

The pilot project in the Philippines will conserve 3,400 hectares of mangroves and restore 600 hectares, avoiding over 600,000 tonnes of CO_2 emissions and generating more than $10 million in revenue. With potential replication, RISCO reportedly could scale to over $200 million in revenue and 16 million tonnes of avoided emissions within a decade.

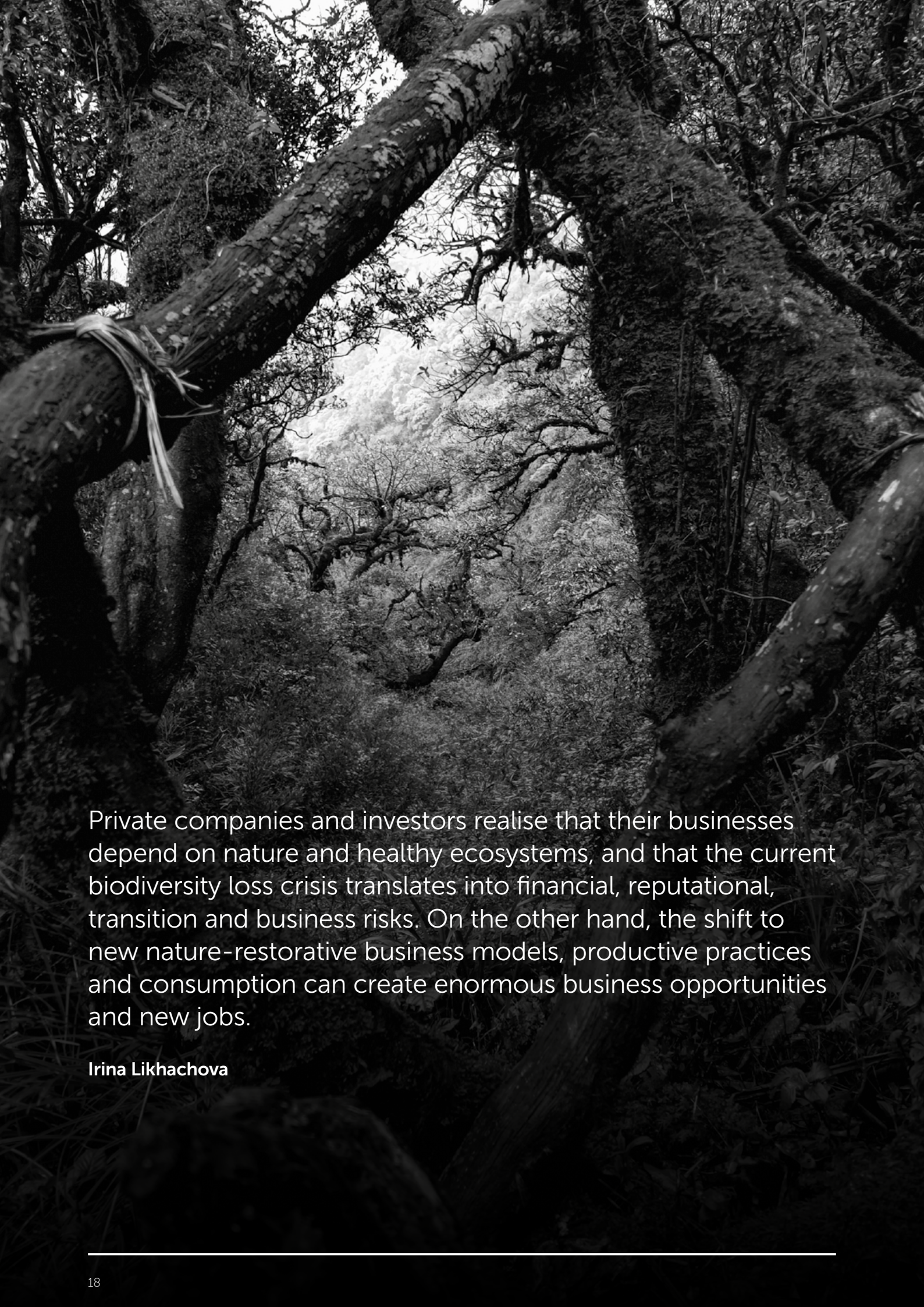
17 The framework for BNG in England is established under the Environment Act 2021, which amends the Town and Country Planning Act 1990 to require a minimum 10% biodiversity gain for most new developments. This is further detailed by statutory instruments which set out exemptions and provisions for irreplaceable habitats.

18 The Global Innovation Lab for Climate Finance RISCO Restoration Insurance Service Company, website accessed March 2025: https://www.climatefinancelab.org/ideas/restoration-insurance-service-company-risco

Concluding remarks

As ecosystems face growing threats, insurance is becoming a key tool for their protection and restoration. With private sector funding and ESG-driven finance seeking nature-positive investments, insurance can unlock long-term capital. By helping to secure funding, insurance helps to transform conservation from a financial risk into a strategic investment. By bridging the gap between environmental responsibility and economic viability, insurance is not just mitigating loss – it's shaping the future of sustainable development.

> *BNG is creating a growing market for biodiversity credits … As a result of regulation, the demand for these credits is expected to grow, with the market projected to be worth billions in the coming decades.*



Private companies and investors realise that their businesses depend on nature and healthy ecosystems, and that the current biodiversity loss crisis translates into financial, reputational, transition and business risks. On the other hand, the shift to new nature-restorative business models, productive practices and consumption can create enormous business opportunities and new jobs.

Irina Likhachova

Irina Likhachova
Global Biodiversity and Nature Finance Lead, IFC Environmental

Scaling up biodiversity finance

Accelerating the transition to sustainability

Reversing the loss of biodiversity – which sustains dozens of sectors and millions of jobs – is not just essential to a healthy planet. In 2022, Global Risk Report by the World Economic Forum ranked nature fourth among the top ten long-term business risks. Private companies and investors realise that their businesses depend on nature and healthy ecosystems, and that the current biodiversity loss crisis translates into financial, reputational, transition and business risks. On the other hand, the shift to new nature-restorative business models, productive practices and consumption can create enormous business opportunities and new jobs. A sustainable transition of food, land and ocean use; infrastructure; and energy could generate $10.1 trillion in annual business opportunities, 395 million new jobs by 2030 and significant opportunities for income diversification that support the local economy.

Take agroforestry. Replanting coffee plantations with native tree species provides shade for coffee crops, resulting in better-quality coffee sold for a higher price. It also improves the quality of soil, which translates to less need for fertiliser. This is how shifting to nature-smart production practices can help improve quality, boost farmers' income and protect biodiversity. Financing transactions like these is good business for investors.

Finance, including innovative financial instruments, is key to supporting the transition to nature-smart production practices and deploying nature-based climate solutions. The Global Biodiversity Framework (GBF) estimates the biodiversity finance gap as $700 billion a year between now and 2030. While the GBF calls on governments to repurpose $500 billion per year in harmful subsidies, the remaining $200 billion a year will have to be mobilised from all sources – public, private, domestic and international; and private sector and private capital will have to play a central role.

Mobilising capital into biodiversity finance

From IFC's experience with green and blue bonds[19] and loans, we know that a set of clear, transparent guidelines is key to mobilising investors. And a major gap was the absence of clear guidance on project eligibility criteria for biodiversity finance within the Green Bond and Green Loan Principles. In 2022, IFC published the first-ever Biodiversity Finance Reference Guide to provide an indicative list of investment activities and project components that help protect, maintain or enhance biodiversity and promote sustainable management of natural resources. Each of the eligible activities is mapped to individual targets of the GBF they contribute to. The guide focuses on three major investment categories:

- investments activities that generate biodiversity co-benefits through addressing direct drivers of biodiversity loss (land and sea use change, overexploitation of resources, pollution and spread of invasive species), such as regenerative agriculture practices, sustainable forestry management or improved wastewater treatment;
- investments focused on conservation and restoration of nature as the primary objective;

19 Green bonds help to finance sustainable, climate-smart projects with a positive environmental impact, with the goal to speed the transition to a low-carbon economy (refer to: https://www.ifc.org/content/dam/ifc/doclink/2024/ifc-green-bonds-factsheet.pdf). Blue bonds are focused on the sustainable use of maritime resources and the promotion of related sustainable economic activities (refer to https://www.icmagroup.org/assets/documents/Sustainable-finance/Bonds-to-Finance-the-Sustainable-Blue-Economy-a-Practitioners-Guide-September-2023.pdf).

- investment activities that integrate nature-based solutions into large infrastructure projects to provide core services, such as water purification or coast stabilisation, and to displace or complement traditional grey infrastructure.

Last year, IFC also published Biodiversity Finance Metrics for Impact Reporting (the 'Metrics Supplement') – a companion piece to the guide, authored in collaboration with BNP Paribas, the Finance for Biodiversity Foundation, Natixis, the Taskforce for Nature-Related Financial Disclosures and the Wildlife Conservation Society. The supplement responds to the growing demand from the market for more comprehensive guidance on impact reporting for biodiversity and nature finance activities, enabling markets to efficiently transition to nature-smart approaches and to attracting private capital at scale.

The supplement provides specific metrics for each of the eligible investment activities and project components in the IFC Biodiversity Finance Reference Guide (the 'Guide'). Through these suggested metrics, investors can address the reporting challenges the private sector faces when attribution is challenging, such as when operating within a watershed shared by many stakeholders, or when certain ecosystem improvements could take decades to observe.

Unlocking investment opportunities

The private sector is beginning to see the benefits of investing in biodiversity. Since publication, the Guide has catalysed groundbreaking investments in biodiversity that are unlocking new opportunities. Among IFC's recent transactions are a $50 million financing to support reforestation in Latin America and bringing degraded land into production, a sustainability-linked bond to promote the bioeconomy and regeneration of the Amazon, and the world's first biodiversity bond in Colombia.

IFC's approach to scaling up biodiversity finance is focused on helping investors, financiers, companies and governments identify investments that protect and rehabilitate biodiversity and ecosystems and close the biodiversity finance gap. The Guide and the Metrics Supplement offer practical tools to guide investments and to track and measure their impact and contributions to meeting the GBF targets and to advance the whole-of-economy transformation to halt and reverse biodiversity loss.

> *Shifting to nature-smart production practices can help improve quality, boost farmers' income and protect biodiversity. Financing transactions like these is good business for investors.*

Hamza Butt
Programme Officer, UNEP-WCMC

Data-driven sustainable finance for infrastructure development: the need for sustainable infrastructure

The need for sustainable infrastructure

Infrastructure is vital to our everyday lives and its need continues to grow. In many countries, the regulatory planning process for major infrastructure development involves a rigorous assessment of environmental and social impacts. Adverse impacts and risks are proactively identified and assessed, and measures are put in place to either avoid or mitigate them. However, even in such cases, major projects still often require land to be converted causing loss of habitat and impact on the ecosystem services that are pertinent for our well-being. Without the level of rigour in the planning process the consequences can be far worse, ultimately contributing to the triple planetary crisis[20].

Experts estimate that 70% of the infrastructure expected to exist by 2050 has yet to be built[21], presenting a significant opportunity for sustainable development. With investments in infrastructure and urban development touching USD 100 trillion[22], the need for proactive action is more necessary than ever. The focus must shift toward investing in infrastructure that fosters a just, nature-positive economic transformation. For this to effectively come into practice, decisions around infrastructure investments need be informed by robust environmental data and evidence.

Evidence-based Impact Assessments

With the shifting trends toward integrating sustainability, financial institutions and other lenders are increasingly bound by the environmental and social safeguards to make responsible infrastructure investment decisions. These decisions rely on evidence-based assessments such as the Environmental and Social Impact Assessment (ESIA). These assessments play a pivotal role in identifying and addressing the impacts of a proposed project and guide investment-level decision-making. Through this process, the principles of the mitigation hierarchy[23] are integrated into the financing and planning stages where they have the potential to have the greatest impact[24].

The need for high-quality data

High-quality biodiversity data is crucial for ensuring that the impacts are reported accurately in the ESIAs. However, despite their important role in informing investment-level decision-making, in some jurisdictions the role of these assessments is a mere rubber-stamping exercise rather than a key tool for environmental protection. This is particularly the case in jurisdictions that lack robust environmental laws and their enforcement. Impact Assessments may not always be based on primary sources of data and information,

20 unfccc.int/news/what-is-the-triple-planetary-crisis
21 wedocs.unep.org/bitstream/handle/20.500.11822/25763/SDG11_Brief.pdf?sequence=1&isAllowed=y&fbclid=IwAR0hzCXMJNCO7VJJGHXs5wNu3HJAgI8q4dSLTJ2LMYe34BKybRUPRPD5H-E
22 outlook.gihub.org
23 thebiodiversityconsultancy.com/services/site-level-advisory/mitigation-hierarchy
24 developmentcorridors.org/wp-content/uploads/2023/06/development-coridors-final-v4-1371-1-3_compressed-1_compressed.pdf

may not consider international standards and may be conducted by inexperienced consultants. They may be written to cater to different political and financial interests, without truly identifying the environmental and social impacts.

For example, an Impact Assessment prepared in line with prevailing legal requirements in Brazil projected no net increase in deforestation for a 900-kilometre highway project through the Amazon Forest[25], enabling the investment decision to proceed without significant modifications to the project design. Conversely, an independent data-intensive assessment of potential risks demonstrated that, by 2050, the project could contribute to 39 million hectares of additional forest loss, an area larger than Japan. This example underlines the critical role of good-quality data in investment decision-making.

Similarly, an Impact Assessment – also prepared in line with prevailing legal requirements – for an industrial zone project in the Himalayan range in Pakistan reported that the project would not affect the natural habitat of tigers, an endangered species. This led to the finalisation of contractual arrangements and finance for the project. However, the analysis was fundamentally flawed, as tigers are not found in Pakistan.

Biodiversity datasets and assessment tools

Target 14 of the Kunming-Montreal Global Biodiversity Framework calls on countries to integrate biodiversity into policies and practices, including ESIAs. To achieve this target and ensure that these processes steer sustainable financial decision-making, governments and financial institutions can leverage a range of tools and frameworks designed for the purpose, which can be used to complement the gaps in the field-level survey data.

Data tools such as the Integrated Biodiversity Assessment Tool (IBAT)[26] and the ENCORE tool[27] contribute to a more accurate due diligence process for

> *The focus must shift toward investing in infrastructure that fosters a just, nature-positive economic transformation. For this to effectively come into practice, decisions around infrastructure investments need be informed by robust environmental data and evidence.*

ESIAs by providing access to location-specific data and allowing the users to screen for nature-related impacts and dependencies. The secondary data and information accessible through these tools are imperative for the desk-based scoping phase of an ESIA. The IBAT also allows for reporting against the International Finance Commission Performance Standard 6 (IFC PS6), an international good practice standard for incorporating biodiversity considerations into projects. The IFC PS6 requires developers to assess and report the potential environmental and social risks stemming from the project. Similarly, frameworks such as the Partnership for Biodiversity Accounting Financials (PBAF) Standard and the Taskforce for Nature-related Financial Disclosures (TNFD) allow financial institutions to better understand, assess and report on their impacts and dependencies, allowing them to make informed decisions about their infrastructure investments.

Concluding remarks

Conventional Impact Assessments, that are not based on primary data, information and evidence, may underestimate negative impacts, leading to habitat loss, species decline and long-term adverse consequences on climate, nature and people. These discrepancies underscore the importance of robust data in Impact Assessments which can drive sustainable financing decisions and steer countries towards the achievement of Target 14.

25 www.independent.co.uk/news/brazil-ap-amazon-rainforest-rio-de-janeiro-jair-bolsonaro-b2134463.html
26 www.ibat-alliance.org
27 www.encorenature.org/en

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Using community knowledge to navigate uncertainty in sustainable finance

Introduction

In May 2020, during legally permitted mining operations, Rio Tinto destroyed an ancient cave at Juukan Gorge in the Pilbara region of Western Australia. The demolition occurred despite a seven-year campaign by the Puutu Kunti Kurrama and Pinikura (PKKP) Aboriginal Corporation to protect the site.

Beyond the loss of spiritual artefacts and the distress caused to the PKKP, the event triggered a public and investor backlash, leading to the resignation of the chief executive and two deputies. Five years later, Rio Tinto continues to grapple with the reputational damage, with a bipartisan parliamentary inquiry concluding that the company 'knew the value of what they were destroying but blew it up anyway'[28].

How could such a misjudgement occur when the company seemingly had access to all the relevant environmental data and legal permissions?

Sustainable finance and the need for data

The Juukan Gorge incident might be said to reflect a broader issue in sustainable finance: that as the market grows and new actors emerge, there is a danger of assuming more data automatically leads to better decisions. And relatedly, a danger that financial institutions and major corporates become paralysed in the absence of perfect data[29]. For example, in response to growing market demand, initiatives such as the Taskforce for Nature-related Financial Disclosures (TNFD) have prioritised 'upgrading market access to data'[30]. Similarly, institutional investors frequently call for more data to assess environmental, social and governance (ESG) risks[31].

The role of community knowledge

While scientific data can be transformative in the right context, it is only useful to the extent that it is relevant to the risks. And, crucially, considering nature's complexity, investors will need to become more adept at navigating uncertainty. Indigenous Peoples and Local Community (IPLC) knowledge is often vital for gaining some assuredness in decision-making.

International frameworks acknowledge this. For instance, embedded in the Equator Principles is the principle of Free, Prior and Informed Consent (FPIC), and community consultation is a fundamental requirement of the IFC Performance Standards. Yet, despite these

28 The bipartisan Parliamentary Inquiry published its findings in a report titled 'Never Again'. Paragraphs 1.12 to 1.18 state that there were 'severe deficiencies in the company's heritage management practices, internal communication protocols and relationship practices with the PKKP' and specifically 'this includes failures to properly consult with the PKKP Traditional Owners'. IPLCs themselves have been vocal with their frustrations, www.youtube.com/watch?v=s3tVznXBkUs
29 SBTN (2024) Leading the way: Insights from SBTN's corporate target validation pilot.
30 TNFD (2024) Enhancing market access to global nature data.
31 BNP Paribus (2024) Statement from the private financial sector to ESG data providers: The urgent need for better ocean-related data to make informed investment decisions.

requirements, examples from around the world demonstrate how they are still often not implemented meaningfully [32] [33].

A key reason for this is that the knowledge of IPLC is often hard to quantify. Their insights are rooted in generational experience, oral tradition and reciprocal relationships with the environment, and these do not fit easily with conventional financial logic which, according to IPBES[34], tend to privilege instrumental values of nature (which can be monetised) over intrinsic or relational ones.

> *As sustainable finance grows, more still needs to be done to bridge the gap between rigid, data-driven risk frameworks and adaptive, participatory models of decision-making that account for the complexities of knowledge, power and governance.*

This distinction in values is mirrored in economics in the difference between risk and uncertainty[35]. Risk is measurable, quantifiable and probabilistic. Uncertainty, on the other hand, is systemic, non-linear and therefore unmeasurable. In such contexts, more data may reduce some risks, but it cannot resolve all of the deeper uncertainties that many sustainability challenges involve[36].

The importance of community knowledge in ecosystem and biodiversity protection

IPLC knowledge should therefore not be treated as a supplement to science, but as a parallel system for interpreting and managing complex environments. Crucially, it is not just a technical process, but a social negotiation. It requires long-term, culturally appropriate engagement and trust-building approaches that recognise the heterogenous hierarchies of different communities.

When approached with openness, IPLC knowledge can reshape how projects understand and manage uncertainty. A mining project in Southern Africa illustrates this well. Pre-construction stakeholder consultations were used to understand local land use and livelihoods, and characterise critical ecosystem services, such as traditional water management strategies used during droughts. This built trust and enabled site selection and design to avoid impacts on, and maintain access to, sacred forest areas, protecting biodiversity and continuing traditional livelihoods in the process.

A similar example comes from a major bridge project in Southeast Asia. Environmental screening identified several threatened fish species in local rivers. However, pressures from authorities and lenders meant there was little time for complex, multi-season biodiversity surveys. Instead, interviews with local fishing communities provided critical insight, as centuries of knowledge pinpointed the fish breeding season (May to October) and identified 'deep pools' that were crucial for reproduction. By avoiding construction in those areas during breeding periods, the first step of the mitigation hierarchy was implemented effectively in absence of time-consuming data collection.

32 See World Bank (2018) Implementation Completion and Results Report for the Bujagali Hydropower Project (Uganda).
33 See C, Bidaud, et al. (2017) The Sweet and the Bitter: Intertwined Positive and Negative Social Impacts of a Biodiversity Offset for the Ambatovy Mining Project (Madagascar) example.
34 IPBES (2022) Summary for policymakers of the methodological assessment of the diverse values and valuation of nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. U. Pascual *et al.* IPBES secretariat, Bonn, Germany. doi.org/10.5281/zenodo.6522392
35 Frank Knight (1921) Risk Uncertainty and Profit.
36 Ecological tipping points are often cited as a clear example of uncertainty in the natural world. They are to critical thresholds in environmental systems, beyond which small changes can lead to abrupt and often irreversible shifts in ecosystem structure or function. These tipping points are a source of deep uncertainty because they are difficult to predict, nonlinear in nature, and may only be observable after they occur. Unlike conventional risk, which can be measured and modelled probabilistically, tipping points are inherently uncertain and challenging to manage through a standard data-driven approach.

Closing remarks

These examples underscore the importance of IPLC knowledge, which, ultimately, is not a barrier to sustainable finance, but an inherent part of its success. Calling for the integration of IPLC knowledge into nature-based decision-making is nothing new. But as sustainable finance grows, more still needs to be done to bridge the gap between rigid, data-driven risk frameworks and adaptive, participatory models of decision-making that account for the complexities of knowledge, power and governance. Without this, investors and corporations will remain ill-equipped to address the ecological and social uncertainties of our time, as the PKKP in Western Australia know all too well.

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and
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Valuing ecosystem services: challenges and recommendations from a project finance perspective

Introduction

Integrating ecosystem services into financial planning can unlock cost savings, attract funding and enhance resilience. To paraphrase the Capitals Coalition, it is a way to 'redefine value to transform decision-making'[37]. Yet valuing ecosystem services poses a range of challenges. Beyond the choice of method, it is important to be aware of the limits of the exercise, and to know how to avoid pitfalls, so as to make informed financial decisions and not overshadow ecosystem-based risks. This article highlights three key challenges.

Modelling, data and valuation limits

While integrating nature into decision-making, it is crucial to acknowledge several fundamental limitations. The bio-physical conditions and processes through which natural ecosystems can provide services to humans are not fully understood and often trigger complex and non-linear behaviours[38].

Ecosystem services possess various types of value: economic, socio-cultural, ecological, etc. Their evaluation is challenging, particularly when dealing with intangible services such as cultural aesthetics, which are complex to quantify in economic terms[39]. Furthermore, confusing the service with its benefits or focusing solely on its economic value can oversimplify the assessment process, which may lead to the exclusion of critical aspects of ecosystem functionality[40].

The bio-physical conditions and processes through which natural ecosystems can provide services to humans are not fully understood and often trigger complex and non-linear behaviours

Current valuation techniques are unable to fully capture the nuances and intricacies of ecosystem services and the interconnections between them. In addition, obtaining appropriate datasets to apply these techniques can be quite difficult.

Multi-scope and multi-scale analysis needs

Secondly, a recurrent bias arises from focusing on only a few ecosystem services or aspects, overlooking the rest. For example, a carbon sequestration valuation focus could lead to investing in planting large areas of fast-growing eucalyptus trees[41], which could in fact be

37 capitalscoalition.org
38 Chee, Y.E. (2004) An ecological perspective on the valuation of ecosystem services. *Biological Conservation, 120(4),* 549-565.
39 Small, N., Munday, M., & Durance, I. (2017). The challenge of valuing ecosystem services that have no material benefits. Global environmental change, 44, 57-67.
40 Kumar, P. (2012). *The economics of ecosystems and biodiversity: ecological and economic foundations*. Routledge.
41 Behera, L., Ray, L. I., Ranjan Nayak, M. & Mehta, A. (2020). Carbon sequestration potential of Eucalyptus spp.: A review. *E-Planet*, *18*(1), 79-84.

detrimental to other ecosystem services (soil fertility, genetic diversity, etc.)[42], and to the biodiversity, health and overall balance of the whole ecosystem. A narrow focus can lead to solutions that are not holistic and may have unintended consequences.

In the same way, ecosystem services operate at different scales, from very local services like pollination to global services such as climate regulation. Valuation methods must be adapted to the appropriate scale to accurately capture the benefits of ecosystem services. For instance, pollination is best assessed at a scale of several hundred metres to one kilometre while water-related services should be assessed at the scale of the catchment area to be relevant. Actions affecting global climate regulation will, however, impact people worldwide. The failure to consider the appropriate scale can lead to incorrect valuations[43] and unsustainable investment decisions.

Sector optimisation danger

Thirdly, focusing on optimising the value of an ecosystem service for a given activity or sector can lead to neglecting its long-term sustainability and resilience by prioritising short-term gains over long-term ecosystem health. For example, centuries of overfishing of algae-grazing species in the coral reefs of Jamaica led to the decline of the local fish community, which in turn led to the collapse of fisheries. Changes in the species and abundance of the population living in the reefs have the secondary effect of degrading the health of the coral reef, leading to the alteration of other ecosystem services such as flood protection or recreation[44]. This has had a considerable impact on related sectors such as tourism and on coastal residents and industries, which have become more vulnerable to flooding, as well on investors. Assessing the value and range of ecosystem services could have raised awareness within the entire community about their importance. This, in turn, could have motivated them to implement sufficiently strong fishing quotas to preserve its health as to ensure the continued provision of the multiple services it produces.

Indeed, ecosystem services are mostly shared among multiple stakeholders within a territory, each with different values and priorities[45]. Optimisation based on a single sector or stakeholder can overlook the broader value of the ecosystem service which must be considered at the scale of the territory to ensure its long-term sustainability and the continuation of most activities. For instance, the provisioning of timber by a company in a forest uphill can alter soil erosion and flood control, dramatically increasing the risks of damage to assets downhill. Direct and indirect dependencies can only be assessed and understood by looking at the broader context. Notably, the relationship between sectors impacting ecosystems versus those only using these services is essential.

Conclusion

Valuing ecosystem services is a daunting task. Current methods – whether monetary or non-monetary – are both limited and difficult to implement, and finding the right scope and data requires expertise. Valuation requires a systemic, territory-based approach to identify shared challenges. The Capitals Coalition Beta Framework supports this by promoting integrated, context-sensitive and stakeholder-informed assessments of ecosystem services, rather than isolated or fragmented evaluations. In short, valuing ecosystem services requires the careful consideration of the long-term value of projects that are both anchored in and instrumental to territorial resilience.

42 Belachew, K. G. & Minale, W. K. (2025). Socioeconomic and Environmental Impacts of Eucalyptus Plantations in Ethiopia: An Evaluation of Benefits, Challenges, and Sustainable Practices. *The Scientific World Journal, 2025(1)*, 1780293.
43 Locatelli B., Vallet A., Fedele G., Rapidel B. (2017). Analyzing ecosystem services to manage territories. In: Living territories to transform the world, Caron P., Valette E., Wassenaar T., Coppens d'Eeckenbrugge G., Papazian V. (eds.), Cirad-Quae, pp.106-110.
44 Draud, M. J., & Itzkowitz, M. (2018). Have the algae-grazing fish in the back reefs of Jamaica and Grand Cayman changed in size? A view across 36 years. *Open Journal of Marine Science, 8(2),* 300-313.
45 Locatelli B., Vallet A., Fedele G., Rapidel B. (2017). Analyzing ecosystem services to manage territories. In: Living territories to transform the world, Caron P., Valette E., Wassenaar T., Coppens d'Eeckenbrugge G., Papazian V. (eds.), Cirad-Quae, pp.106-110.

For an investor hoping to contribute to the protection of nature, there is little value in a standardised solution. Rather, a systemic lens needs to be applied, first interrogating the contextual constraints to determine where interventions will be most effective.

Hannah Young

Summary

A recent report by PwC[46] revealed that 55% of global GDP – equivalent to about US$58 trillion – is moderately or highly dependent on nature and is therefore exposed to nature loss. Biodiversity loss and ecosystem collapse was ranked within the top three risks in the 2024 Global Risks Report[47]. Despite this, global biodiversity finance makes up roughly 0.1% of global GDP[48].

The Global Biodiversity Framework (GBF) estimates that $700 billion a year is needed between now and 2030 to close this biodiversity finance gap. As Irina Likhachova highlights in her article, while the GBF calls on governments to repurpose $500 billion per year in harmful subsidies, the remaining $200 billion a year will have to be mobilised from all sources – public, private, domestic and international; and private sector and private capital will have to play a central role.

Different financing instruments already exist in the market. Hannah Young elaborates on some of these in her article – namely carbon credits, taxation incentives and export- or finance-linked pricing mechanisms. In addition, innovative, biodiversity-focused financing instruments are also appearing. Irina highlights a sustainability-linked bond to promote the bioeconomy and regeneration of the Amazon, and the world's first biodiversity bond in Colombia.

Biodiversity-focused blended finance products are showcased in articles by Gabriela Weber de Morais *et al*. (see their article on the Living Amazon Mechanism) and Nicole Pasricha and Catalina Mejia (read their article to learn more about the Sunbird 2X facility). Another example is that of the world's largest debt-for-climate conversion in history to protect the Galapagos Islands in Ecuador. Climate Fund Managers B.V. was one of the key advisers in the transaction, led on the ESG and financial structuring, and invested $2 million in early-stage development capital via its Climate Investor Two (CI2) Fund, an innovative blended finance vehicle focused on oceans, water and sanitation. CI2, through a complementary structure, is expected to avail an additional $85 million over the coming years on conservation efforts in the Galapagos region.

The insurance market is also able to offer a range of products which not only act as financial safeguards triggered in the event of a loss, but as strategic instruments that unlock capital. Alistair Donohew and colleagues illustrate how insurance mechanisms, from parametric climate policies to performance guarantees, can protect ecosystems and incentivise long-term investment. The case of the Restoration Insurance Service Company (RISCO) in the Philippines illustrates how insurance can align financial returns with ecosystem protection.

Allocating financial resources is not the only challenge; another is defining eligibility. As explained by Irina Likhachova, this prompted the IFC to produce the first-ever Biodiversity Finance Reference Guide in 2022. This provides an indicative list of private sector biodiversity-related investment activities to demonstrate eligible use of proceeds that contribute to Sustainable Development Goals 14 and 15. Complementing this guide, IFC also produced a supplementary tool to help investors measure the impact of investments that seek to protect, maintain or enhance biodiversity and ecosystem services to transition to nature-smart economies.

Effective use of financial resources also requires sound decision-making which is based on scientific evidence and traditional knowledge and practices, as explained in the articles by Rob Selwyn and Jason Hartley, as well as Hamza Butt. While robust datasets and tools like the Integrated Biodiversity Assessment Tool (IBAT) are essential, they must be complemented by Indigenous and local community insights and lifelong learning processes to facilitate equitable,

46 PwC (2023). Managing nature risks: From understanding to action.
47 WEF (2024). The Global Risks Report 2024, 19th edition.
48 OECD (2020). A Comprehensive Overview of Global Biodiversity Finance.

participatory and integrated decision-making. This is further expounded by Julie Rode and Paul LeFebvre in their analysis of ecosystem service valuation and remind us of the dangers of reductionist thinking. Valuing nature requires a holistic, territory-based approach that accounts for interdependencies and long-term resilience.

Ultimately, a whole-of-government and a whole-of-society approach is needed to halt and reverse biodiversity loss. To this end, mobilising and committing capital for biodiversity protection and restoration will play an increasingly central role.

Claire Cummins, May 2025

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Biodiversity and Nature Finance

This fourth volume of the Sustainable Finance Insight Journal provides a series of thought pieces on biodiversity and nature finance. The Kunming-Montreal Global Biodiversity Framework (GBF) represents a global strategy for reversing biodiversity loss and marks a transformative shift in global biodiversity finance (UNEP FI, March 2025). The GBF recognises the critical need to leverage private finance, promote blended finance and encourage the private sector to invest in biodiversity (Target 19). In this IEMA Insight Journal, the Guest Editor, Claire Cummins, has drawn together a series of articles that touch on this and other important elements of the GBF, from practical examples of innovative financing mechanisms to an exploration of the tools, guidance and frameworks for integrated investment decision-making.

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CFM is a Dutch investment manager using blended finance to catalyse solutions for climate change mitigation and adaptation in emerging economies in Africa, Asia and Latin America. In her role as Head of Impact & ESG, Claire has global responsibility for defining and driving the strategy and standards for sustainable investment in order to deliver meaningful and positive impact at the same time as minimising and mitigating risks in accordance with international standards.

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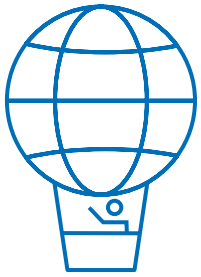

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