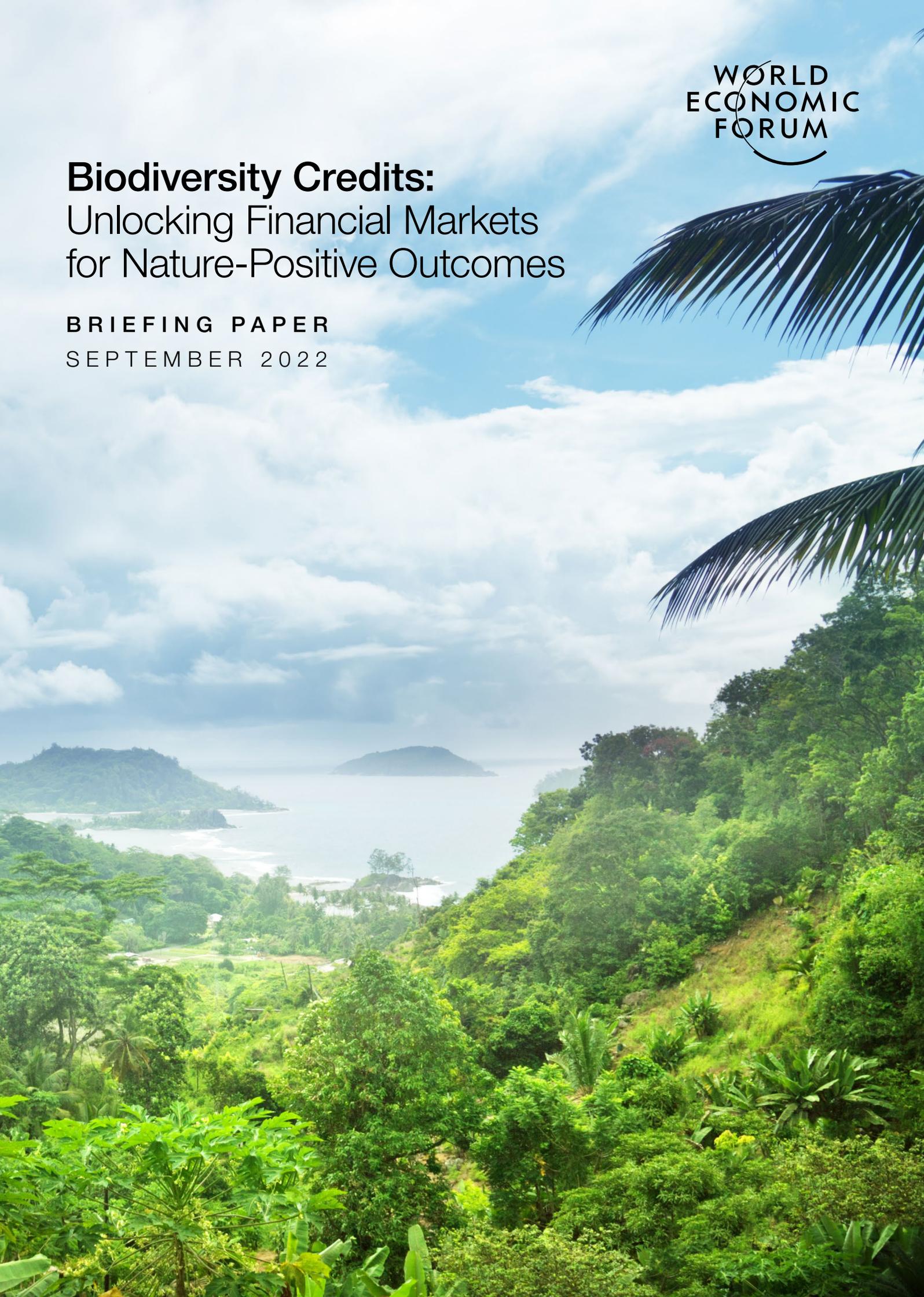


Biodiversity Credits: Unlocking Financial Markets for Nature-Positive Outcomes

BRIEFING PAPER
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Introduction

Human activity is eroding the world's ecological foundations. Over 1 million species are at risk of extinction,¹ one third of the world's topsoil has been degraded, forest fires are now more extensive and destructive than at any time in the past 10,000 years² and 50% of the world's coral reefs are destroyed. With more than half the world's GDP moderately or highly dependent on nature and the services it provides,³ this loss of biodiversity integrity and functionality is increasingly undermining our economy, development, health and social stability.

Estimates for the amount of funding needed to halt biodiversity loss range between \$722 billion and \$967 billion per year.⁴ In 2019, however, the total global flow of funds towards biodiversity protection amounted to approximately \$124-143 billion annually.⁵ This biodiversity financing gap cannot be filled by public funds alone. Businesses have a key role to play, requiring a large-scale shift away from a generally extractive business-as-usual way of operating to one that is planet- and people-positive.

En route to adopting regenerative business practices, there is an opportunity to protect critical ecosystems that businesses and the world depend on from irreversible tipping points. One such opportunity comes in the form of biodiversity credits. And this opportunity can only be unlocked

with the fair and just engagement of the multiple stewards of biodiversity, in particular Indigenous peoples and local communities (IPLC), including farmers, fishers and grazers.

The World Economic Forum's Nature Action Agenda is steering a global initiative called [Financing for Nature](#) that explores the potential for biodiversity credits markets to unlock financing for nature-positive outcomes.

The key objectives of this initiative are to:

- Understand and build awareness of supply and demand dynamics for voluntary biodiversity credits markets
- Contribute to the development of a set of core integrity and governance principles for voluntary biodiversity credits markets
- Iterate and learn from early-stage voluntary biodiversity credits pilot transactions

This briefing paper encapsulates the core thinking, issues and questions surrounding the credible and inclusive launch of biodiversity credits markets. It presents four case studies on new biodiversity credits products, from New Zealand, Colombia and Australia, plus one with global reach.

1

State of play: biodiversity credits markets

“ The purpose of this initiative is to design biodiversity credits that are part of a company’s nature-positive journey – an investment in nature’s recovery, rather than an offset for damage

The current biodiversity credits market has originated from two decades of practice across a range of different approaches. One lesson learned from this experimentation is the essential need for clarity on the difference between biodiversity offsets and biodiversity credits.

Biodiversity offsets are designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.⁶ The need for equivalent ecosystems helps explain why biodiversity offsetting schemes are almost entirely local.

Biodiversity credits are an economic instrument that can be used to finance actions that result in measurable positive outcomes for biodiversity (e.g.

species, ecosystems, natural habitats) through the creation and sale of biodiversity units.⁷

While biodiversity offsets and credits may look similar in design, what distinguishes them from each other is the *intention* of the purchase and the claims that are made around that purchase. The purpose of the World Economic Forum’s initiative is to design biodiversity credits that are part of a company’s nature-positive journey – an investment in nature’s recovery, rather than an offset for damage.

Since offsets require “like-for-like” and biodiversity is not fungible at the global scale, we suggest that biodiversity credits serve as an additional or parallel step in the mitigation hierarchy, articulated by the Science Based Targets Network (SBTN) as “Avoid, Reduce, Restore & Regenerate, Transform”.

1.1 Business case for biodiversity credits

Biodiversity presents both risks and opportunities for businesses. On the risks, businesses are under increasing pressure to assess and disclose impacts and dependencies on nature and the associated financial risks in line with guidance from the

Taskforce on Nature-related Financial Disclosures (TNFD). Importantly the financial risks are not confined to supply chains and business operations but also include broad systemic risks associated with the decline and degradation of nature (see Figure 1).

FIGURE 1 Types of systemic nature-related risks identified by TNFD

Systemic risks		
Ecosystem collapse	Aggregated risks	Contagion
Risk that a critical natural system no longer functions e.g. tipping points are reached and the natural ecosystem collapses resulting in wholesale geographic or sectoral losses (summing of physical risks)	Linked to fundamental impacts of nature loss to levels of transition and physical risk across one or more sectors in a portfolio (financial or corporate)	Risk that financial difficulties at one or more financial institutions linked to failure to account for exposure to nature-related risks spill over to the financial system as a whole

However, it is not only about risks. Moving from a business-as-usual pathway to a nature-positive economic model can create over \$10.1 trillion of business opportunities.⁸ This is seen in increased revenues, higher valuations, lower cost to capital, better employee retention and improved customer loyalty.

Nature positive is a proposed societal goal that calls for a global effort to halt and reverse nature loss, measured from a baseline of 2020, so that by 2030 nature is visibly and measurably on the path of recovery.⁹

In its discussion of nature positive, the SBTN emphasizes, “We all must think about and judge our success at a scale that goes beyond the individual actor: progress should not be judged only by a

company’s ability to manage its impact, but also by the health of the ecosystems in which its operations are embedded.”¹⁰

The mitigation hierarchy requires that corporates and other organizations demonstrate progress against two goals:

- They take steps to “avoid, reduce, restore & regenerate and transform”, in relation to the negative impacts on biodiversity of their operations and value chains
- They deliver outcomes consistent with the wider goal of achieving a nature-positive future, beyond their value chains¹¹ (see Figure 2)



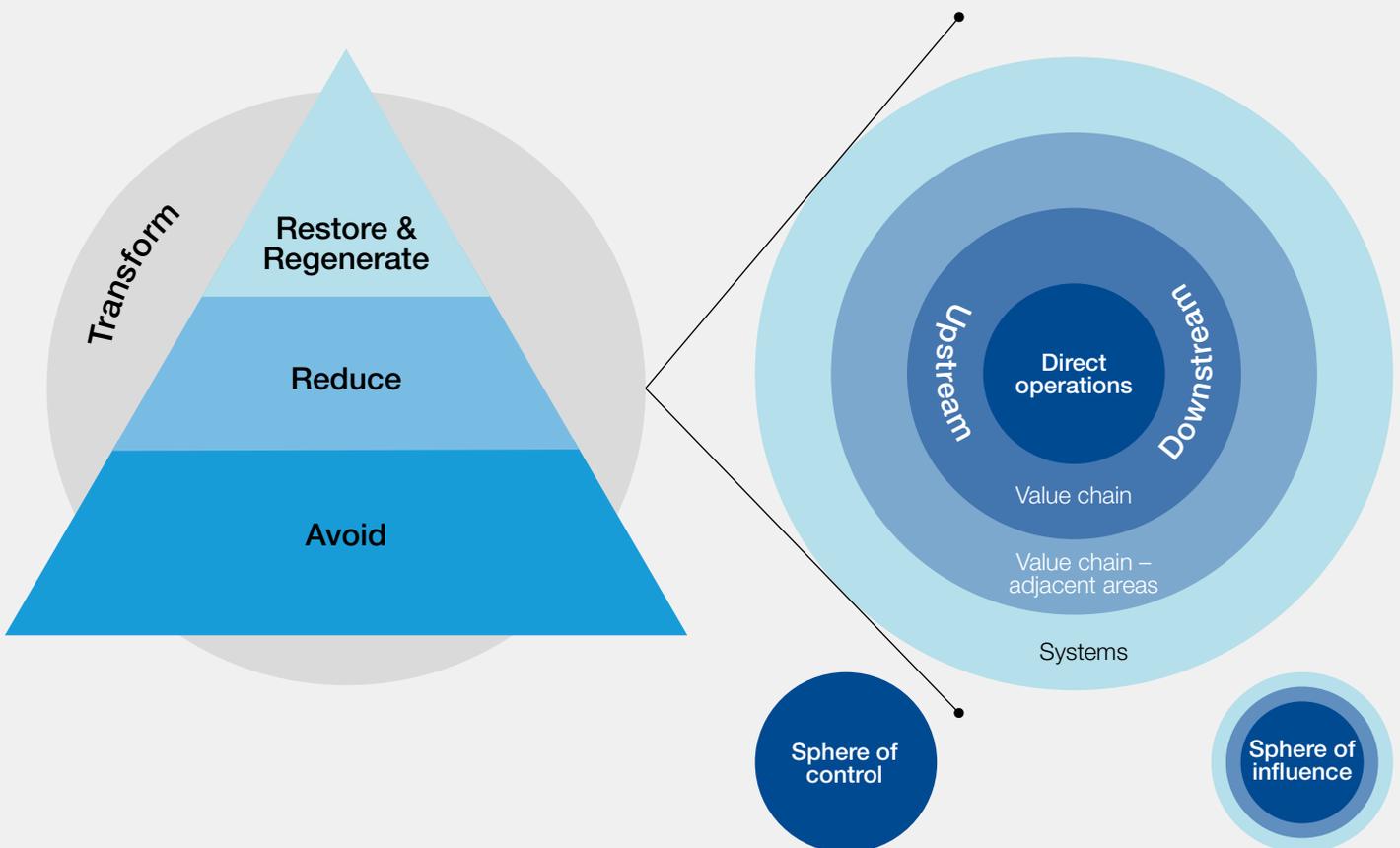
We all must think about and judge our success at a scale that goes beyond the individual actor: progress should not be judged only by a company’s ability to manage its impact, but also by the health of the ecosystems in which its operations are embedded

Science Based Targets Network

The emergence of voluntary biodiversity credits markets represents a significant opportunity for the mitigation of systemic nature-related risks by

financing measurable and verifiable biodiversity outcomes through the protection and regeneration of nature.

FIGURE 2 SBTN’s articulation of the nature mitigation hierarchy



Sources: SBTN¹² and Pollination

2

Biodiversity credits in practice

There are a number of initiatives underway to design biodiversity credits and test the voluntary market for these credits. In this section we present four case studies:

1. **New Zealand:** “sustainable development units” purchased by a supply chain business to fund verified biodiversity outcomes in a mountain sanctuary – not considered as offsets.
2. **Colombia:** “voluntary biodiversity credits” sold by the Spectacled Bear Habitat Bank to conserve the Bosque de Niebla cloud forest, home to a number of endangered species.
3. **Australia:** sale of EcoAustralia™ credits, each of which combines one “Australian biodiversity unit” (ABU) with one carbon credits (issued by Gold Standard). Each ABU represents 1.5 square metres of habitat protection.
4. **Global:** a working group convened by the Wallacea Trust has developed an open-source biodiversity credit methodology that applies to all ecoregions worldwide. It specifies a basket of at least five metrics, awarding one credit per 1% of measurable uplift or avoided loss per hectare.



CASE STUDY 1

Sustainable development units programme, New Zealand



↑ The Milford Sound fjord, New Zealand, Getty Images

In July 2022, a new biodiversity credits product was launched in New Zealand.¹³ The launch coincided with the first transaction between Sanctuary Mountain Maungatautari (the seller) and Profile Group Limited, parent company to several supply chain businesses, (the buyer). This transaction was facilitated by Ekos through its new “sustainable development units programme”, developed with funding support from Trust Waikato, the Wel Energy Trust and the D.V. Bryant Trust.

The “sustainable development units” were issued for short-term biodiversity outcomes – such as keeping pest and weed numbers low. Ekos has publicly stated: “These are not offsets. They are just a disciplined way of causing good by purchasing measured, reported and verified outcomes, transparently priced at cost”.

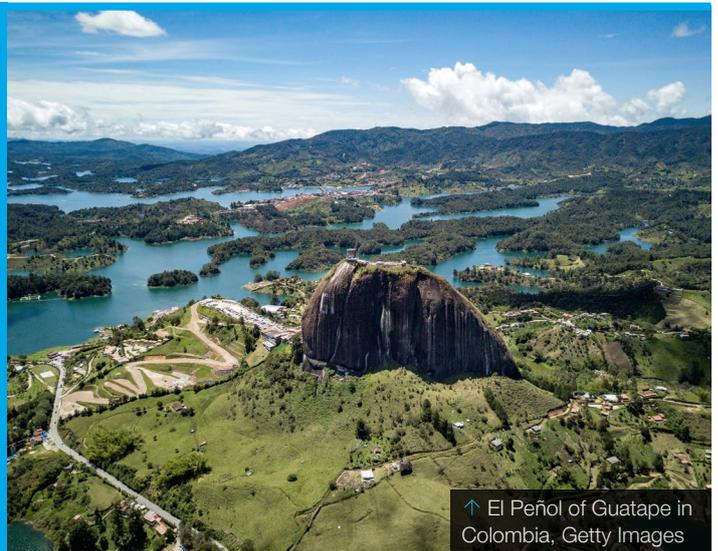
The integrity of this programme is based on an environmental markets quality system, including a standard and methodologies developed by Ekos and validated by environmental auditing firm McHugh & Shaw Ltd. The proceeds from the sale of the biodiversity units will fund the conservation management of 83 hectares at Sanctuary Mountain Maungatautari for the 2022 financial year.

About 15% of the project’s annual operating budget typically comes from the local council, while the rest must be sourced through grants and sponsorship. Since COVID-19, the governmental and philanthropic donor funds have significantly reduced. But there is huge potential to tap significant amounts of money in the private sector for restoring the planetary balance.



CASE STUDY 2

Voluntary biodiversity credits, Colombia



↑ El Peñol of Guatapé in Colombia, Getty Images

In May 2022, a new biodiversity credits product was launched in Colombia.¹⁴ The product was created by ClimateTrade, a blockchain-based climate marketplace, and Terrasos, a Latin American biodiversity conservation and habitat banking organization.

The first project to issue these “voluntary biodiversity credits” (VBCs) is the Bosque de Niebla-El Globo Habitat Bank (also called the Spectacled Bear Habitat Bank) which is dedicated to the conservation of remaining native species in the High Andes.

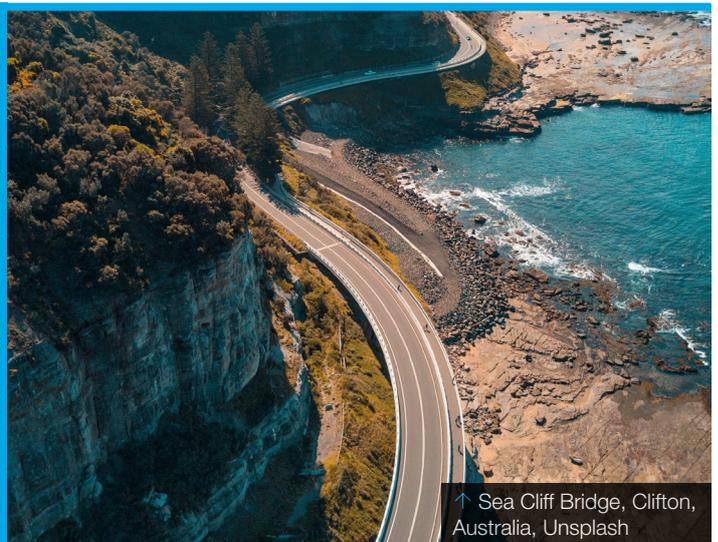
The Bosque de Niebla is a cloud forest that is home to a number of threatened species, including the spectacled bear, the yellow-eared parrot and the black-and-chestnut eagle. Each VBC from the project – priced at \$30 – corresponds to 30 years of conservation and/or restoration of 10 square metres of the Bosque de Niebla forest.

According to ClimateTrade, purchasing VBCs “is a way [for companies] to give back to nature and ensure positive impacts”, by aligning their operations with biodiversity and ecosystem conservation.



CASE STUDY 3

Australian biodiversity units, Australia



↑ Sea Cliff Bridge, Clifton, Australia, Unsplash

In February 2018, the Australian branch of carbon project developer South Pole launched a stapled carbon and biodiversity product for voluntary buyers, called an EcoAustralia™ credit.¹⁵ Each EcoAustralia™ credit combines one “Australian biodiversity unit” (ABU) with one carbon credit (issued by Gold Standard). Each ABU represents 1.5 square metres of habitat protection.

By leveraging state legislative schemes, each ABU ensures that contributions to conservation are robust, measurable and verified, drawing on accepted scientific practices to evaluate habitats and measure biodiversity. Purchasers of EcoAustralia™ credits support Australian biodiversity conservation projects voluntarily (i.e. there is no corresponding vegetation removal to offset).

An example of a biodiversity project for which ABUs have been issued is the Mount Sandy project, which is a rare pocket of

intact native vegetation in South Australia’s Coorong region on the traditional lands of the Ngarrindjeri people. Project management is made possible through close collaboration with the nearby Raukkan Aboriginal Community and local Ngarrindjeri Elders, Clyde and Rose Rigney, who oversee vegetation management and conservation at the site.

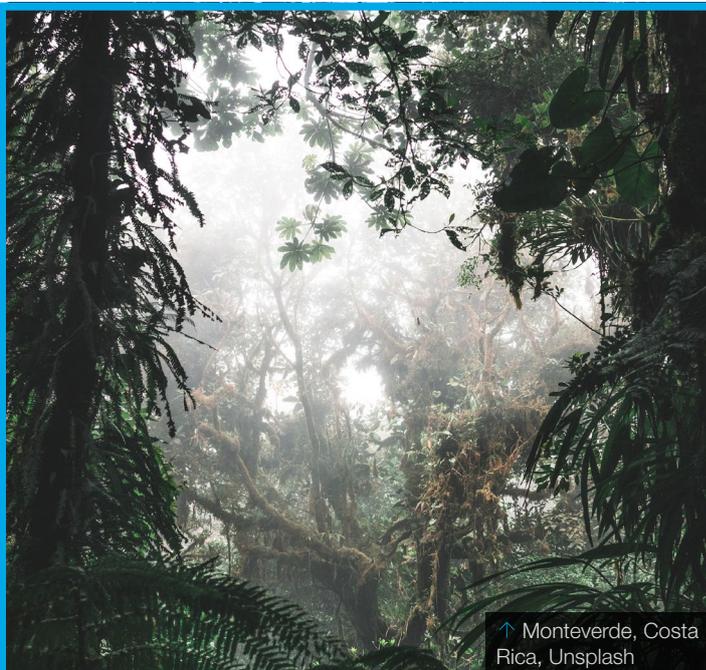
Purchasers of EcoAustralia™ credits include Porsche Australia,¹⁶ the University of Melbourne¹⁷ and CareSuper.¹⁸





CASE STUDY 4

Wallacea Trust biodiversity credits methodology



↑ Monteverde, Costa Rica, Unsplash

In 2021, the Wallacea Trust¹⁹ convened a 60+ strong working group comprising financial institutions (e.g. World Bank, International Finance Corporation, International Monetary Fund), corporates with nature-positive targets (e.g. GlaxoSmithKline, Anglo-American, Sainsburys), natural capital consultancies (e.g. Naturemetrics, Space Intelligence, Arup, Nature Positive) and academic experts. The working group developed an open-source biodiversity credit methodology that applies in all ecoregions and habitats worldwide.²⁰

Biodiversity credits are based on a basket of at least five metrics chosen to represent the conservation objectives within the ecoregion for the habitats included in the application site. A biodiversity credit is defined as a 1% uplift or avoided loss in the median value of the basket of metrics per hectare.

Each of the metrics selected covers an entire taxon (e.g. species, family, class of animal or plant etc.) and measures

changes in species richness and importance, as well as the abundance of those species as measured over time.

Proposed projects, including their choice of metrics, are independently verified and the biodiversity credits issued by an internationally recognized body (e.g. Plan Vivo).

Avoided loss projects using this methodology are underway in the biodiversity-rich grasslands of Transylvania to protect against conversion to intensive agriculture, and the cloud forests of Honduras to protect against continued deforestation. Uplift projects are underway as part of mangrove reforestation efforts in several Central American countries with buyers including NatWest Group. Additional projects are being developed in UK, Turkey, Romania, Vietnam, Ecuador, Honduras, Mexico, Sri Lanka, Australia and Fiji.



↑ Cluj County, Romania, Unsplash

Conditions for success: integrity and inclusion

3.1 Integrity and strong governance are non-negotiable

While there is rapid evolution in this space, significant work still needs to be done to ensure that biodiversity credits markets deliver just and equitable benefits for the stewards of biodiversity. To do so, the principles of integrity, transparency and strong governance must be affirmed and enforced. This requires addressing the issues of both credit design and market architecture.

Most of the biodiversity hotspots are in the Global South. A key tenet of a regenerative economy is a market that rewards the stewards of natural capital stocks that support the uninterrupted supply of ecosystem services. For the first time ever, this

approach can facilitate a wealth transfer from the Global North to the Global South, and from urban to rural areas. But it requires dialogue across stakeholders, upholding the rights of Indigenous peoples and local communities (IPLCs), and investing in long-term outcomes.

There is an unprecedented opportunity today, with the lowering cost of technology (e.g. through geospatial, eDNA and blockchain innovations), to bring greater transparency to the disbursement of funds to local beneficiaries, as well as to support the transition costs towards restoration and regeneration.

3.2 Include all actors and market participants

As voluntary biodiversity credits markets take shape, a range of different participants will have a role to play in helping these markets scale up.

- **Indigenous peoples and local communities (IPLCs)** – Biodiversity projects are necessarily location-based and must therefore deliver real value to IPLCs through sharing the benefits. IPLCs may also choose to be project proponents.
- **Private sector** – Investors and corporates can provide upfront finance to proponents of biodiversity projects in exchange for equity or long-term offtake of biodiversity credits. Corporates can purchase biodiversity credits to demonstrate their commitment to mitigating

nature-related risks. Business innovators can also provide technology solutions to overcome market-expansion hurdles.

- **Public sector** – Governments and regulators can enable this market to scale up quickly and effectively via policy settings that give certainty to voluntary biodiversity credits markets. A timely approach anchored in transparency and traceability can avoid the creation of paper-projects and unfair wealth capture.
- **Civil society** – Civil society has a role to play in upholding the integrity of markets and can ensure biodiversity projects achieve real and lasting benefits for both people and nature.

Next steps: working groups

As the parties to the UN Convention on Biological Diversity come together for negotiating an ambitious post-2020 global biodiversity framework at COP15 in December 2022, the issue of resource mobilization and financing for the delivery of targets is high on the agenda.

Businesses have a key role to play, both in terms of adopting the global biodiversity framework in their strategies and operations but also in helping unlock financing for protection and restoration of nature.

Biodiversity loss and climate change are intertwined issues, so the prioritization of carbon sequestration benefits *and* biodiversity (species, spaces and services) is imperative.

This initiative will continue its work over the next two years, in the following working groups:

- **Demand and supply:** What are the main drivers of demand? Who would be the first (credible) movers in this space? How can project developers build out long-term benefits for communities and ecosystems on the ground, even as rising temperatures accelerate change?

- **Integrity and governance:** How can the biodiversity credits market be designed in a way that supports credible claims by buyers, provides clarity on robust methodologies and ensures benefit-sharing with local communities?
- **Pilot projects on the ground:** How can project and market design bring in landscape-level transformation over the long term, while meeting the needs of varied stakeholders?

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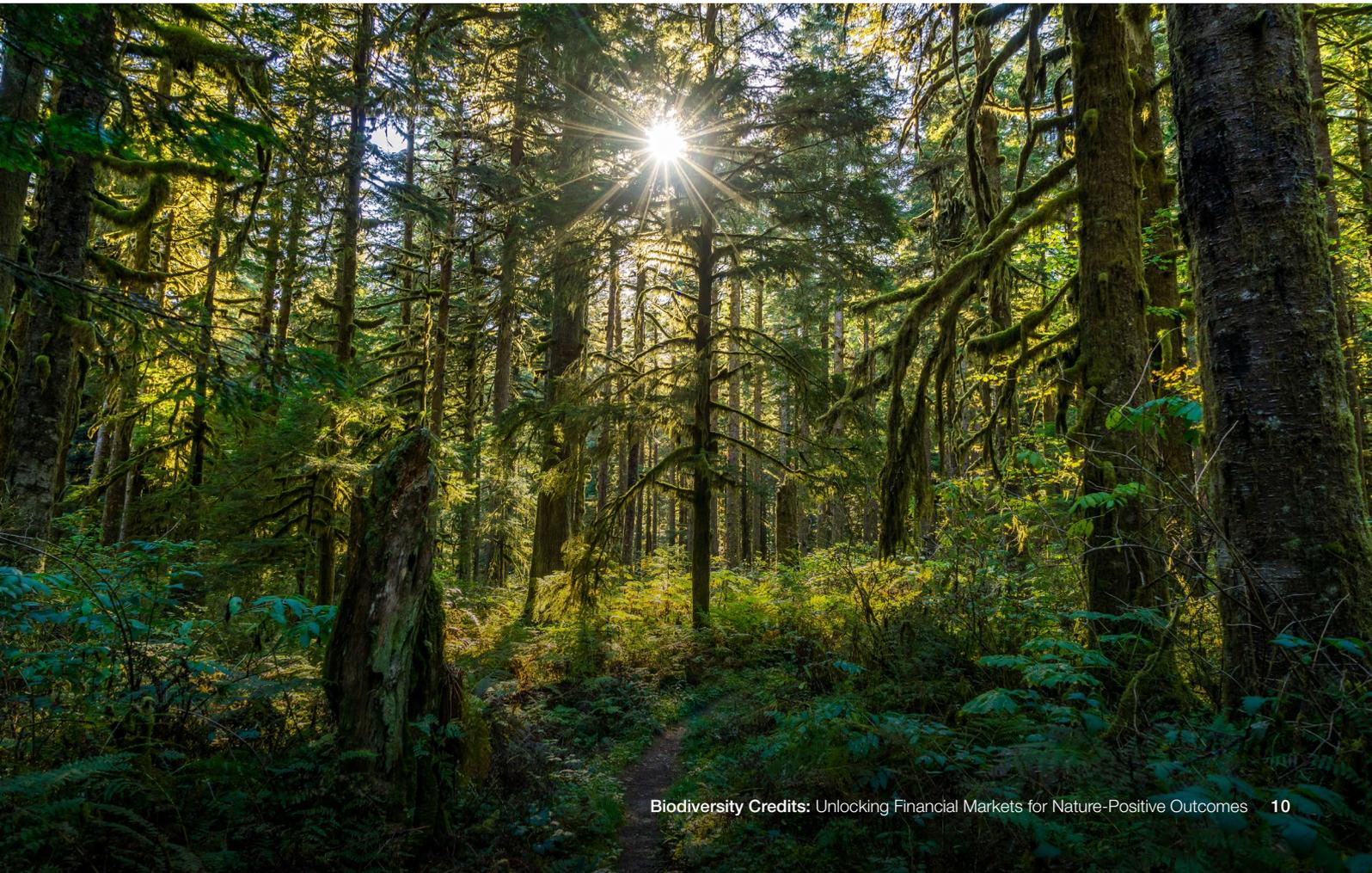
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↓ Baker River Trail,
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Cascades, Getty Images



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