

Biodiversity credit schemes for the safeguarding of nature

Assunção Cristas, João Almeida Filipe, and Carolina Vaza of Vieira de Almeida consider the possible introduction of voluntary biodiversity credit schemes as a means of halting and reversing biodiversity loss



The global agreement on biodiversity sets out 23 targets for urgent action by 2030 to reverse the loss of biodiversity, which is, along with climate change and pollution, one of the dimensions of the so-called triple planetary crisis. The latest European legislation has also made evident the need for national and local governments, communities, and businesses to consider their ‘biodiversity footprint’ and promote actions with a positive impact on nature.

This article explores the possibility of voluntary biodiversity credit schemes that could contribute to this goal in an analogous way to the development of carbon markets for the reduction and sequestration of emissions.

The context surrounding biodiversity initiatives

The Kunming-Montreal Global Biodiversity Framework (GBF) was adopted in late 2022 as the landmark agreement achieved at the 15th Conference of the Parties to the United Nations Convention on Biological Diversity.

The GBF aims to halt and reverse biodiversity loss, with it having been assessed that around one million species are already facing extinction and that the decline in nature also impacts the lives of billions of people. Therefore, global targets have been set to be achieved by 2030 and beyond to ensure a sustainable use of biodiversity. The motto is that “nature can be conserved, restored and used sustainably while other global societal goals are simultaneously met through

urgent and concerted efforts fostering transformative change”.

With this in mind, four long-term goals have been set to be achieved by 2050:

- Halting the human-induced extinction of known threatened species;
- Promoting the sustainable use of biodiversity;
- The fair and equitable sharing of benefits arising from the utilisation of genetic resources with indigenous peoples and local communities; and
- With regard to the means of implementation, especially concerning financial resources, closing the biodiversity finance gap of \$700 billion per year; i.e., the difference between current spending on biodiversity conservation and actual future needs.

To close this gap, among the 23 medium-term targets to be achieved by 2030, the GBF establishes the mobilisation of at least \$200 billion per year, including:

- Leveraging private finance and encouraging the private sector to invest in biodiversity; and
- Stimulating innovative schemes such as biodiversity offsets and credits.

Biodiversity offsets and credit schemes are, in those terms, encouraged as an important tool to contribute to the successful implementation of necessary actions in the short run, such as the effective restoration of at least 30% of degraded ecosystems or the conservation of at least 30% of terrestrial and inland water areas, and of marine and coastal areas by 2030.

Such schemes also play a relevant role in scaling up positive incentives for the sustainable use and conservation of biodiversity, contributing to the replacement of those that are harmful for nature and that should be progressively reduced, according to the GBF, by at least \$500 billion a year by 2030.

At the European level, the importance of policies addressing these matters, as well as the reinforcement of the opportunity to invest in biodiversity, is emphasised by strategic guidelines and legislation addressing biodiversity and nature conservation (e.g., the **European Green Deal**, the **EU Biodiversity Strategy for 2030**, and the recently approved **Nature Restoration Law**) and by obligations concerning the reporting of information by companies (e.g., the **Corporate Sustainability Reporting Directive** and the **European Taxonomy**).

Biodiversity offsets, biocredits, and carbon credits with biodiversity co-benefits

Although a widespread standard methodology for assessing and reporting on biodiversity is still to be developed, it is the authors’ understanding that biodiversity credits are already a workable reality that should consider the experience of the nature projects developed in some countries, along with the lessons learnt from carbon markets (namely, their principles and procedures). For instance, the **Q.U.A.L.I.T.Y** (quantification, additionality, long-term storage, and sustainability) criteria set forth by the **European Commission Proposal for an EU Carbon Removal Certification Framework** could be considered as a guideline, *mutatis mutandis*, for the recognition of biocredits, with the aim of assuring its high integrity.

Additionally, and in line with the GBF, an extra criterion to be considered, and included in the biodiversity market, is the level of involvement with local and indigenous communities, not only considering their crucial role as custodians of nature and their land tenure, but also from a benefit-sharing perspective, if applicable.

Accordingly, and considering the similarities, it is understood that the development of biodiversity projects would benefit from the clarification of the following concepts: biodiversity offsets, biodiversity credits, and carbon credits.

Key features of biodiversity offsets and biodiversity credits

Biodiversity offsets and biodiversity credits differ in their use: the former being used to compensate for actions with negative impacts on biodiversity and the latter being used for positive contributions to nature. In this regard, the utilisation of biodiversity offsets makes them similar to carbon offsets, as it implies the idea that harm caused can be compensated if sufficient habitats are protected or enhanced elsewhere.

While carbon credit units correspond to tons of CO₂ taken from the atmosphere, biodiversity units can correspond to several components, such as the population increase of specific species or the increase of its diversity in some hectares, or even square metres, considering each ecoregion and project. This difference raises the concern of lack of equivalency between the lost and

enhanced habitats – which are not fungible, as carbon is – circumscribing the use of biodiversity offsets necessarily to a local level to better assure that interventions occur in the same, or at least similar, ecosystems.

The use of carbon credits can be established as a legal requirement for state agencies to be able to grant permits to companies that have a negative impact on nature. Therefore, an exploitation permit for mining would only be granted if a biodiversity offset based on the quantification of the cost of activities that damage nature was guaranteed. Accordingly, the goal of a biodiversity offset would be to gain ‘no net loss’ of biodiversity.

As an example, February 2024 saw the entry into force in England of the **biodiversity net gain**, providing a similar approach to that previously mentioned, which requires developers to offset biodiversity loss, adding an extra requirement of a 10%-plus gain in biodiversity, with measuring units based on habitat features such as size, quality, and location.

However, biodiversity offsets have been strongly criticised, as they are created on the basis of the ‘polluter pays’ principle that, if not well designed and regulated, might be used as a perverse economic tool towards the further destruction of biodiversity – which should not, according to such understandings, have been permitted in the first place.

Distinctively, biodiversity credits, or biocredits, can be described as the tradable units corresponding to measurable and scientifically verified actions with positive biodiversity outcomes, in a certain location, under specific methodologies, and verified by independent third parties. A biodiversity credit is, thus, referred to as representing a positive outcome for nature regarding a determined area and a specific timeframe.

In addition to the aforesaid, one of the main differences from biodiversity offsets is that biocredits are, due to their nature, voluntary and internationally tradable. Therefore, biocredits do not require a national legal regime with strict rules on their utilisation, as long as they comply with integrity and traceability standards, and with verification methods aimed at ensuring the effectiveness of a project’s positive impact on biodiversity.

Similarly, biocredits share some aspects with carbon credits and may benefit from

the lessons learnt from the development and evolution of carbon markets. Whenever they assume the proper principles and methodologies, biocredits may represent an opportunity to access new sources of finance to support activities promoting the conservation of nature, including not only the protection of endangered species and habitats or restoration action in rural and urban areas but also the reduction of carbon emissions, which constitutes one of the main factors of biodiversity loss.

Application of biodiversity initiatives

Another path that may be explored is to address biodiversity together with carbon markets, as there are carbon credits with co-benefits to biodiversity. For instance, the recently approved regulation on the voluntary carbon market in Portugal sets forth that a carbon credit promoting significant additional benefits to biodiversity and natural capital, in addition to carbon sequestration, shall be recognised in a special way as a “Carbon Credit+”, giving it a higher value in the market.

The best use of these credits will depend on the concrete project and a case-by-case assessment by the interested parties. Market prices and the methodologies available will also play an important role in that assessment.

Regardless of such considerations, it could be argued that carbon markets benefit from having a common unit of measurement (tons of greenhouse gas equivalent) that makes it more attractive to be traded. Biocredits, in contrast, depend on site-specific contexts where biodiversity occurs, making it harder to consider units of biodiversity as comparable and, consequently, to be traded. The variety of biodiversity projects, which vary according to the area where they are developed, along with other variables (such as the species in question and their dynamic evolution through time and space), thus present a challenge to entering into an effective biocredits market.

Nonetheless, a paradigm shift seems to be occurring, making it more attractive to trade biocredits. On the one hand, assessing methods allowing for the comparison of different types of biodiversity have been developed; on the other hand, technology allowing for the more accurate monitoring and measurement of biodiversity has also been developed (e.g., drones, satellite

monitoring systems, bioacoustics sensors, camera traps, environmental DNA, telemetry, and blockchain registries).

Hybrid model: the combination of carbon credits and biocredits

Hybrid models, combining carbon credits and biocredits into hybrid units, offer a way forward for nature-based projects, as they tend to ensure contributions to climate change and biodiversity conservation. They can also ensure a more efficient use of scarce land and offer cost efficiencies for companies that want to purchase credits that meet dual climate and biodiversity targets, which can typically be found in projects such as natural forest restoration.

The EcoAustralia credits system might be a good example of a hybrid model of stapled offset, blending Australian biodiversity units (ABU) with international carbon credits certified under global standards (such as the Gold Standard and Verified Carbon Standard). ABU represent government-accredited habitat protection, approximately 1.5 square metres of permanently protected land.

Biocredits and carbon credits could also be coupled through stacked projects; i.e., projects developed on the same land, the activities in which generate a certified carbon credit and a certified biodiversity credit.

The authors believe that these types of projects will be of significant value, as they guarantee that any initiative targeting emission reductions or carbon removals will not have a negative impact on nature. Instead, they help to safeguard and enhance biodiversity. As the World Economic Forum points out in its **high-level biodiversity credit principles**, “stacked carbon and biodiversity credits issued from, for example, a mangrove restoration project, could simultaneously improve climate and nature outcomes.”

The potential uses of biocredits and their value to business

Biocredits can offer an opportunity for companies to demonstrate their nature-positive strategies linked to investments in biodiversity and ecosystems, which will support society in addressing one dimension of the triple planetary crisis – the loss of biodiversity.

Some companies may already be quantifying and assessing their direct and value chain biodiversity impacts; i.e., their ‘biodiversity footprint’. Besides contributing to the achievement of the GBF targets, biodiversity claims could refer to financing project activities that represent investments in sustainable development goal 13 (climate action) or 15 (life on land), or to financing project activities related to biodiversity restoration and nature conservation, aiming to disclose information to third parties or in the company’s sustainability report.

It should be noted that the European framework – including the EU’s Sustainable Finance Disclosure Regulation, the European Taxonomy, and the Corporate Sustainability Reporting Directive – will require companies and financial institutions to assess and report on their impact on biodiversity and nature conservation. The scope of these regulations is not limited to EU companies doing business in the EU: European companies now need to consider their global value chain footprint and, above a certain level of turnover in the EU, the requirements also apply to foreign companies.

Financial institutions can contribute by establishing market prices for biocredits and by supporting the development of valuation methods. Swedbank, for example, purchased the first European biodiversity credits in 2023 to support the development of innovative financial solutions and methods to promote biodiversity.

Way forward to a voluntary biodiversity market

Direct investment in nature restoration projects and positive advocacy are important tools to achieve positive contributions to nature; however, voluntary biodiversity markets offer the possibility of quantification, monitorisation, reporting, and verification of tradable biocredits, as well as the execution in the field of the corresponding projects, in accordance with the biodiversity methodologies. They also benefit from the lessons learnt from the development and functioning of voluntary carbon markets worldwide in recent decades.

At the same time, the possibility of biodiversity projects that combine biocredits and carbon credits in hybrid units is promising, notably through models where a single project developed on the same land

can generate credits that help to achieve climate and nature goals, even though managed under different methodologies, rules, and prices.

These hybrid credits can be especially relevant to countries with voluntary carbon markets regulation already in place and rich in biodiversity hotspots, but with small-scale land ownership (such as Portugal), or even to small-scale projects such as those to be developed in European cities, which will be required, under the EU Nature Restoration Law, to increase urban green spaces with ecological features such as parks, trees and woodland patches, green roofs, wildflower grasslands, gardens, city horticulture, tree-lined streets, urban meadows and hedges, ponds, and watercourses.

The authors foresee a rapid growth of voluntary biodiversity markets, especially considering that the projects being

developed under carbon markets must also guarantee that they do not harm nature.

Taking as an example a nature-based solution with the use of invasive alien species, even if they are able to sequester significant amounts of CO₂ in a short period, it would not be a sustainable solution due to its negative impacts on biodiversity. In addition, novel legal regimes that consecrate premium trade credits whenever referring to carbon projects with benefits for natural capital and biodiversity strengthen this holistic ecological dimension where carbon and nature objectives must be met.

That is the case of the Portuguese voluntary carbon market – approved by Decree-Law 4/2024, of January 5 – which already provides for a distinguished recognition of carbon projects that explicitly also contribute in a positive way to biodiversity conservation and uplift,

designating the corresponding credits as “Carbon Credit+”. This sort of project should be, in these terms, a trend to be followed, thereby supporting biocredits in the context of existing best practices and known methodologies, as those projects have been demonstrated to be necessary to fulfil effective and integrated climate action towards achieving the goals set for 2030 and 2050.



Assunção Cristas
Partner
Vieira de Almeida



João Almeida Filipe
Principal consultant
Vieira de Almeida



Carolina Vaza
Associate
Vieira de Almeida