

UNLOCKING PRIVATE FINANCE FOR NATURE: A REGULATORY BLUEPRINT FOR BIODIVERSITY MARKETS IN THE EU

Authors

Rose Aupepin de Lamothe-Dreuzy, Salika Mehta, Zélie Pottecher

Date of publication

May 2025

Affiliation

School of Public Affairs, Sciences Po Paris

This policy brief reflects the views of the authors and does not represent the official position of Sciences Po Paris.

Acknowledgements

We would like to thank the researchers, professionals, and field actors F. Hache, A. Karsenty, J. Landry, R. Sarsfield, E. Tromeur, A. Voia, S. Gradeckas, S. Kothari, D. Martin Maczik and, M. Wemaere who generously agreed to share their time, knowledge, and experiences through interviews or informal discussions. Their contributions have greatly deepened our understanding of the subject and enriched our reflections.

Suggested citation

Aupepin de Lamothe-Dreuzy, R., Mehta, S., & Pottecher, Z. (2025). *Unlocking Private Finance for Nature: A Regulatory Blueprint for Biodiversity Markets in the EU.* Sciences Po Policy Brief, May 2025.



EXECUTIVE SUMMARY

Biodiversity credits can become a powerful tool to mobilise private finance for nature, provided they are grounded in a high-integrity regulatory framework. In the European Union, 80% of conservation funding still comes from public sources, while the global biodiversity finance gap—estimated at USD 598–824 billion per year—cannot be closed without significant private sector involvement (Deutz & al., 2020).

This policy brief outlines a regulatory blueprint for the European Commission to structure both mandatory biodiversity credit and voluntary certificate markets. Drawing lessons from national pilots such as France's SNCRR and Australia's Nature Repair Market, it proposes a dual-market architecture: mandatory credits serve as legally enforceable biodiversity offsets under permitting systems, while voluntary certificates recognise non-compensatory, ESG-aligned contributions to nature.

The brief defines key principles to ensure ecological integrity, legal clarity, and public trust. For the mandatory market, it calls for robust monitoring, proximity rules, minimum project duration, and a transparent EU-wide registry. For the voluntary market, it advocates modular certification schemes, hybrid financing models, and strong safeguards to include small landholders and Indigenous communities. Both markets would share technical infrastructure—such as registries, MRV standards, and biodiversity metrics—without blurring their respective logics.

By embedding these tools within the EU's broader sustainable finance ecosystem (CSRD, EU Taxonomy, CAP, Nature Restoration Law), the EU can create stable demand signals, improve access to finance, and ensure that biodiversity certificates remain transitional tools—not substitutes for structural reform.

With the right governance, this framework can help unlock significant private investment, deliver measurable biodiversity gains, and position the EU as a global leader in sustainable finance for nature.

PROBLEM STATEMENT

Biodiversity underpins the health of ecosystems, the resilience of the global climate, and the foundations of human well-being. Yet biodiversity loss is accelerating at an unprecedented rate, threatening the international goals set by the Kunming-Montreal Global Biodiversity Framework (Convention on Biological Diversity, 2022) and the EU Biodiversity Strategy for 2030 (European Commission, 2020). In this context, the mobilisation of private capital is not optional—it is essential.

Target 19 of the Global Biodiversity Framework explicitly calls for the development of innovative financial mechanisms, including biodiversity credits, to leverage private investment in conservation. Properly regulated, these instruments can channel corporate and investor funds into measurable, verifiable biodiversity outcomes. But without a clear regulatory architecture, they risk falling short of their potential—undermining ecological integrity and public trust (Reuters, 2024; Carrington, 2024; International Institute for Sustainable Development, 2024; PRISM Sustainability Directory, 2024).

A key barrier is conceptual confusion. The term biodiversity credit is used across divergent contexts. In regulated offset markets, credits refer to units that compensate for residual environmental damage, in line with the internationally recognised "avoid—reduce—compensate" mitigation hierarchy (Carbone 4 & NatureFinance, 2023; IAPB, 2024). In voluntary schemes, by contrast, biodiversity credits often refer to certificates recognising conservation or restoration outcomes with no compensatory link to a specific impact (Pollination & The Nature Market, 2023; WWF, 2024; BCA, 2024).

This ambiguity fuels scepticism and greenwashing risks.

Clarifying Terminology: Biodiversity Credits vs Certificates of Contribution

To build market credibility, we argue that the EU must establish a clear dual-market architecture, distinguishing between:

- mandatory biodiversity credits, used exclusively within offsetting frameworks embedded in permitting systems, and
- voluntary certificates of contribution, designed to mobilise additional, noncompensatory action aligned with ESG and SDG goals.

This distinction is not semantic. It reflects fundamentally different legal functions, governance needs, and reputational logics. Australia's Nature Repair Market (NRM) offers a useful precedent, establishing separate legal treatment for voluntary contributions. The EU has the opportunity to go further, anchoring both markets in shared technical infrastructures (e.g. registries, MRV standards, biodiversity metrics), while preserving their respective objectives and logics.

This policy brief outlines a regulatory blueprint for operationalising this dual framework. It draws lessons from international experience and early national pilots such as France's SNCRR, and proposes concrete recommendations for the European Commission—particularly DG ENV—to ensure both ecological integrity and effective mobilisation of private finance.

MARKET ANALYSIS

Before designing effective rules, it is essential to understand how biodiversity credit markets are currently evolving—and where they risk falling short. Biodiversity and wetland banking have often failed to deliver their intended conservation outcomes and led to negative social impacts (Levrel, 2017; Holmes & Cavanagh, 2016). Nevertheless, the number of biodiversity credit schemes is increasing. A recent overview lists 32 schemes globally, with 22 already active and the remainder in development (Gradeckas, 2024a). Optimistic projections suggest that the market could reach USD 2 billion by 2030 and USD 69 billion by 2050, with credit prices ranging between USD 5 and USD 35 per unit (World Economic Forum, 2023; Reklev, 2023). However, the international market remains in its early stages, currently valued between USD 2 million and USD 8 million (UNEP, 2023). Due consideration must therefore be given to how this emerging market can be shaped to drive genuinely positive outcomes for nature.

In the EU, there are strong reasons to expect significant increase in demand for biodiversity credits. The Corporate Sustainability Reporting Directive (CSRD), implemented in 2023, requires all companies listed on an EU-regulated market (except micro-enterprises) to report on their impacts and interdependencies with biodiversity, including setting concrete biodiversity targets and action plans (European Commission, 2023). Moreover, global voluntary initiatives such as the Task Force on Nature-Related Financial Disclosures (TNFD) and the Science-Based Targets for Nature (SBTN) offer frameworks to help companies identify, assess, and act on their biodiversity impacts, promoting the development of accompanying behavior norms in the

corporate sector (Lamont et al., 2023; Biodiversity Credit Alliance, 2023).

On the other hand, Europe's supply of biodiversity credits is still nascent but growing through pilot projects and regulatory innovation. Notably, France has taken a pioneering step with the 2023 launch of the Naturels de Compensation, Restauration et de Renaturation" (SNCRR) program. Under SNCRR, accredited natural sites undertake large-scale restoration or actions conservation that generate quantifiable ecological gains (Ministère de la Transition Écologique, 2023). These gains are certified as Units of Compensation, Restoration, and Renaturation (UCRRs), which can be sold either as biodiversity credits to developers fulfilling mandatory offset obligations or as biodiversity voluntary buyers certificates to (e.g., corporations supporting CSR goals).

Gap In The Current EU Approach Towards Biodiversity Credits

An analysis of the controversies surrounding the concepts of biodiversity credits and certificates highlights the need to establish a recognized common legal framework to develop these units in the EU. An international framework still hasn't emerged, despite several actors' efforts on establishing one (IAPB, TNFD, BBOP), and the strong demand for such a framework from the private sector seeking to certify their actions (Carbon 4, 2022).

Controversies on metrics and taxonomic imply a risk of greenwashing: The lack of consensus over the biodiversity finance taxonomy in general, is a risk for their integrity. This taxonomic blurriness opens the door to greenwashing practices, with companies making misleading claims over

their purchase of low integrity biodiversity credits (WEF, 2023).

The diverse metrics and methodologies which exist to assess biodiversity also imply the same risks of greenwashing, some metrics being more exigent than others. For instance, practice-based metrics, as described by Carbon 4 (2022) do not offer the same guarantees as result-based metrics, which rely on observed outcomes.

need for unified reporting and verification standards: The European Financial Reporting Advisory Group (EFRAG) is currently setting a common framework for companies to report on the modalities of their contributions to biodiversity, including through use of offsets (EFRAG, 2022, ESRS E4, Art16, e). However, different legal national frameworks for biodiversity offsets still coexist in the EU. This diversity makes it difficult and expensive for companies to implement biodiversity units, eventually harming their relevance and acceptability. It also risks impeding economic competitiveness on the market, since companies on the unified European market exposed to varying requirements depending on the national regulations. A European unified legal framework to develop biodiversity units would address these problems, while widening the market for biodiversity credits, thereby creating opportunities for developers through economies of scale.

Indigenous peoples and local communities (IPLCs) participation: IPLCs participation is emphasized as a key aspect of biodiversity credits' integrity (NatureFinance and Carbone 4, 2023; IAPB, 2024). This dimension is included by the EFRAG in the draft of the CSRD reporting standards on biodiversity contributions: directly (EFRAG, 2022, ESRS E4, Art 31-d), and by referring to ESRS S3: Affected Communities (ESRS E4, Art 8, & art 20-e). The EU also officially committed to the respect of IPLCs through the signature of

international agreements such as the Convention on Biological Diversity (1992), reminded in the preamble of the Nature Restoration regulation (Regulation (EU) 2024/199, preamble 3 & 4). Consultation of when populations undertaking biodiversity restoration actions is required in the body of this law (Art 14 & 20). However, this law only frames public actions undertaken by Member States. We advocate an equivalent for private initiatives of nature restoration.

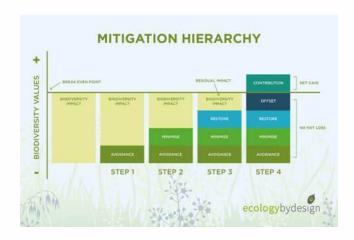
The need for two legally distinct biodiversity markets: Establishing two legally distinct biodiversity markets is essential to ensure legal clarity, functional integrity, and public trust. As in Australia's NRM, this separation prevents any confusion of purpose: voluntary certificates will be legally prohibited from serving as compensation for environmental damage. Companies must first fulfil their offsetting obligations through the mandatory market; only then can they engage in voluntary contributions to demonstrate ESG leadership, comply with CSRD, or support biodiversity beyond regulatory requirements. This safeguards against "license to destroy" narratives and reinforces the mitigation hierarchy. While the legal function, governance, and financing logic of the two markets will remain distinct, several technical components will be shared to ensure consistency and efficiency: a central public to prevent double registry counting, harmonised MRV standards, interoperable biodiversity metrics, and shared digital infrastructure for project tracking and data access. ecological This hybrid architecture enables transparency, effectiveness, methodological and convergence—without compromising specific logic of each market. By clearly distinguishing legal obligations from voluntary ambition, the EU can deliver both credibility and scalability in its biodiversity 6 finance framework.

POLICY OPTIONS AND RECOMMATIONS FOR A MANDATORY MARKET

Scope of the Mandatory Market: The mandatory market constitutes a set of regulations that are directed towards any project in the EU that requires land development in an area wherein it hurts biodiversity. This standard should be applied to all projects, irrespective of their national/strategic importance. In case of any exemptions, the cases need to be assessed by an independent third party committee, with provisions for delayed (not exempted) compensation.

Clear Ecological Integrity Standards: Drawing from the UK's Biodiversity Net Gain (BNG) policy (UK Government, 2024), we recommend that the EU sets a directive for 10 % biodiversity net gain. This figure provides a replicable, uniform and financially viable target that meets the twin objectives of environmental protection and encouraging investment for development. (Department for Environment, Food & Rural Affairs, 2022)

Robust Monitoring, Reporting, and Verification (MRV): Any EU biodiversity credit MRV system should be built on widely recognized principles that ensure credits truly represent positive biodiversity outcomes.



Mitigation Hierarchy

Proposals for development that qualify for offsetting credits must demonstrate sufficient avoidance and on-site mitigation efforts. This precondition is critical in ensuring that credits do not become a license to destroy. (Ecology by Design, n.d.; International Union for Conservation of Nature, 2016).

Diagram reference: Ecology by Design. (n.d.). Biodiversity mitigation hierarchy.

Science-Backed Additionality

In recognition of the complexities of nature; we endorse the BCA, 2024 definition of a positive biodiversity outcome as an improvement in measures of biodiversity, a reduction in threats to biodiversity, or prevention of an anticipated decline in measures of biodiversity. For the purpose of issuing credits, we must ensure that biodiversity outcomes are additional to those that otherwise would occur without the project intervention and revenue from the monetization of the biodiversity credits (Biodiversity Credit Alliance, 2024).

Ecological Equivalence and Location

The IUCN (2016) emphasizes that biodiversity offsets must achieve ecological equivalence to the biodiversity components being lost, thereby maintaining the same ecological functions and values. Recognizing that Member States within the EU may face differing costs and ecological contexts when delivering biodiversity-positive outcomes, it is essential to prevent the unintended consequence of biodiversity depletion in one country being offset primarily elsewhere. To safeguard ecological integrity and uphold the principle of proximity, we recommend that biodiversity offsetting should, by default, occur within the same Member State and ideally the closest equivalent site possible as the impact.

However, a provision should exist for case-by-case appeals to allow partial or complete offsetting in another Member State, contingent upon demonstrating equivalent or superior ecological outcomes and subject to rigorous oversight. The French SNCRR law already reinforces "proximity" for ecological compensation (MTE, n.d.), and this concept should be extended EU-wide. Additionally, to counter the temporal lag between damage and restoration, the framework could mandate early implementation of offset projects or use multipliers.

• Minimum Project Duration

Drawing from Australia's and France's models, the EU should set a minimum project duration for any credit-generating project (e.g. 30 years or more depending on the type of project) to ensure permanence of gains (Dennis, 2024). Legal agreements or conservation easements should secure the land for that duration. If a project fails (e.g. a restored habitat degrades below expected outcomes), there must be mechanisms to invalidate or replace credits (for instance, the project proponent must remedy the shortfall by additional work or purchasing replacement credits). To insulate against these situations, insurance products can be developed. To facilitate MRV, emerging technologies like remote sensing, DNA biodiversity assessments, and digital monitoring could be leveraged, but always backed by on-the-ground validation.

• Transparency and Public Disclosure:

Central Registry Transparency is a powerful antidote to greenwashing. The EU framework should include a central Biodiversity Credit Registry, interoperable with national systems, where all credits are recorded from issuance to retirement. Each credit's details - project location, habitat/species it represents, date of issuance, duration, verification reports, current owner, and whether it's been used (retired) - should be publicly accessible. This mirrors the transparency found in the EU Emissions Trading System's Union Registry, which enables robust tracking and prevents double counting (European Commission, n.d.). Public registries are widely recognized in carbon markets as essential to maintaining integrity and allowing civil society to evaluate whether claimed benefits are real (Carbon Market Watch, 2023; EcoTree, 2023). A transparent registry enables independent scrutiny by scientists and watchdog organizations, ensuring the system delivers net biodiversity gains. It also prevents the resale or duplicate use of credits through unique identifiers and public status tracking (Environment + Energy Leader, 2024). Project documentation—such as biodiversity management plans and monitoring results—should be published, with exceptions only for sensitive data that could endanger species or habitats. Furthermore, credit buyers must publicly disclose how credits align with their biodiversity impacts and sustainability goals, enhancing accountability and stakeholder trust (MSCI, 2023).

• Public Participation

The system must ensure stakeholder participation, respecting the rights and knowledge of Indigenous Peoples and local communities (a key theme in the IAPB High-Level Principles). Free, Prior, and Informed Consent (FPIC) should be obtained where projects affect indigenous or local lands. Equity considerations — such as benefit-sharing with local stewards of biodiversity — are crucial for legitimacy. Additionally, public transparency of data and decisions (while respecting sensitive information) will be mandated, preventing the process from becoming a black box.

· Certification Workflow

Offset-generating projects should follow a standardised EU process, including ex-ante validation, implementation of biodiversity actions, regular monitoring, independent verification of ecological outcomes, and long-term stewardship — with specific timelines and methods defined through technical guidance.

POLICY OPTIONS AND RECOMMATIONS FOR A VOLUNTARY MARKET

The completion of a clear and enforceable framework for the mandatory market opens the way for a distinct, voluntary mechanism—designed to mobilise additional contributions without undermining legal obligations, yet anchored in some shared technical infrastructures.

Designing the Core Instrument: Practice-Based, Modular, and Verifiable

We advocate for practice-based certification, prioritising the verification of beneficial actions rather than the exclusive reliance on long-term ecological outcomes. Inspired by the Organisation for Biodiversity Certificates' (OBC, 2024¹) model, this approach lowers entry costs and complexity, enables faster deployment, is more inclusive of small landholders and IPLCs, and is well suited to results-uncertain or low-monitoring-capacity contexts.

The Australian system supports this vision partially, through methods that specify eligible actions, monitoring obligations, and audit requirements. However, Australia has so far approved only one method (indigenous woodland replanting), limiting ecosystem diversity. The EU must expand the portfolio of eligible practices and ecosystems from the outset.

Building on the methodological framework proposed by Carbone 4 & al. (2024)², we recommend a two-step hybrid certification model³:

- 1. A first certificate is awarded after verification of implementation of approved good practices.
- 2. A second certificate or bonus payment is granted based on ecological outcome indicators (project-specific and ecosystem-based).

Enabling Equitable Market Access: Upfront Support and Hybrid Financing

One major barrier in the Australian model is its exclusive reliance on ex-post financing. Only once a project has been fully implemented and verified can certificates be issued and sold. This structure excludes actors lacking upfront capital. Several mechanisms could address this issue, including:

- Hybrid financing models, combining upfront support with performance-based issuance,
- Use of public funds to cover fixed certification costs (validation, audit, registration),
- Development of pre-certification pathways, enabling early-stage project support while maintaining integrity,
- A common fund or "certificate bank", to support underrepresented projects (though this
 would require strong safeguards).

We recommend prioritising hybrid financing mechanisms, combined with public funding for fixed costs, as a more scalable and immediately actionable solution⁴.

Integrating Co-Benefits and Territorial Relevance

One possible evolution of the model is the development of broader "nature certificates" to recognise not only biodiversity outcomes but a broader range of ecosystem services: carbon sequestration, water regulation, soil health, and social co-benefits. While the Australian NRM focuses on biodiversity-specific metrics, the EU has the opportunity to lead with a more integrated, multi-benefit approach⁵. Nature certificates would remain practice-based and non-compensatory, but differ in their territorial logic: the primary benefit attributed to each certificate would be determined locally, reflecting the priorities of land users and communities.

9

This modular structure enables greater contextual relevance and supports local governance. UNESCO has expressed interest in piloting such instruments in its biosphere reserves.

We consider this evolution a promising policy option. Its main value lies in democratising certificate design and anchoring ecological and social value in the diversity of ecosystems and community priorities⁶. As it can be combined with existing certification architectures, we recommend supporting pilot initiatives.

Boosting Demand through Structural and Strategic Alignment

The voluntary nature of biodiversity certificates presents both a challenge and an opportunity. While they rely on buyers' initiative, they also offer a more standardised and cost-effective alternative to corporate philanthropy, which often requires extensive due diligence and long-term project involvement.

To unlock demand, several strategic levers could be mobilised, such as integration into CSRD disclosures on double materiality, recognition under the EU taxonomy and ESG frameworks, and eligibility within incentive mechanisms like bonus-malus systems, green sovereign guarantees, public-private funds, or performance-based green bonds. We recommend embedding biodiversity certificates within these broader EU frameworks to enhance their financial and regulatory relevance and create stable demand signals.

Following the Australian example, intermediaries can help increase market liquidity by aggregating certificates from small-scale projects and reselling them to corporate buyers. To preserve market integrity, however, we recommend that certificates be retired upon final purchase and not re-traded (no secondary markets). This could be ensured through named or single-use certificates, preventing the development of speculative secondary markets and ensuring that each purchase reflects a verifiable and finalised contribution to biodiversity (WEF, 2023).⁷

Ensuring Market Integrity and Public Oversight

To avoid the integrity issues seen in schemes like the Forest Stewardship Council (FSC), stronger oversight mechanisms are essential. These include:

- Random assignment of auditors (as opposed to developer-selected),
- Independent public accreditation authorities,
- Full audit transparency (or at least published summaries),
- Public registries of projects, methods, certificates, and audit outcomes.

Australia's NRM already includes a central public registry and method standardisation through its Clean Energy Regulator. However, the regulator currently allows project developers to select their own auditors—a practice that undermines independence and must not be replicated in the EU. We recommend randomised assignment of auditors by a public authority as it would significantly reduce the risk of certifier capture⁸. Further, public observatories or watchdogs could reinforce trust through reputational pressure (e.g. name-and-shame mechanisms), acting as external accountability tools.

Embedding Certificates in a Transition Strategy

Biodiversity certificates must not become an excuse for inaction or a substitute for robust structural reform. They must be framed as transitional instruments designed to complement long-term policy. Different policy tools could support this framing:

- Sunset clauses for certificates, with pre-defined expiry dates to ensure these instruments remain transitional and do not become substitutes for long-term structural changes and regulatory or fiscal reforms⁹,
- Conditionality: certificates should only be issued to actors that can demonstrate a credible long-term environmental transition strategy,
- Alignment with EU strategic frameworks: Common Agricultural Policy (CAP) conditionality, national biodiversity plans, EU Nature Restoration Law, etc,

We recommend using biodiversity certificates only within a coherent public policy mix, and never as standalone tools.

Infrastructure and Governance: Tools and Roles

The Australian NRM provides useful digital infrastructure such as PLANR, a platform to assist landholders in project design, eligibility checks, and cost-benefit estimation, and Ecological Knowledge System (EKS), a shared scientific knowledge base to support method developers and project proponents¹⁰.

Inspired by this model, the EU could develop an interoperable one-stop platform, connecting ecological data (e.g. Copernicus, Natura 2000¹¹), project registration, funding tools and buyer-project matchmaking. We recommend that this infrastructure be governed through an EU-level or coordinated national authority, with a scientific committee advising on method development and evaluation. Governance should remain public and participatory, with roles for IPLCs clearly defined and institutionalised.

Conclusion

The positive impact of biodiversity credits goes beyond biodiversity and contributes towards the achievement of the Sustainable Development Goals. When properly designed, biodiversity credit projects can also bring social and economic benefits, contribute to climate mitigation and adaptation, and help strengthen human health and well-being (BCA & al., 2024).

With the right regulatory architecture, the EU can position itself as a global leader in sustainable biodiversity finance — turning biodiversity credits into a powerful tool for ecosystem restoration, nature-positive economies, and climate resilience.

1. European Commission (Lead Policy and Legislative Authority)

- DG ENV (Environment): Primary lead for regulatory design, coordination, and enforcement of biodiversity credit frameworks (both markets).
- DG FISMA (Financial Stability): Aligns biodiversity markets with EU sustainable finance policies and reporting (e.g. CSRD, SFDR, Taxonomy).
- DG AGRI (Agriculture): Coordinates integration with the Common Agricultural Policy and eco-schemes where relevant.

2. European Environment Agency (EEA)

- Hosts and manages the central EU Biodiversity Credit Registry.
- Oversees data quality, transparency, and public access to project information.
- Publishes independent annual reports on market integrity and ecological impact.

3. EU Scientific & Technical Advisory Board

- Multi-stakeholder expert group advising on:
 - Certification methods
 - Baseline standards and ecological metrics
 - Integrity safeguards and dispute resolution
- Composed of ecologists, social scientists, Indigenous representatives, and financial experts.

4. National Competent Authorities (Member States)

- Implement and enforce EU biodiversity credit rules locally.
- Approve and monitor credit-generating projects (especially for the mandatory market).

- Designate offset sites and ensure alignment with national restoration plans.
- Host national project registries interoperable with the EU-wide system.

5. Certification and Verification Bodies

- Independent, accredited entities responsible for:
 - Project validation
 - On-site verification of biodiversity outcomes
 - Periodic re-assessment
- Must be assigned randomly to avoid developer conflict of interest

6. Public Biodiversity Credit Observatory

- An independent transparency and accountability mechanism.
- Monitors market trends, investigates complaints, and flags integrity risks.
- Acts as a watchdog to protect against greenwashing and misrepresentation.

7. Biodiversity Market Intermediaries (Voluntary Market only)

- Aggregate small-scale or community-led projects for market access.
- Match certificates to buyers and help manage reporting and retirement.
- Must adhere to integrity standards and disclose transaction data.

APPENDIX

Anchoring the Framework in EU Policy Ecosystem: Utilising current frameworks to integrate these recommendations

European Green Deal: The EU Green Deal's vision already encompasses protecting biodiversity and mobilizing sustainable finance. A regulated biodiversity credit market can be featured as a tool to leverage private finance for the EU Biodiversity Strategy 2030 targets (such as protecting 30% of land and sea, restoring degraded ecosystems) and the upcoming Nature Restoration Law obligations. By explicitly mentioning biodiversity credits in Green Deal action plans or updates, the Commission can give political backing and ensure cross-sectoral cooperation (e.g. involvement of DG FISMA on the finance side and DG ENV on the environmental side).

EU Nature Restoration Law: This law (likely in force by 2024–2025) sets binding restoration targets for habitats and species in Member States. The Commission and Member States could use the law's implementation to pilot credit mechanisms – for instance, a Member State could exceed its restoration target by engaging private investors through credits, with EU oversight. Article(s) of the law could be interpreted or amended to allow voluntary contributions via certified projects to count towards national objectives, provided additionality is proven. The law could also mandate the Commission to assess innovative financing (including credit markets) as part of the periodic review process, thus keeping the door open for scaling credits if they prove useful.

EU Taxonomy and Sustainable Finance: As noted, incorporating biodiversity credits into the Taxonomy can channel institutional investment into biodiversity. Additionally, the European Investment Bank (EIB) and national promotional banks could be directed to support biodiversity credit projects (through loans or guarantees) as taxonomy-aligned green investments. The Sustainable Finance Disclosure Regulation (SFDR) already requires disclosure of impacts on biodiversity (Principal Adverse Impacts). If an investment fund uses biodiversity credits to mitigate its biodiversity footprint, SFDR guidelines could require disclosure of the quality and nature of those credits – pushing funds to only use credits that meet recognized EU criteria.

Common Agricultural Policy (CAP) and Other Funds: The CAP's new eco-schemes and agrienvironment measures could potentially dovetail with biodiversity credits. For example, a farmer who creates wildflower strips or restores wetlands could receive CAP payments and also generate biodiversity credits for sale – but double-counting of public and private payments must be managed. The EU could explore a system where CAP-supported actions are ineligible for credit generation (to ensure additionality), or conversely, use credits to pay for outcomes and thus free up public funds. Pilot projects under the CAP could test paying farmers via credit-like outcome payments (results-based schemes).

Similarly, Cohesion Policy funds earmarked for green projects might blend with credit mechanisms, by co-financing projects that later sell credits, thus revolving funds back. Policy coherence will be needed to ensure EU-funded restoration does not inadvertently

become private credits (unless arranged from the start in a transparent way).

Regulatory Oversight Bodies: The EU could assign or create institutional roles for oversight. The European Environment Agency (EEA) could host the aforementioned registry and maybe a Biodiversity Credit Observatory to monitor market developments, quality, and impacts. The EU Business & Biodiversity Platform can act as a convener for developing standards and sharing best practices among businesses and conservation groups. The platform might host a technical working group that continually refines the guidance on credit quality (given fast-evolving science, this needs updating). The European Commission might establish an expert Biodiversity Markets Advisory Committee (with representatives from DG ENV, DG FISMA, EEA, academics, NGOs, Indigenous representatives) to steer policy and resolve emerging issues, similar to how expert groups guide EU carbon market reforms.

By anchoring the biodiversity credit framework in the broader EU policy landscape, we ensure it is not a siloed tool but part of a comprehensive approach to halt and reverse biodiversity loss. Regulation can provide the guardrails and trust, while market innovation provides fresh funding streams – together delivering the scale of action needed for nature.

Notes

- 1. The Organisation for Biodiversity Certificates (OBC) defines biodiversity certificates as "verified biodiversity impacts resulting from favourable actions". Unlike credits, which imply ecological equivalence or compensation, these certificates are designed as contributions aligned with national biodiversity strategies and the Kunming-Montreal Global Biodiversity Framework. The approach is exclusively practice-based: certificates are issued only for actions that can be audited and verified, not for estimated outcomes or counterfactual baselines. Endorsed by the Muséum national d'Histoire naturelle, the model aims to build a transparent, traceable, and non-speculative market, explicitly distancing itself from the flaws of existing carbon credit schemes.
- 2. Towards biodiversity certificates: proposal for a methodological framework, pp. 32–34. The report provides for the possibility of ex-post evaluations to refine the initial analysis, notably through the integration of local specificities or measurable biological outcomes when available.
- 3. This two-step certification model distinguishes between two types of certificates, each serving a distinct function. The first certificate is practice-based: it certifies the verified implementation of recognised biodiversity-friendly actions, such as habitat restoration, agroecological practices, or species-friendly land management. It is designed to be accessible earlier and at lower cost, making it particularly inclusive of smallholders and Indigenous-led projects. However, this certificate is not unconditional: it requires that the practices be ecologically appropriate, implemented in accordance with an approved method, and subject to independent verification. Where relevant, early signs of ecological change may be recorded, but measurable outcomes are not a prerequisite at this stage to allow for unpredictable contextual changes.

The second certificate (or bonus payment) is outcome-based: it is issued only if ecological indicators—such as species richness, vegetation structure, or ecosystem connectivity—demonstrate a measurable positive impact over time. This provides a higher level of environmental assurance and is particularly suited to buyers seeking impact evidence. To maintain integrity while enabling ex-ante financing, we recommend that practice-based certificates be embedded in performance contracts with safeguards, including intermediate audits, revocability clauses in case of non-compliance, and strong public oversight. Both types of certificates should be separately labelled in public registries and serve complementary roles in biodiversity finance and corporate sustainability disclosures.

- 4. This idea refers to a pooled financing mechanism where buyers contribute to a central fund that purchases biodiversity certificates from projects with limited market access. While no such "certificate bank" are currently under debate, the concept is quite aligned with broader reflections—such as those found in the World Economic Forum's 2023 Guide to Support Early Use—on mechanisms to reduce transaction costs and improve access to finance. However, the WEF does not propose a centralised certificate-buying fund, but rather highlights the importance of collaborative funding mechanisms maintaining traceability, third-party auditing, and strong governance frameworks in any pooled approach. The idea of a certificate bank remains exploratory and should be developed cautiously to avoid undermining credibility.
- 5. This logic of territorial prioritisation and multi-benefit valuation is echoed in broader policy proposals for aligning biodiversity and climate strategies. For instance, The Shift Project (2019) called for the systematic integration of biodiversity and climate agendas in public institutions, noting that misalignment between the two can lead to ineffective or even contradictory outcomes. See The Shift Project. (2019, March). Biodiversité et changement climatique : pour une vision coordonnée. Note d'analyse à destination des pouvoirs publics. https://theshiftproject.org/article/vision-coordonnee-biodiversite-climat/
- 6. Alain Karsenty (CIRAD) has proposed a shift from biodiversity-specific instruments toward nature certificates: modular, non-compensatory tools rooted in land management practices and designed to recognise a broader range of ecosystem services (e.g. biodiversity, carbon, water, soil, and social benefits). The core idea is to let each certificate reflect a locally prioritised outcome, based on community-defined needs and context-specific environmental goals.
- 7. To explore how to effectively mobilise this potential, the European Investment Bank and CDC Biodiversité launched a partnership in early 2025 to assess the depth and investment potential of France's emerging biodiversity certificate market. The findings will inform DG ENV's market development strategy and help identify whether additional monetisation tools or policy levers are needed to scale up private investment. This initiative serves as a timely institutional test case, highlighting the need to couple robust certification systems with supportive financial infrastructure and investor engagement (EIB, 2025).

- 8. "Certifier capture" refers to a conflict of interest situation where auditors or certification bodies, instead of acting independently, become overly lenient or biased in favour of the project developers who contract and pay them. This weakens the credibility of certification schemes and has been observed in systems like the Forest Stewardship Council (FSC), where questionable projects have nonetheless received approval.
- 9. One of our interviewee argued that biodiversity certificates should be treated as transitional instruments, used to bridge a short-term financing gap but not as a substitute for structural reforms. She recommended embedding them in a broader strategy aligned with long-term biodiversity goals and eventually phasing them out.
- 10. PLANR and the Ecological Knowledge System (EKS) are digital infrastructures developed under Australia's Nature Repair Market. PLANR is a project planning interface that helps landholders simulate project eligibility, estimate costs and benefits, and navigate regulatory submission. EKS functions as a shared scientific knowledge base to support method development and ecological consistency across projects. Together, these tools aim to lower entry barriers, standardise documentation, and ensure that ecological best practices are embedded from the start a model the EU could emulate to enhance accessibility and scientific rigour in its own voluntary market framework. See: Department of Climate Change, Energy, the Environment and Water (2025). Nature Repair Market. https://www.dcceew.gov.au/environment/environmental-markets/nature-repair-market
- 11. Copernicus is the European Union's Earth observation programme, providing free and open-access satellite data on land use, vegetation cover, water cycles, and environmental changes. It is widely used to monitor ecosystems and guide spatial planning.

 Natura 2000 is the EU's network of protected areas, covering over 18% of the EU's land territory. It is based on the Birds and Habitats Directives and aims to ensure the long-term survival of Europe's most valuable species and habitats.

REFERENCES

Biodiversity Credit Alliance, International Advisory Panel on Biodiversity Credits, & World Economic Forum. (2024, October). High-level principles to guide the biodiversity credit market (Working paper).

https://www3.weforum.org/docs/WEF_High_level_Principles_to_Guide_the_Biodiversity _Market_2024.pdf

Biodiversity Credit Alliance. (2024). Definition of a biodiversity credit. https://www.biodiversitycreditalliance.org/wp-content/uploads/2024/05/Definition-of-a-Biodiversity-Credit-Rev-220524.pdf

Carbon Market Watch. (2023). Lost in documentation: Transparency in voluntary carbon market registries. Retrieved April 30, 2025, from https://carbonmarketwatch.org/publications/lost-in-documentation-transparency-in-voluntary-carbon-market-registries/

Carbone 4 & Nature Finance. (2023). Harnessing biodiversity credits for people and planet.

https://www.carbone4.com/files/Harnessing_Biodiversity_Credits_For_People_And_Planet.pdf? ga=2.181751015.1300996983.1746635218-661655685.1745918861

Carbone 4, & Muséum national d'Histoire naturelle. (2024). Towards biodiversity certificates: Proposal for a methodological framework. Organization for Biodiversity Certificates. Retrieved from

https://www.carbone4.com/files/Towards_biodiversity_certificates_proposal_for_a_meth odological framework.pdf

Carrington, D. (2024, November 11). Biodiversity credits framework at COP16 rules out global offsetting. The Guardian.

https://www.theguardian.com/environment/2024/nov/11/biodiversity-credits-framework-cop16-rules-out-global-offsetting-aoe

Convention on Biological Diversity. (2022). Kunming-Montreal Global Biodiversity Framework. https://www.cbd.int/gbf

Deutz, A., Heal, G. M., Niu, R., Swanson, E., Townshend, T., Zhu, L., Delmar, A., Meghji, A., Sethi, S. A., & Tobin-de la Puente, J. (2020). Financing nature: Closing the global biodiversity financing gap. The Paulson Institute, The Nature Conservancy, and the Cornell Atkinson Center for Sustainability. https://www.nature.org/en-us/what-we-do/our-insights/reports/financing-nature-biodiversity-report/?utm

17

Dennis, J. (2024, 8 novembre). The federal government's nature repair market is set to launch next year, but will buyers be interested? ABC News. https://www.abc.net.au/news/2024-11-08/nature-repair-market-blue-carbon-tanya-plibersek/104531500

Department for Environment, Food & Rural Affairs. (2022). Consultation on biodiversity net gain regulations and implementation. https://consult.defra.gov.uk/defra-net-gain-consultation-team/consultation-on-biodiversity-net-gain-

regulations/supporting_documents/Consultation%20on%20Biodiversity%20Net%20Gain%20Regulations%20and%20Implementation_January2022.pdf

EcoTree. (2023). Carbon registry: Market transparency. Retrieved April 30, 2025, from https://ecotree.green/en/blog/carbon-registry-market-transparency

Ecology by Design. (n.d.). Biodiversity offsetting: What is it and how does it work? Ecology by Design. https://www.ecologybydesign.co.uk/ecology-resources/biodiversity-offsetting

Environment + Energy Leader. (2024). Finland launches voluntary biodiversity market to drive private sector nature investments. Retrieved April 30, 2025, from https://www.environmentenergyleader.com/stories/finland-launches-voluntary-biodiversity-market-to-drive-private-sector-nature-investments,55516

European Commission. (2020). EU Biodiversity Strategy for 2030: Bringing nature back into our lives. https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

European Commission. (2023). Corporate sustainability reporting. https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

European Commission. (2024, December 18). IPBES reports reveal huge opportunities for biodiversity action. Environment. https://environment.ec.europa.eu/news/ipbes-reports-reveal-huge-opportunities-biodiversity-action-2024-12-18_en

European Commission. (n.d.). Union Registry. EU Emissions Trading System (EU ETS). Retrieved April 30, 2025, from https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/union-registry_en

European Financial Reporting Advisory Group (EFRAG). (2022). ESRS E4 Biodiversity and ecosystems.

https://www.efrag.org/sites/default/files/sites/webpublishing/SiteAssets/11%20Draft%20ESRS% 20E4%20Biodiversity%20and%20ecosystems%20November%202022.pdf

Gradeckas, S. (2024a). Bloomlabs: Biodiversity Credit Schemes. https://airtable.com/appQsAybbCZy9PWo8/shrrjW0SpAL0vVdzx/tblMxMzKrnq2pgIHR/viwE5BnaimUBQGioF Holmes, G., & Cavanagh, C. J. (2016). A review of the social impacts of neoliberal conservation: Formations, inequalities, contestations. Geoforum, 75, 199-209.

International Advisory Panel on Biodiversity Credits. (2024). Framework for high integrity biodiversity credit markets.

International Institute for Sustainable Development. (2024, April 12). Biodiversity credits: A new avenue for nature investment. IISD. https://www.iisd.org/articles/deep-dive/biodiversity-credits-nature-investment

International Union for Conservation of Nature. (2016). Biodiversity offsets: Technical study paper. IUCN. https://iucn.org/sites/default/files/2022-06/iucn_biodiversity_offsets_policy_jan_29_2016_0.pdf

Lamont, E., Barlow, J., Bebbington, J., Cuckston, T., Djohani, R., & Garrett, R. D. (2023). Biodiversity credits: A new currency to support nature conservation? Oryx, 57(5), 748–756. https://doi.org/10.1017/S0030605324001467

Levrel, H., Scemama, P., & Vaissière, A. C. (2017). Should we be wary of mitigation banking? Evidence regarding the risks associated with this wetland offset arrangement in Florida. Ecological Economics, 135, 136–149. https://doi.org/10.1016/j.ecolecon.2016.12.025

MSCI. (2023). Transparency is king when using carbon credits. Retrieved April 30, 2025, from https://www.msci.com/www/blog-posts/transparency-is-king-when-using/04666529176

Organization for Biodiversity Credits. (2024). Developing an Effective Market supporting the biodiversity strategies of both companies and states to reach the Kunming's objectives. https://www.obiocert.com/wp-content/uploads/2024/10/OBC_Market-Framework_Executive-summary_Oct-2024.pdf

Pollination Group. (2023). NATURE FINANCE FOCUS, Tracking global trends in nature investment. https://pollinationgroup.com/wp-content/uploads/2023/11/Pollination-Nature-Finance-Focus.pdf

PRISM Sustainability Directory. (2024). Future of biodiversity credit market regulations: Scenarios and risks. https://prism.sustainability-directory.com/scenario/future-of-biodiversity-credit-market-regulations/

Reklev, S. (2023). Karbondioksid i fluorohektoritt og nikkeldihydroksid med tetthetsfunksjonalteori (Master's thesis, NTNU).

Reuters. (2024, November 7). How to ensure that biodiversity credits don't become another Wild West. Reuters Sustainability. https://www.reuters.com/sustainability/land-use-biodiversity/comment-how-ensure-that-biodiversity-credits-dont-become-another-wild-west-2024-11-07/

UK Government. (2024). Understanding biodiversity net gain. GOV.UK. https://www.gov.uk/guidance/understanding-biodiversity-net-gain

United Nations. (1992). Convention on Biological Diversity. https://treaties.un.org/doc/treaties/1992/06/19920605%2008-44%20pm/ch_xxvii_08p.pdf

United Nations Environment Programme. (2023). Primer 2: Nature-based Solutions in Oceans and Coastal Ecosystems. https://www.unepfi.org/wordpress/wp-content/uploads/2023/06/Primer-2-Marine-coastal-ecosystems.pdf

World Economic Forum. (2023). Biodiversity Credits: Demand Analysis and Market Outlook. https://www3.weforum.org/docs/WEF_2023_Biodiversity_Credits_Demand_Analysis_and_Mark et_Outlook.pdf

World Wide Fund For Nature (WWF). (2024). WWF France responds to debates around biodiversity credits and certificates and proposes the 'nature impact' approach. https://www.wwf.fr/sites/default/files/doc-2024-10/Com_CreditsCertifCOP16_EN.pdf