Carbono Biodiverso Local Protocol

A Scalable and Inclusive Carbon Compensation Model for Mexico

A locally rooted carbon compensation protocol ensuring direct benefits for landowners, biodiversity conservation, and regional economic growth, with the potential to be scaled nationally.

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Version I, March 2025

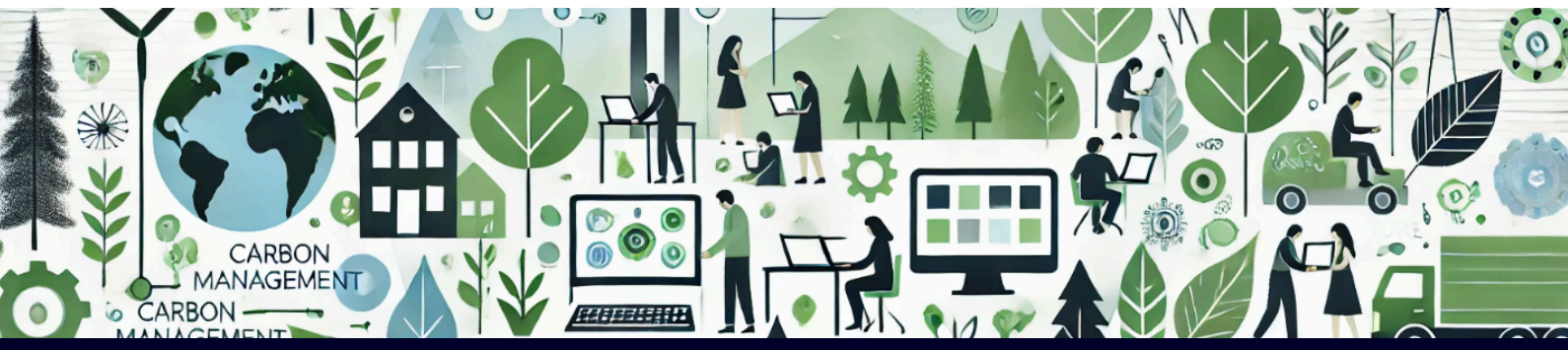


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About

The Local Protocol for Subnational Actions for the Regeneration of Forests, also referred to as the Carbono Biodiverso Local Protocol, implemented in Querétaro, Mexico, is a pioneering carbon compensation model that aligns corporate sustainability efforts with regional environmental protection and socio-economic development.

Developed by Grupo Ecológico Sierra Gorda (GESG) in consultation with local landowners and supported by Secretaría de Desarrollo Sustentable (SEDESU), this protocol ensures fair compensation for landowners while promoting effective carbon sequestration and forest conservation.

Designed as a complementary alternative to carbon standards such as Verra, Gold Standard, and Climate Action Reserve, it offers greater flexibility, inclusivity, and a scalable landscape-wide approach to carbon sequestration. Technical protocols for improved forest management have been established and successfully implemented.

OpenForests developed a fully integrated digital system that manages land registration, carbon inventory, transactions, automated payouts, a public registry, and satellite-based project monitoring. This system ensures efficiency, transparency, and scalability.

The protocol has already issued and retired thousands of carbon offsets, demonstrating its effectiveness and potential for national expansion.

Key Advantages

A Locally Rooted and Scalable Carbon Standard

Unlike international certification programs focusing on individual carbon offset projects, the Carbono Biodiverso Protocol enables landscape-wide carbon sequestration initiatives. This flexible framework allows for successive large-scale conservation efforts, making long-term environmental restoration more effective and aligned with local and national regulatory frameworks.

Inclusion of Small to Medium-Sized Landowners

Many global carbon markets are inaccessible to small and medium-sized landowners. This protocol removes that barrier, allowing landowners of all sizes to participate in carbon finance. This democratic approach expands the reach of carbon sequestration projects while ensuring equitable access to financial benefits.

Locally Focused Carbon Compensation

The protocol ensures that at least 80% of carbon credit revenues go directly to local landowners, rather than being absorbed by intermediaries. This contrasts with traditional voluntary carbon markets, where a large portion of funds is lost in administrative fees and consultancy costs. By keeping financial benefits within the community, the protocol strengthens local economies while ensuring long-term conservation.

Nature-Based Carbon Sequestration with Landscape Impact

By financing forest regeneration and biodiversity conservation, the protocol restores degraded landscapes and enhances ecosystem resilience. Unlike conventional carbon markets, which emphasize single-site projects, the Carbono Biodiverso model allows for large-scale, successive conservation efforts. All projects are managed by experienced local NGOs, ensuring high-impact implementation tailored to regional ecological conditions.

A Non-Speculative, Transparent Carbon Market

Many voluntary carbon offset programs suffer from speculative trading, where credits are bought and sold multiple times before being retired. The Carbono Biodiverso Protocol, with only narrow exceptions, prohibits carbon credit trading, ensuring that local emissions are directly compensated through on-the-ground Nature-Based Solutions (NbS). This eliminates market manipulation, guaranteeing that every offset purchase results in real, measurable climate action.

Local Offsetting for Local Companies

A key differentiator of the Carbono Biodiverso Protocol is its commitment to local offsetting. Companies operating in Querétaro can compensate for their emissions through local projects, ensuring that carbon finance remains within the region. This strengthens environmental protection while reinforcing local economies, creating a sustainable development cycle that benefits businesses, communities, and ecosystems alike.

How it works

Carbon Compensation

Businesses in Querétaro can offset up to 20% of their emissions through nature-based projects registered in the Carbono Biodiverso Registry, managed by Grupo Ecológico Sierra Gorda (GESG) and potentially by other stewards. All offset transactions are publicly accessible (Public Registry), ensuring transparency and accountability.

Monitoring & Transparency

GESG's inventory of Carbon Biodiverso is monitored using on-the-ground assessments and satellite-based tools via OpenForests' explorer.land platform, which is available to all project proponents that use the local protocol. This tracking system provides verifiable proof of impact, reinforcing trust between stakeholders, businesses, and regulatory bodies.

Certification & Reporting

Companies submit their carbon compensation reports to the SEDESU Emission & Compensation Registry. Once verified, they receive a State Low Carbon Emissions Seal, which can be used for tax incentives and regulatory compliance.



Why the Carbono Biodiverso Protocol Stands Out

A Local Solution for a National Challenge

By keeping carbon finance and environmental benefits within the region, the protocol fosters long-term, community-driven climate solutions and provides a scalable model for national implementation.

Inclusive and Scalable

The protocol is accessible to landowners of all sizes, creating a more equitable carbon market that supports both smallholders and large conservation projects.

Integrity Without Speculation

By prohibiting carbon credit trading, the protocol ensures that every offset purchase leads to tangible, on-the-ground restoration, maintaining the credibility of carbon compensation efforts.

Existing and Scalable Digital Infrastructure

The Carbono Biodiverso Protocol is backed by an existing, fully functional software system that administers the entire offsetting process—from land registration and carbon inventory to transaction management, automated payments, and monitoring. This scalable technology infrastructure, developed by GESG and OpenForests, enables real-time tracking of carbon offset projects through satellite-based monitoring tools, ensuring transparency and accountability.

Because this digital infrastructure is designed for scalability, it can be adopted by other states in Mexico to streamline and consolidate a national carbon offsetting framework. This would allow for a harmonized and efficient system that ensures regional compliance while contributing to Mexico's broader climate goals.

Key Implementation Partners

Secretaría de Desarrollo Sustentable (SEDESU)

SEDESU ensures regulatory compliance and facilitates collaboration between the state, private sector, NGOs, and technology providers. By enforcing regulations and curating high-quality carbon compensation projects, SEDESU ensures transparency, accountability, and effectiveness.



Ricardo Javier Torres Hernández, SEDESU

"Local emissions need to be reduced and compensated locally. The Carbono Biodiverso Protoco is crucial because it integrates all necessary components and tools. This system can be tailored to our local sub-national tax-based regulated and compliant carbon compensation mechanism. It channels carbon taxes directly to local environmental carbon sequestration projects, ensuring effective and transparent compensation."

Grupo Ecológico Sierra Gorda (GESG)

GESG provides verified biodiversity carbon compensations and ensures 80% of proceeds reach local forest owners. Their expertise in forest regeneration and conservation makes them a critical actor in implementing the protocol.



Martha Ruiz Corzo, GESG

"Our biodiverse carbon protocol directly supports local forest owners, ensuring more funding for conservation efforts. Unlike speculative carbon markets, our approach prohibits trading carbon offsets, making local emissions compensable through on-site Nature-based Solutions. This system, embedded with local experience and social fabric, is transparent and sustainable, setting a new standard for carbon management."

OpenForests

As the technical partner, OpenForests developed the digital registry system and provides satellite-based monitoring tools. Their technology ensures transparency, efficiency, and scalability, making carbon compensation accessible and reliable for all stakeholders.



Alexander Watson, OpenForests

"Data creates transparency, which builds trust. By showing NbS progress with high-resolution satellite imagery and remote sensing data, we can overcome skepticism. This transparency unleashes the necessary funding to transform economies into climate-friendly systems, benefiting industry and biodiversity."

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Annex

1. Public Registry Carbono Biodiverso
2. Satellite Monitoring via OpenForests explorer.land
3. Presentation Carbono Biodiverso Protocol & Registry