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Executive Summary

ForestCarbonGrid is a non-crediting, non-offset complementary financing mechanism, aligned with national climate strategies and capable of channelling transparent financial flows into public climate and forest-related funds. The mechanism is designed to address persistent gaps in forest finance and support efforts to halt and reverse deforestation and forest degradation.

The concept is based on a global, spatially explicit grid of forest areas linked to carbon stock data derived from above-ground and below-ground biomass. These data are used to generate ForestCarbonGrid Digital Units (FCG DU), where each unit represents one tonne of carbon. Through a dedicated platform, these units enable participation by private actors, including companies and individuals, as a form of non-offset climate contribution and ESG-aligned engagement.

Financial flows generated through primary transactions and secondary market activity are channelled into recognised public climate and forest-related funding mechanisms at national or subnational levels. This creates a direct linkage between global participation and nationally defined forest transition pathways.

By operating alongside existing systems without interfering with MRV or carbon accounting frameworks, ForestCarbonGrid enhances transparency, broadens participation, and mobilises additional finance. In doing so, it contributes to strengthening the LULUCF sector, supporting Nationally Determined Contributions (NDCs), and advancing the implementation of the Paris Agreement.

1. Context

Forests represent the foundational layer of the proposed approach and a critical pillar for achieving the objective of halting and reversing deforestation and forest degradation by 2030. As recognised within the UNFCCC framework, forests play a central role in climate mitigation, biodiversity protection, and the provision of ecosystem services. However, despite strong policy commitments, a persistent gap remains between global ambition and the scale of financial resources required to support forest-based climate objectives.

Several structural barriers continue to limit progress. First, forest-related finance remains highly fragmented across public funds, carbon markets, and private capital, with limited coordination and scalability. Second, many jurisdictional and national forest programmes face constrained access to predictable and sustained financial flows. And, existing mechanisms have not sufficiently mobilised new sources of capital, including non-traditional and digitally enabled participation channels.

Addressing these barriers requires complementary approaches capable of enhancing financial mobilisation while remaining aligned with existing policy and institutional frameworks. In this context, there is a need for mechanisms that can operate as non-crediting and non-offset financial layers, while maintaining coherence with national climate strategies, forest monitoring systems, and broader transparency frameworks.

2. Proposed Solution: A Complementary Financing Mechanism (ForestCarbonGrid)

The proposed solution, ForestCarbonGrid, introduces a complementary, non-crediting and non-offset financing mechanism designed to mobilise additional financial flows in support of forest-related climate objectives, thereby contributing to the achievement of Nationally Determined Contributions (NDCs) and the implementation of the Paris Agreement. In line with the objectives of the COP30 roadmap process, the approach aims to address existing gaps in forest finance by creating a scalable, transparent, and globally accessible participation layer aligned with national and jurisdictional frameworks.

The mechanism is based on a global, spatially explicit grid of forest areas (e.g. km² resolution), where each unit is associated with estimated carbon stocks derived from AGB and BGB data. These estimates form the basis for the creation of ForestCarbonGrid Digital Units (FCG DU), where 1 FCG DU corresponds to one tonne of carbon. An initial reference price (e.g. USD 0.01 per FCG DU) is defined for primary issuance, while subsequent price formation is determined by market dynamics in secondary transactions, ensuring transparency and avoiding the need for active price governance. Carbon stock values are subject to periodic updates in line with evolving data inputs (e.g. from platforms such as Google Earth Engine), allowing changes in estimated biomass and carbon storage to be reflected over time at the data layer. These updates are directly mirrored in the corresponding volume of FCG DU, and consequently in their underlying monetary value, thereby maintaining consistency, transparency, and credibility of the system.

The ForestCarbonGrid operates through a digital platform that enables users to identify and participate in specific forest areas through the acquisition of FCG DU. While the underlying architecture will rely on tokenisation technologies, the mechanism is not positioned as a digital

asset market, but as a structured participation channel linked to real-world forest carbon data and aligned with public climate finance objectives.

From a demand-side perspective, the mechanism is designed to attract participation beyond traditional carbon markets by offering a non-offset contribution pathway. This includes corporate climate contributions, ESG-oriented engagement, and sovereign-aligned financial participation. In particular, it enables companies to demonstrate measurable, non-offset climate contributions, supporting ESG reporting, sustainability disclosures, and reputational positioning in relation to forest and climate action. By providing a structured and transparent mechanism for linking financial participation with real-world forest data and nationally aligned climate objectives, the value proposition moves beyond speculative dynamics towards credible and reportable climate engagement, thereby strengthening both market depth and institutional credibility.

Financial flows are generated through primary transactions and secondary market activity, with a predefined share of revenues systematically channelled towards recognised public climate and forest-related funds. In doing so, the mechanism creates a direct linkage between global participation and nationally defined forest transition pathways, contributing to the mobilisation of finance for conservation, restoration, and sustainable forest management and ultimately supporting the achievement of commitments under the Paris Agreement.

The governance structure is designed to ensure transparency, traceability, and alignment with national policy priorities. Financial flows are integrated into existing public finance architectures, while a dedicated transparency layer enables clear tracking of transactions and allocation of funds. This ensures that the mechanism operates as a credible complement to existing systems, without interfering with established MRV or carbon accounting frameworks, while indirectly supporting their outcomes through enhanced financial flows that enable measurable improvements in forest-related climate performance.

Overall, ForestCarbonGrid provides a practical and scalable policy-relevant option for enhancing forest finance by bridging global participation with nationally anchored climate action, thereby contributing to the implementation of commitments related to halting and reversing deforestation and forest degradation.

2.1. Institutional Alignment and Credibility

The proposed mechanism is designed as a non-crediting and non-offset complementary financing layer that operates alongside existing climate policy frameworks. While it does not generate or account for emission reductions, it is aligned with national forest strategies, climate finance mechanisms, and jurisdictional approaches to forest management, without duplicating or interfering with established MRV and carbon accounting systems.

Forest-related data, including above-ground biomass (AGB) and below-ground biomass (BGB), are primarily derived from national forest inventory data, and, where unavailable, complemented by globally available datasets (e.g. via Google Earth Engine). Carbon stock estimates are calculated using methodologies consistent with IPCC guidelines, ensuring coherence with existing forest monitoring and reporting practices. These estimates form the basis for the representation and valuation of ForestCarbonGrid Digital Units (FCG DU), reflecting the carbon content of specific forest areas.

Countries with larger forest areas and higher carbon stocks are associated with a greater volume and aggregate value of FCG DU, while higher forest cover and improved LULUCF performance — through afforestation, reforestation, and adaptive forest management — increase both carbon sequestration potential and financial capacity to support climate action. This creates a reinforcing dynamic in which increased financial inflows enable further forest-related measures, leading to measurable improvements in carbon stocks across AGB, BGB, and harvested wood products, and thereby strengthening national carbon accounting frameworks and reported LULUCF balances.

Institutional alignment is ensured through consistency with national climate frameworks, including Nationally Determined Contributions (NDCs), the LULUCF sector, and national forest strategies. Financial flows generated through the mechanism are channelled to recognised public climate and forest-related funds at the national level, where they are allocated through relevant ministries and institutions responsible for forest and climate policy implementation, directly supporting the achievement of national and Paris Agreement objectives.

From a credibility perspective, the mechanism avoids any claims related to carbon offsetting, emission reductions, or ownership of land and carbon assets. FCG DU represent a data-linked, non-claim-based participation layer with no role in compliance markets. Transparency is ensured through a public dashboard enabling clear communication, traceability of financial flows, and their linkage to recognised public funding channels, thereby reducing the risk of misinterpretation or speculative positioning.

By maintaining a clear separation from carbon crediting systems while ensuring alignment with national frameworks and public finance structures, the mechanism provides a credible and complementary pathway for mobilising additional finance in support of forest-related climate objectives.

2.2. Financial Flows and Governance

The ForestCarbonGrid platform is envisaged as an institutional mechanism, potentially hosted or coordinated by a neutral entity, ensuring alignment with public interest and climate policy objectives. The platform is not intended as a privately owned marketplace, but as an institutional mechanism designed to operate in alignment with public climate finance systems.

Financial flows are generated through the primary issuance and secondary exchange of ForestCarbonGrid Digital Units (FCG DU), facilitated through a dedicated platform. Demand is not positioned around speculative value, but rather as a form of non-offset corporate climate contribution, ESG-oriented participation, and sovereign-aligned financial engagement linked to forest-related climate action. This approach enables participation by private actors, including companies and individuals, seeking to contribute to climate objectives without engaging in carbon offsetting.

Revenues generated through primary transactions and secondary market fees are programmatically allocated at the point of transaction to a recognised public climate and forest-related funds at the national or subnational level. A limited portion of transaction fees is retained

at the platform level to cover administrative costs, system maintenance, and the operation of transparency and reporting infrastructure.

In countries where emissions trading systems (ETS) and/or carbon taxes (CT) are in place, financial flows are directed towards the same institutional channels that manage these instruments. Where such mechanisms are not yet established, funds are held under predefined ring-fenced conditions and subsequently transferred to appropriate national institutions responsible for climate and forest policy implementation once suitable governance arrangements are defined.

This structure ensures that financial flows are systematically integrated into existing public finance architectures, reinforcing national climate finance systems and enabling transparent, traceable, and accountable allocation of resources in line with national policy priorities.

2.3. Implementation Pathway and Policy Relevance

The implementation of the ForestCarbonGrid mechanism can be structured through a series of sequential steps. First, the digital platform is developed, establishing a global, spatially explicit forest grid with associated carbon stock data and corresponding ForestCarbonGrid Digital Units (FCG DU).

Second, institutional arrangements are established through engagement with national authorities, whereby participating countries agree that financial flows generated from FCG DU linked to their forest areas are channelled into designated public climate and forest-related funds.

Third, the mechanism is introduced to the market through targeted communication and outreach, aimed at attracting corporate and individual participants interested in non-offset climate contributions and ESG-aligned engagement.

Fourth, FCG DU are made available for acquisition through the platform, enabling participation and generating financial flows through primary transactions and subsequent secondary market activity.

Fifth, a predefined share of revenues is systematically channelled to recognised public climate and forest-related funding mechanisms, ensuring alignment with national policy priorities and supporting forest-related climate actions.

Finally, the system is subject to continuous data updates and periodic reporting, including regular updates of forest carbon stock estimates and annual reporting on financial flows and supported activities, ensuring transparency, accountability, and ongoing credibility of the mechanism.