CSFE value chain carbon credit

Through timber construction, there is a future in which forests can support cities and, in return, cities can support forests. As the global population increases, particularly in cities, the construction sector is expected to exponentially grow in order to accommodate the demand for housing and other infrastructure. Current construction techniques are a significant contributor to the global climate crisis and urgently need to be transformed. By substituting the carbon-intensive materials commonly used in construction with forest economy biomaterials, such as wood and bamboo which sequester carbon, we can create buildings with reduced carbon emissions. However, this timber construction industry is still in its nascency and there is a need to address its market gaps and leverage opportunities to accelerate its development and increase its uptake.

These interventions for the mass timber construction industry can be segmented into seven main categories of solutions that affect the value chain and enablers of the ecosystem. Through various internal and external discussions, Climate Smart Forest Economy Program (CSFEP) has categorized potential solutions as relating to i) Finance and insurance; ii) Product and process certifications; iii) Communication and awareness building; iv) Timber knowledge ecosystem; v) Forest management and timber policies; vi) Value chain linkages; and vii) Timber-based real estate. The proposed solutions can be executed as for-profit, philanthropic, or blended ventures, with the services developed as individual offerings or paired with complementary services in a single offering. Additionally, while some solutions may be set up as a free-standing entity, other solutions may be similar to services provided by existing actors in or adjacent to the CSFE sector. In the case of the latter, it may make sense to approach these existing providers as potential partners to find a suitable and effective home for needed services.

FINANCE AND INSURANCE

Timber construction actors have few opportunities to offset the higher market costs of constructing with timber. Current carbon credit schemes are focused primarily on the carbon sink/sequestration functions of the climate-smart forest economy (CSFE) value chain, without taking carbon storage and substitution into account. The 3S Framework[1] (carbon Sink, carbon Storage, and biomaterial Substitution) accounts for all three functions but, currently, there are limited financial benefits aligned with an organization's commitment to the framework.

A CSFE value chain carbon credit agency would tackle this challenge by developing a carbon credit offering that takes into account the carbon benefits of all aspects of the value chain. The agency will offer investors and organizations or individuals looking to purchase carbon offsets the opportunity to support CSFE solutions. It would incentivize CSFE organizations to focus on, invest in, and optimize the 3S potential of their operations and of their value chain partners

Some CSFE organizations such as Fairventures Social Forestry (FSF), aim to generate revenue from carbon credits but they need ecosystem mechanisms and technical assistance to do so. FSF is one of the breakthrough initiatives identified by the Climate Smart Forest Economy Program (CSFEP) and works with local communities to produce sustainable, fast-growing timber and high-value organic cash crops. They aim to generate 20% of their revenue from carbon credits from their forestry activities, which include growing crops on degraded land and conserving forests. However, these credits accreditation for international

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[1] The 3S Framework (carbon Sink, carbon Storage, and biomaterial Substitution) quantifies carbon benefits and tradeoffs along forest economy value chains. Refer to the Climate Smart Forest Economy Program for more

voluntary markets is yet to be established and it is uncertain whether it will be secured in the future.[2] Similarly, Construction Stored Carbon (CSC) credits are also being explored in the timber construction industry. CSC credits recognize the capacity of buildings to store carbon over an extended period of time through the embodied carbon stored in bio-based materials such as timber and bamboo. Navigating the future of monetizing the activities across the mass timber construction value chain requires dedicated skills and tailored solutions to validate the carbon benefits of this nascent industry.

The agency would consider the 3S sink, sequestration, and substitution functions and have mechanisms for verification through the Verified Carbon Standard (VCS) or other carbon credit verification standards. The revenue model would allow carbon project developers to assess and verify the carbon additionality to sell the carbon credits accrued, or landowners and real estate agencies could receive could subsidize their buildings using the carbon verified. These actors would need to:

- Assess CSFE actors and value chains against the 3S accounting framework to understand carbon benefits
- Institute mechanisms for providing financial incentives for embodied carbon in timber-constructed buildings
- Stack carbon credits from across the 3S value chain to develop a comprehensive carbon credit offering

If you would like to know more, you can reach out to Puro.Earth.

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[2] Hicks, R., Project aims to restore degraded Indonesian forests — by partnering with timber giants, 2022