FOREST4EU

ITHub 3 - Sustainable Forest Management and Ecosystem Services

FOREST4EU partner: UNIFI
OG: FOR.TRACK
OG's country: Italy
Type of Innovation: Technological

Carbon accounting for PES

Introduction

Forests offer more than just wood and non-wood materials; they provide a wide range of additional services, including creating habitats for biodiversity, purifying water, and regulating floods and climate. Their ability to sequester carbon, provide cooling effects, and supply renewable raw materials, food, and medicines is essential in combating climate change, transitioning to a circular bioeconomy, and promoting overall societal health.

The economic sustainability of the EU's forest sector continues to be a fundamental aspect of sustainable forest management. Moreover, this economic sustainability is critically significant for preserving the various advantages that forests offer to society, particularly for ensuring the livelihoods of rural communities. Both public and private payments for forest ecosystem services offer an alternative means to secure funding for multifunctional and protective forest management and the sustainable upkeep of ecosystem services. In this context, it is important to establish methods for quantifying these ecosystem services.

Among the services with a potential market, carbon is the most developed. In Italy, there is no formalized market yet, and activities are primarily in the voluntary sector. In this scenario, calculating the Business as Usual (BAU) and offsetting resulting from management is crucial. To have a picture of the BAU, it's essential to find methodologies as standardized as possible and accurately quantify carbon. In our case, using ground biomass data, we were able to derive a model using an area-based approach, integrating remote sensing data (Sentinel-2 satellite) for various tree species, and then converting this value into carbon as 0.5 of the biomass. At this time, this data has not been used to enter the carbon credit market but solely to establish a reference framework for the BAU and to initiate proposed management changes, with the intention of calculating offsets later on.

Lessons learned

Remote sensing data can be valuable in quantifying biomass at the company level when integrated with ground data. This approach has enabled the precise assessment of biomass and the identification of various forest types. However, to date, it has not been possible to quantify the credits resulting from management offsets, but rather to establish an initial reference framework.

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Further information

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