ROMANIA– CARPATHIAN MOUNTAINS

Climate Change Mitigation in the Endangered Landscapes and Seascapes Programme

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

Project size: **16,728 ha** assessed out of **200,000 ha** total site

Assessment timeframe: **2022-2042**

Project lead: **Foundation Conservation Carpathia**

Key activities:

- Restore clear-cut forest
- Reintroduce bison and beaver

Total mitigation potential: **-236,207 tCO2-e**

Why restore nature?

The Endangered Landscapes and Seascapes Programme supports nature restoration across European land- and seascapes.

As well as providing benefits for biodiversity and ecosystem services, restoring natural landscapes also has the potential to contribute to climate change mitigation.

About the project:

This project is located in the Făgăraș mountains, within the Southern Carpathians. The landscapes consist of forests, mountains, alpine grasslands and rivers.

As well as being home to bears and wolves, the area also hosts many endemic and rare species. These have been threatened by human pressures, including overgrazing, clear-felling and hunting.

The restoration efforts aim to restore felled forest, reintroduce beaver and bison, and support a sustainable local economy, focusing on eco-tourism.

Assessing the climate change mitigation potential of this project:

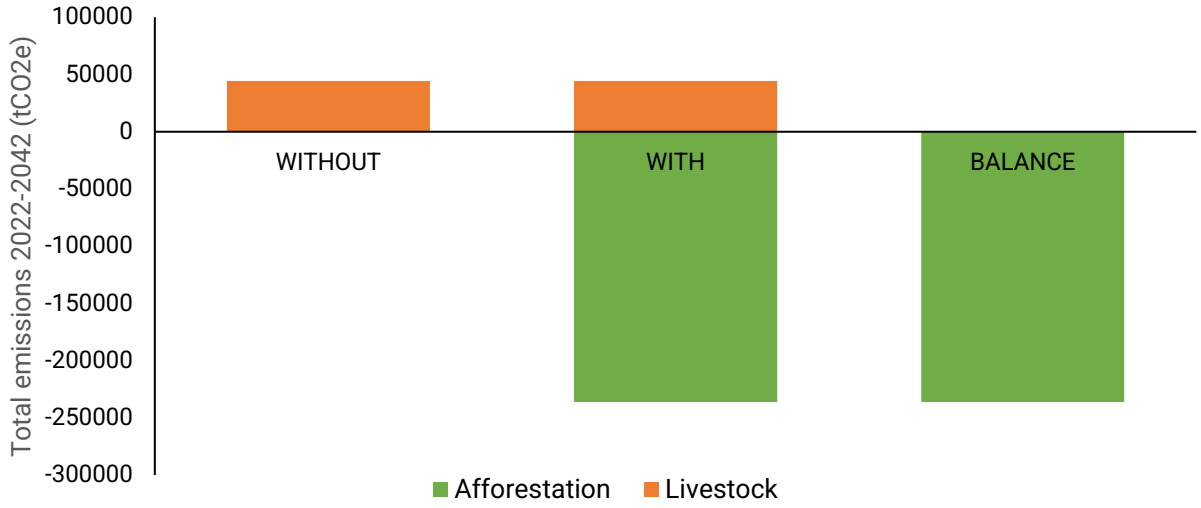
To determine the contribution of these actions towards climate change mitigation, their impacts on carbon stocks and GHG emissions need to be calculated. The most applicable tool for doing this is the EX-ACT carbon assessment tool, developed by FAO.

This tool uses the default ‘Tier 1’ emission factors, for the carbon sequestration of broad habitats and regions. Accuracy can be increased by more specific ‘Tier 2’ emission factors from the literature.

EX-ACT compares the ‘project scenario’ (the impacts of the restoration interventions) with a ‘baseline scenario’. This determines the changes in greenhouse gas sequestration that are due to the project.

For this project, the restoration intervention included in the assessment is afforestation.

Climate change mitigation results:



Assessed total emissions (tCO2-e) over 20 years in the baseline scenario (without), project scenario (with), and the resulting emissions difference due to the project (balance)

Project outcomes

Over the 20 years of this assessment (2022-2042), the EX-ACT tool predicts that there will be a total net emissions reduction of around – **236,207 tCO_2-e.**

This is all due to the carbon sequestration of planting **1262 ha** of native forest on clear-cut areas.

There are no further changes in livestock numbers, as well as no changes in grassland condition predicted over the timeframe of this project. These would alter the greenhouse gas balance of the project.

The assessment timeframe of 20 years is also relatively short in relation to ecological processes. Over timescales longer than this assessment (beyond 2042) the mitigation potential is expected to be much higher.

Associated benefits

- Supporting high biodiversity, including key species
- Improved ecosystem services, such as flood management
- Development of nature-based businesses

Limitations

Due to the uncertainties associated with Tier 1 and Tier 2 emission factors, the results shown here are estimates. To increase accuracy, on-site carbon flux measurements can be used for future assessments.

The EX-ACT tool simplifies ecological processes and this adds further uncertainty.

More information:

ELSP– Carpathian Mountains

Foundation conservation Carpathia website

EX-ACT tool

ELSP– Natural Climate Solutions

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