Draft

HORIZON-CL5-2022-D1-02-05: Let nature help do the job: Rewilding landscapes for carbon sequestration, climate adaptation and biodiversity support

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 8.00 and 9.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 17.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: The page limit of the application is 60 pages.
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).

Expected Outcome: Project results are expected to contribute to some of the following expected outcomes:

- Contribution to IPBES and IPCC, to the achievement of objectives of reaching net zero carbon emissions, enhancing climate change adaptation, and to the EU Biodiversity Strategy.
- Support the implementation of the Horizon Europe Mission on Adaptation to climate change including societal transformation.
- Identify low cost/benefit ratio options to restore natural and semi-natural ecosystems for carbon sequestration and biodiversity conservation.
- Assess the value of restoring ecosystem for adaptation to and/or mitigation of climate change and identify potential rebound effects and trade-offs.
- Demonstrate the degree to which these approaches are affected by climate change itself and if they can still be effective under global warming of 2°C and higher.
- Demonstrate the potential contribution of European abandoned land and protected areas systems for carbon sequestration, adaptation to and/or mitigation of climate change.

- Develop strategies to minimize the increasing risk of wildfires due to the changing climate.
- Provide operational methods for low cost, low human intervention options for ecosystems restoration optimising the contributions to climate and biodiversity objectives and managing trade-offs.
- Help generate FAIR[1]data and well-documented, robust and transparent methodologies for better integration of land-use management systems into IAMs and ESMs.
- Assess the perception and acceptability of citizens and stakeholders on rewilding and rewilding options and identify potential conflicts and trade-offs in governance and decision-making.

Scope: The biodiversity crisis and the climate crisis are intrinsically linked and the contribution of Nature-based Solutions (NBS) to the global climate objectives is pivotal. A better understanding of how the use of ecosystems natural capacity, with minimal help from humans, can contribute to carbon sequestration and biodiversity conservation is urgently needed to make the use of NBS operational.

Actions should foster interdisciplinary research with a focus on the climate-biodiversity nexus, advancing our knowledge to further promote integrated approaches to better address these interdependent challenges.

Actions, taking stock of previous and ongoing experience, including associated uncertainty, should provide a robust assessment of the potential contribution that restoring ecosystems, including trophic chains restoration, with a "let nature do the job", also called "rewilding", approach can provide in terms of carbon sequestration and storage, climate change mitigation and adaptation and biodiversity conservation. "Rewilding" is meant here as passive management of ecological succession with the goal of restoring natural ecosystem processes and reducing human control of landscapes, although some intervention may be required in the early restoration stages.

Actions can address specific ecosystems and/or landscapes on land, freshwater, coastal and marine ecosystems while providing a clear contribution to define the potential use of the "rewilding" approach at regional, national and continental levels.

Actions should build on an updated and detailed picture of the status and trends of ecosystems change, (including, where applicable, land abandonment) in Europe to assess where, at which ecological conditions and at what scale the "rewilding" approach can significantly improve carbon sequestration together with habitats reinforcement and biodiversity conservation.

Actions should investigate how "rewilding" can be complemented with other approaches (for example active restoration and conservation, low intensity farming, forestry and pasture management, fishing), taking into account specific regional conditions, to increase carbon

[1] FAIR (Findable, Accessible, Interoperable, Reusable).

sequestration, improve biodiversity conservation and ensure provision of goods and ecosystem services.

Actions should provide scientific insights, tools, methodologies and innovative solutions including social innovations to assist national governments, regions and communities in embedding the "rewilding" approach, as far as feasible, in their own plans to reach carbon neutrality. Actions should also advance the integration of land use options for carbon sequestration into IAMs and ESMs.

Actions should significantly advance knowledge on the role and relevance of restoring fully functional trophic chains, for instance through the conservation, management and reintroduction of apex predators, grazers and scavengers, in the "rewilding" process, with a special focus on the functioning of trophic cascades on landscape processes and the ability of ecosystems to act as carbon sinks. Challenges and barriers to this aim should be analysed and the involvement of Social Sciences and Humanities is recommended.

Actions should ensure appropriate multi-stakeholder collaboration and interdisciplinarity to embed socio-economic aspects, including opportunities for economic development, existing barriers (ecological, social, gender-related…) and potential synergies and drawbacks.

Actions should envisage clustering activities with other relevant actions, initiatives and programmes, including Horizon 2020 and the LIFE Programme to promote synergies, integration and co-operation. They should make use and contribute to knowledge exchange and networking European platforms (e.g. Climate-ADAPT, Network Nature, OPPLA, BiodivERsA). Cooperation and planning for further exploitation of actions results during and after the project end is strongly encouraged.

Synergies should be ensured with projects addressing wildfires (for example under the EU Green Deal call LC-GD-1-1-2020, Horizon 2020 Societal Challenge 5).

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH and gender expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Social innovation is recommended when the solution is at the socio-technical interface and requires social change, new social practices, social ownership or market uptake.