

## Assessment of forest – carbon sinks and promotion of compensation systems as tools for climate change mitigation (LIFE FOREST CO2)



### Resumen:

Despite increasing awareness in the land use, land use change and forestry sectors (LULUCF) concerning climate change action, reflected in Decision 529/2013/EU, the emissions and carbon sink effect generated by sustainable forest management (SFM) strategies are not included in the EU's greenhouse gas (GHG) emissions reduction objectives (40% by 2030).

As it is not yet considered as a key tool, the climate change mitigation potential offered by SFM strategies is reduced. One of the main limitations preventing a value being put on forestry systems has been gaps in the mathematical models used for assessing the carbon sink effects of Mediterranean conifer forests. For this reason, the development of precise prediction tools, and their application through SFM practices for the conservation of natural carbon sinks, is one of the main goals in the context of mitigation planning. This will improve the knowledge base, and the accounting and notification system, for the carbon sink potential of the LULUCF sectors.

### Objetivos:

The main objective of this LIFE proposal is the promotion of forest systems and sustainable forest management as a tool for climate change mitigation through the application of the European legislation related to the accounting of emissions and removals in the land-use sector, changes in land use and forestry (LULUCF), improving knowledge base. This will facilitate an integrated implementation, involving the main stakeholders in the process of enhancement, who include those responsible for offsetting through voluntary market.

### Objetivos contribución:

The contribution of the UCO to the project can be summarized in two main objectives. 1) To estimate the soil organic carbon (SOC) in Mediterranean forest ecosystem populated by *Pinus halepensis* and *Pinus pinaster*. 2) To develop, train and evaluate statistical models which account for the influence of forest management activities in the carbon sequestration. 3) To compare the estimation of SOC in forest soils obtained by the conventional techniques and model estimation.

### Entregables:

The deliverables might consist on several reports describing the process and methods used to estimate the SOC by conventional and statistical techniques as well as the results and differences obtained by both methods.

### Impacto:

The expected results after the implementation of this project, through which main objectives could be achieved are:

- 1.- Accurate estimation, according to the accounting standards established through Decision 529/2013/EU, of net anthropogenic removals of carbon in aerial and root biomass, organic matter of soils and leaf litter and dead wood, as a result of sustainable forest management works, in Mediterranean forests of *Pinus halepensis* and *Pinus pinaster*.
- 2.- Carbon sequestration models as a result of the actions of sustainable forest management, which are embodied in synthesized guidelines that are spread between those responsible in the field of forest planning and management.
3. - CO<sub>2</sub> sequestration projects related to sustainable forest management included in absorption records/initiatives/entities increase at the rate of 125 after the completion of the project, achieving a total removal of CO<sub>2</sub>, estimated in 3,375 tons during the project, and more than 50.000 tons in long term.
- 4.- 200 companies and institutions in the diffuse sectors voluntarily implement measures of calculation, reduction and offsetting their carbon footprint, through forestry projects of absorption, reducing, at least, 7,000 tons of CO<sub>2</sub> emissions into the atmosphere during the project,
- 5.- Forestry is perceived among key stakeholders and public of the project as an activity with potential to generate social, economic and environmental benefits, as well as a fundamental tool for climate change mitigation.

**Presupuesto:** 2,335,417.00

## **Equipo de investigación**

**Nombre:** EVALUACIÓN Y RESTAURACIÓN DE SISTEMAS AGRÍCOLAS Y FORESTALES

**Email:** [rmnavarro@uco.es](mailto:rmnavarro@uco.es)

**PAIDI:** RNM-360

**Web:** <https://www.uco.es/investiga/grupos/ersaf/>

**Investigador principal:** Rafael Navarro Cerrillo (PARTNER)

**Email:** [ir1nacer@uco.es](mailto:ir1nacer@uco.es)

**Presupuesto del equipo:** 220,208.00

**Universidad:** Universidad de Córdoba

**Enlace:** <http://lifeforestco2.eu/>

**Estado:** published

**Contacto** [Solicitar más información de Assessment of forest – carbon sinks and promotion of compensation systems as tools for climate change mitigation](#)