LIFE
Biorefformed

# LIFE BIOREFFORMED

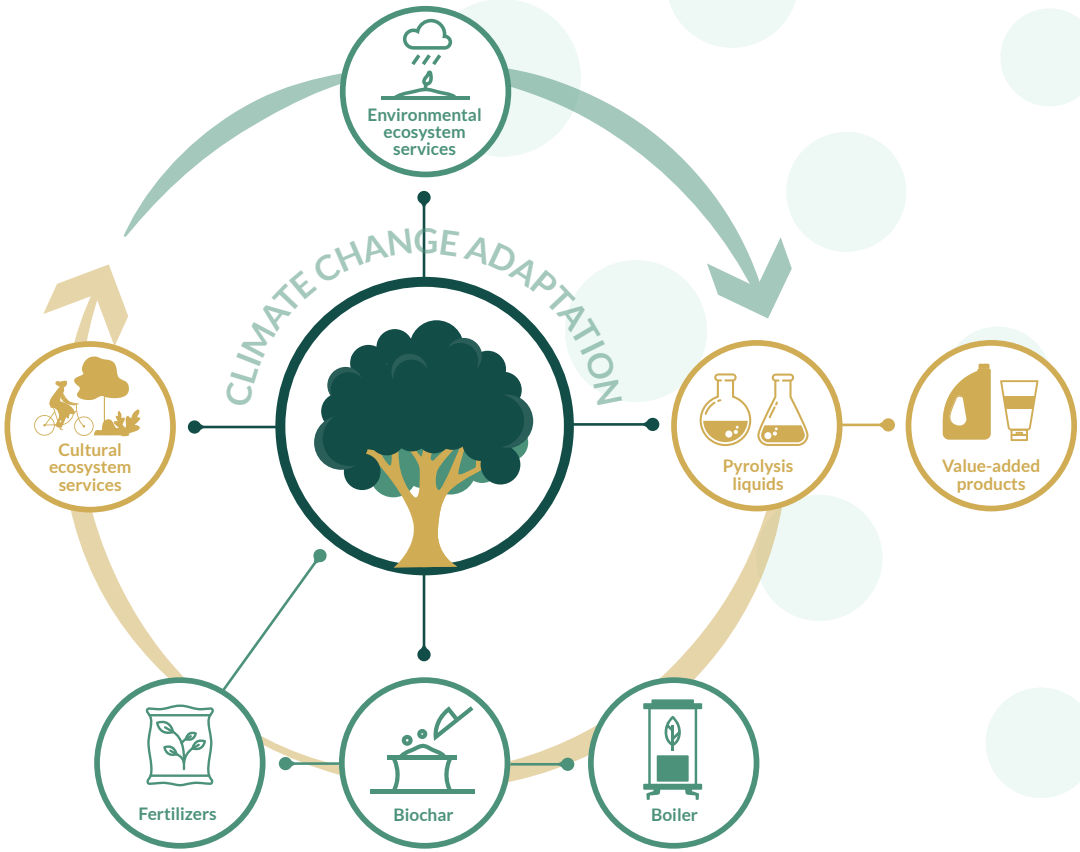
## Implementing a Mediterranean biorefinery to boost forest management through the production of added value products

**LIFE19 ENV/ES/000544**

# What is **LIFE BIOREFFORMED**?

**LIFE BIOREFFORMED** (2020 - 2024) aims to boost the sustainable management of Mediterranean forests by upgrading an existing biorefinery using torrefaction and pyrolysis to produce renewable chemicals and fuels from forest biomass.

This project is part of the programme LIFE Resource Efficiency, including soil and forests, and green and circular economy, with and overall budget of 1,5M.




**Partners:**

CTFC

ENERG-bas

CREAF

UAB Universitat Autònoma de Barcelona

ICTA Institut de Ciència i Tecnologia Ambientals ICTA-UAB

Generalitat de Catalunya

Centre de la Propietat Forestal

**Co-financer:**

Diputació Barcelona

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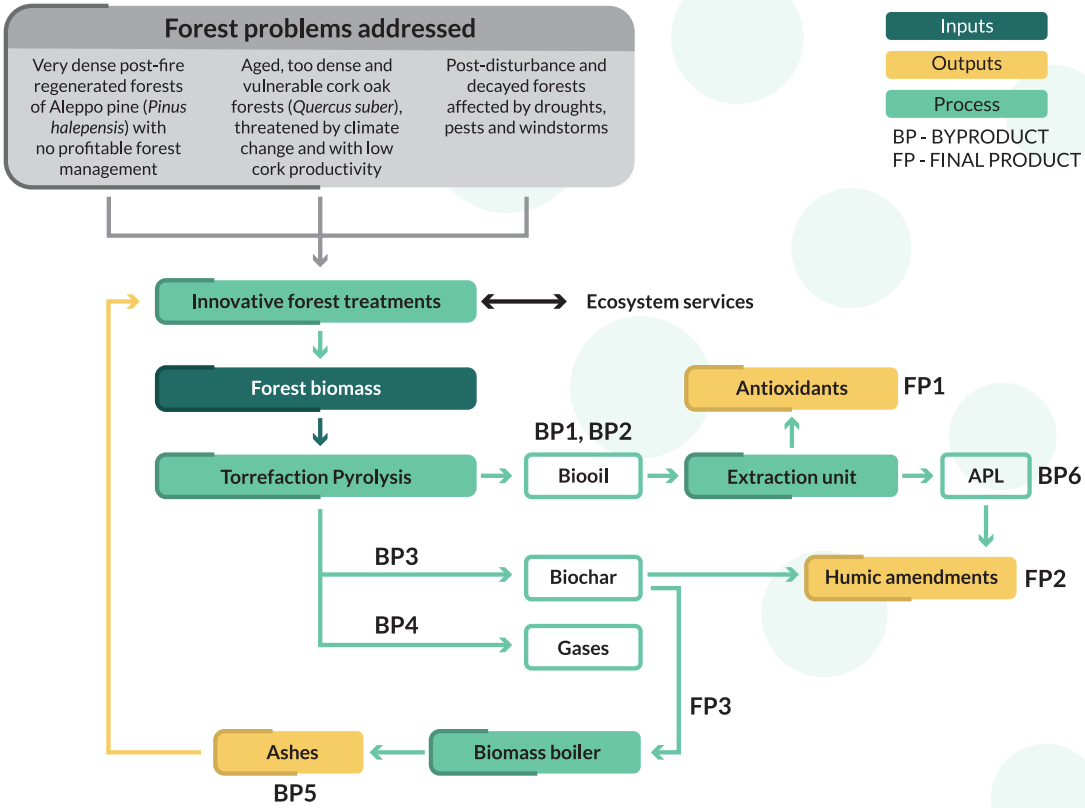
# Objective

The main objective of this project is **to boost the sustainable management of Mediterranean forests by upgrading an existing biorefinery using torrefaction and pyrolysis to produce renewable chemicals and fuels from forest biomass**.



## The specific objectives are:

1. To produce antioxidants and fertilizers from different combination of forest biomass types.
2. To determine the best combination between economic viability and the maintenance of ecosystem services and the conservation of biodiversity.
3. To disseminate the results of the project to different stakeholders involved in the value chain, of both biorefinery and forest management.
4. To set up the local biorefinery with a capacity of up to 100 kg/h to produce biooil and solid biofuels in continuous coupled with the conventional extraction unit to extract the antioxidants phase from biooil.
5. To provide innovative Mediterranean forest management models and guidelines aimed at conserving the biodiversity and adapting to climate change with the aim of transferring them to the forest policy and regulations.
6. To monitor ecosystem services of the forest demonstration areas and its adaptation to climate change, ensuring that this project contributes to biodiversity conservation.
7. To create a more sustainable rural and local economic activity with social benefits.

## Location:


# Actions

## A. Preparatory actions

- A1 Signature of agreements and administrative authorisations to implement the demonstrative sites.
- A2 Diagnosis - site delimitation and forest inventory of the demonstration sites.

## B. Implementation actions

- B1 Improving forestry economic feasibility in post-fire Aleppo pine, cork oak and post disturbance/decayed forests.
- B2 Installation, adaptation of the prototype, start-up and preliminary tests.
- B3 Determination of optimal operating conditions to maximise the final products.
- B4 Characterisation and upgrading of the final products.
- B5 Replicability and transferability of the biorefinery to other Mediterranean countries.

## C. Monitoring of the impact of the project actions

- C1 Technical monitoring of the implementation of forestry management models.
- C2 Monitoring environmental ecosystem services of the forest demonstration areas and adaptation to climate change.
- C3 Monitoring social and cultural ecosystem services of the forest demonstration areas.
- C4 Monitoring the socioeconomic and environmental impact of the project actions.

## D. Public awareness and dissemination of results

- D1 Communication actions of the project.
- D2 Transference of the project to specialized audience.

## E. Project management

- E1 Coordination and management of the project.
- E2 Project indicators.
- E3 After-LIFE plan.

# Quantified expected results and impacts

1. Achieving the production of humic amendments and antioxidants from the biooil and solid biofuels (biochar) from different types of biomass.
2. Implementation of 45 hectares of pilot forest stands (15 ha cork oak forests, 10 ha shrubland and 10 ha mixed species).
3. Improvement of economic feasibility of forest management in post-disturbance sites, particulary post-fire Aleppo pine, and in vulnerable and non-productive cork oak forests.
4. Improvement of forest health and productivity (increase of tree growth rate and the relative water content of foliage).
5. Improvement of forest ecosystem services such as water cycle regulation and carbon sink capacity.
6. Reduction of fire risk in Aleppo pine regenerated forests, cork oak forests and other post-disturbance sites.
7. Providing forest administration and private users of economic, social and environment related tools to support decision-making.
8. Creating a more sustainable rural and local economic activity with social benefits.
9. Increasing the level of knowledge and awareness of the general public and European involved actors.

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*The contents of this publication are the sole responsibility of CTFC and do not necessarily reflect the opinion of the European Union.*

@biorefformed

https://lifebiorefformed.eu/

info@lifebiorefformed.eu

More information