

LIFE BIOEFFORMED 2020 - 2024

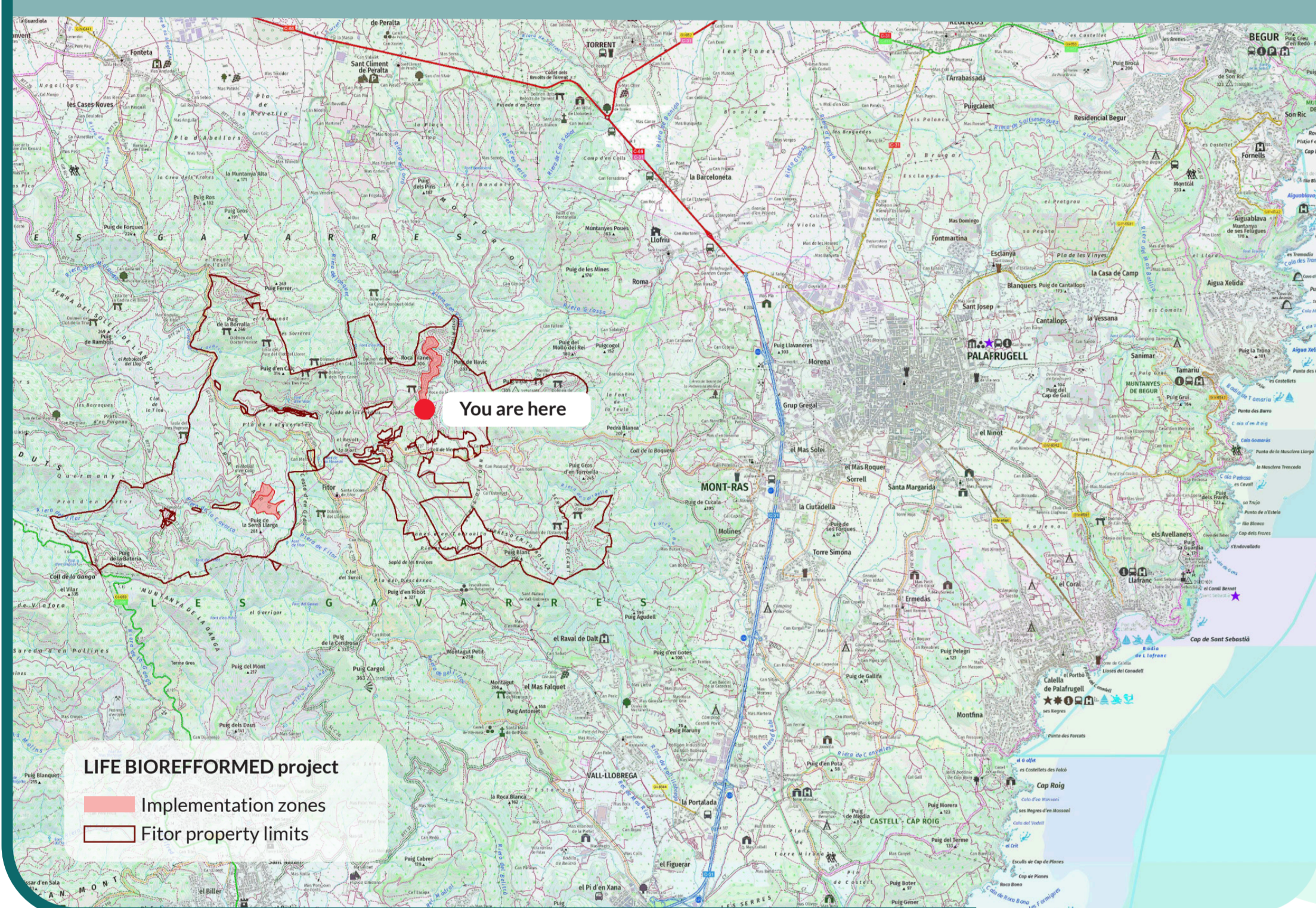
Test to demonstrate the potential of the biorefinery processes applied to high density carbon products



THE LIFE BIOEFFORMED PROJECT

The project objective is to boost the sustainable Mediterranean-forest management by upgrading an existing biorefinery using torrefaction and pyrolysis (TP) to produce renewable chemicals and fuels from forest biomass.

YOU ARE HERE



CORK OAK FORESTS

The cork oak forests (*Quercus suber* L.) are considered habitats of communitarian interest at EU level. In Catalonia, cork oak occupies more than 70.000 hectares with a large economic and sociocultural tradition. Cork is the most valued product, extracted every 14-16 years, growing again after the harvest. Climate changes represents a great threat for cork oak conservation and its associated value-chain. Beyond wild-fire risks, the shortage of water causes less vitality, growth and, finally, the substitution of cork oak to other more competitive species. Plagues, especially the cork roach (*Coraebus undatus*) which effects the quality of the cork, is benefitted by the less vitality of the trees and by a warmer climate condition.

WORKS IN THE PROPERTY OF FITOR CLOT DELS MATXOS ZONE

Private land with Forestry Management Plan n. 4. Surface of the works: 5 hectares.

OBJECTIVE:

valorisation of heather biomass (*Erica arborea* L.) obtained using a technological innovation on the selective clearing aiming at taking advantage of the Mediterranean forest thermodynamic to favour the atmospheric water obtention.

SILVICULTURAL TREATMENTS:

undergrowth selective cut taking 20 metres from each side of the paths. Also leaving scrub lines which is used as natural fences for the wind. Scrub is harvested and grinded in-situ and then transported to the micro biorefinery.

EXPERIMENTAL MONITORING:

Installation of sensors to evaluate the scrub role regarding its contribution to the soil and ambience humidity retention.

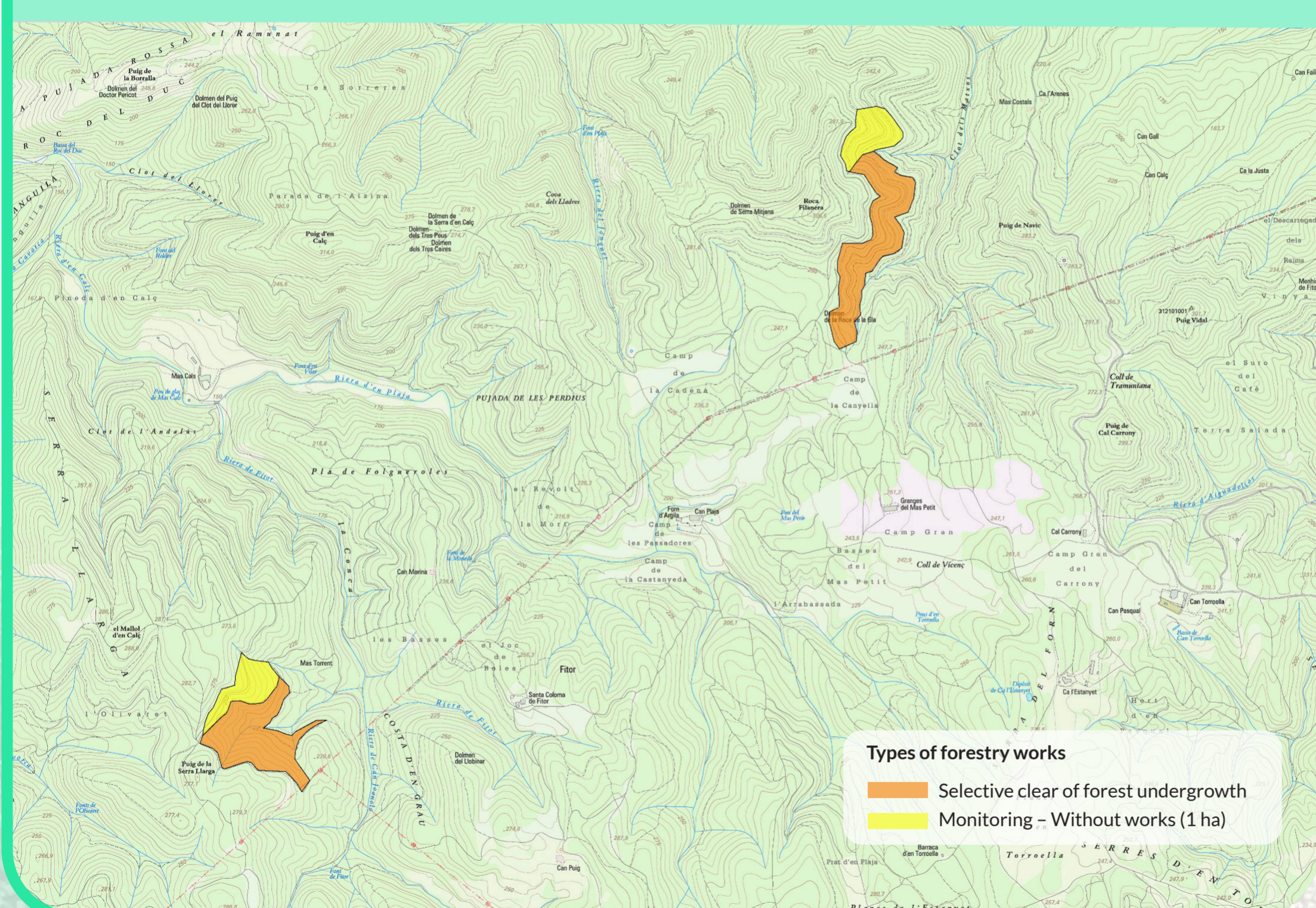
FORESTRY MANAGEMENT TO ADAPT THE CORK OAK FOREST OF LES GAVARRES TO CLIMATE CHANGE SCENARIOS

Cork oak forests of Les Gavarres are Mediterranean dry cork oak forests, mainly mixed forest with pines (stone pine or maritime pine), oaks and strawberry tree, all of them more resistant than cork oaks.

A unique characteristic of cork oak forests from Les Gavarres and, especially in Fitor, is that they are subjected to a daily maritime air, which is humid and comes from the central part of the Costa Brava.

This environmental humidity its captured by the forest and used for the vegetation through an adequate undergrowth management, based on the Mediterranean forest thermodynamic principles.

FORESTRY WORKS



The heather and the strawberry tree complement their self to generate a shadowed microclimate, fresh and humid under the Mediterranean forest trees: the heather acts as a sponge capturing the water from the humid winds near the grown. The strawberry tree, through its big leaves and higher lanceolated, condenses the humidity to be used for the system.

