

# Research topic: The use of materials in new technology products (BIOREF2)

- Research line: Resource management for a Circular Economy
- Research group: Sostenipra

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## Life-cycle Assessment (LCA) of the different forest management practices of a biorefinery plant.

The BIOEFFORMED project aims to boost the sustainable Mediterranean-forest management by promoting a local biorefinery concept capable to produce renewable chemicals and fuels from forest biomass. The objective is to contribute to the development of the bioeconomy helping to accelerate progress towards a circular and low-carbon economy.

To ensure circular strategies are aligned with improved environmental performance of the output products from the biorefinery, life cycle assessment will be used. This assessment will focus on the environmental impact of the innovative forest management of the forest stands included in the project. This include the biomass management of diferent forests before and after they reach the biorefinery plant which is currently performed by CREAM research center in forests located in the Barcelona area.

**Main goal: To environmentally assess forest management practices of a biorefinery plant.**

### MAIN TASKS:

- 1) To perform a literature review about biorefineries and their related forest management practices.
- 2) To gather information and quantify all related inventory flows (energy and materials) of the forest management practices before and after reaching the biorefinery plant.
- 3) To quantify environmental impacts related using LCA, distinguishing different impacts according to all types of forest biomass.
- 4) To give sustainability assessment and further potentials to improve the environmental sustainability of forest management practices.
- 5) To write a peer-review paper for submission in a peer-review journal.