

NEWSLETTER summer 2023

We are happy to bring you a summary of what we have been doing recently!

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State of the project

The LIFE BIOEFFORMED project is moving at full speed. Since our last newsletter, the team working on this innovative project have processed eight different kinds of biomass and are now doing the last tests to identify the optimal operation conditions.

The team has also worked on the characterization of final products, including acetic acid, levoglucosan, antioxidants, phenolic resins, and humic extracts that can be used as biostimulants, and biochar is characterized as bioenergy product. The monitoring actions are also being developed to full performance which include the technical monitoring of the implementation of forestry management models, the monitoring of the environmental ecosystem services of the forest demonstration areas and their adaptation to climate change, the monitoring of social and cultural ecosystem services of the forest demonstration areas and the socioeconomic and environmental impact of the project actions.

Monitoring the impact of the actions of the project

Air temperature and humidity sensors as well as soil humidity ones have been installed on one of the demonstration areas (FITOR) to monitor the implementation of forestry management models. The sensors were installed on two plots where treatments were performed and another one as a control area. The data logs will be used to better understand the effects of forest management on the quality and types of products obtained through the biorefining process.



1st LIFE BIOEFFORMED Open Day

On June 2nd, over 30 people gathered at the CTFC for the 1st LIFE BIOEFFORMED Open Day "Sustainable forest management through a biorefinery." The meeting started with a welcome message by Antoni Trasobares, director of the CTFC, and an opening conference by Lluís Coll, Professor of Forestry Engineering at Universitat de Lleida, entitled "Forest management and climate change in the European and Mediterranean context."

Members of the LIFE BIOEFFORMED project, led by its coordinator, Neus Puy, updated the attendees on the achievements and work carried out in the project before starting a colloquy with representatives from the forestry sector moderated by Roser Maneja, deputy research director of the CTFC.

The meeting concluded with a visit to the laboratories and the biorefinery of the project, where the participants were able to see firsthand the process to obtain added-value products from Mediterranean wood.

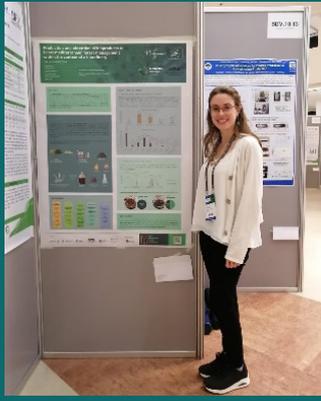


Spreading the word of LIFE BIOEFFORMED

Researchers Carla Fuentes and Mireia Mora participated in the [European Biomass Conference and Exhibition](#): The Leading Platform for Global #Biomass Innovation presenting two posters.



Fuentes presented the poster "Implementation of a Mediterranean #biorefinery to promote forest management through the production of value-added products" showcasing the different #bioproducts that can be obtained thanks to the biorefinery.



Mora presented the work “Production and obtention of #bioproducts to boost Mediterranean #forestmanagement within the context of a biorefinery” which focused on the obtention of value-added products from bio-oil and the synthesis of phenol-formaldehyde resins.



Prof. Xavier Gabarrell and researcher Joan Muñoz presented a poster at the 11th International Conference on Industrial Ecology in Leiden in July to show the project’s first Life Cycle Assessment results of the biorefinery pilot plant.



LIFE BIOEFFORMED coordinator Neus Puy participated in the workshop “The role of regional action plans for circular bioeconomy to design resilient landscapes” with the talk “Re-defining socioecological resilience - LIFE BIOEFFORMED” at the 2023 European Regions for Innovation in Agriculture, Food and Forestry Annual Conference held in Bolzano, Italy in May.



Mireia Mora presented the project at the “Inspiring practices to innovate with biomass” session at EXPOBIOMASA in Valladolid in May.



Neus Puy participated in the Jornades Emili Garolera together with the Forestry Property Centre talking about post-fire landscape ecological restoration in La Fatarella, one of the forest demonstration areas of LIFE BIOEFFORMED, forest management and regeneration of *Pinus halepensis* forests, and how to valorize these products through a biorefinery.

New technical articles published

- Mora, M., Fàbregas, E., Céspedes, F., Rovira, P., & Puy, N. (2023). Dialysis and column chromatography for biomass pyrolysis liquids separation. *Waste Management*, 168, 311-320. <https://doi.org/10.1016/j.wasman.2023.06.005>
- Mora, M., Fàbregas, E., Céspedes, F., Bartrolí, J., Puy, N. (2022). Production and separation of value added compounds from pine wood using pyrolysis and biorefinery techniques. *Fuel Processing Technology*, 238. <https://doi.org/10.1016/j.fuproc.2022.107509>
- Mora, M., Céspedes, F., Bartrolí, J., Fàbregas, E., Puy, N. (2022) Development of a Process for Separating Value-Added Compounds from Pine Wood Bio-Oil as a Preliminary Step to a Biorefinery. 30th European Biomass Conference and Exhibition poster



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