

EMBEDED kicks off to transform agricultural residues into biochar and sustainable boards

- *Five EU pilot sites will transform agri-food residues like olive pomace, grape mark, and cork bark into biochar, biofertilisers, and sustainable construction boards.*
- *Innovative modular plants will bring waste processing directly to rural areas, creating new business models and supporting sustainable land management.*

Madrid, Spain. 1 September 2025 - The EMBEDDED project has launched, setting out on a 36-month journey to transform Europe's overlooked agricultural residues into high-value, carbon-storing products. Funded by the EU's Horizon programme, EMBEDDED will demonstrate how local, modular technologies can unlock the economic and environmental potential of waste from traditional agri-food industries.

Across **Portugal, Ireland, Spain, and the Czech Republic**, five demonstration pilots will breathe new life into residues such as olive pomace, grape mark, cork bark, and grass press-cake. Four pilots will use innovative, **portable pyrolysis units**—designed to be operated by a single person—to produce biochar, a long-lasting soil enhancer that stores carbon for centuries. A fifth pilot will manufacture sustainable particleboards from cork waste, creating new regional value chains.

By combining **cascade valorisation**—extracting bio-active compounds before final material processing—with “km.0” applications directly on nearby farms, EMBEDDED will showcase how short, resilient supply chains can reduce waste, support farmers, and cut greenhouse gas emissions. The project aims to valorise more than **50 tonnes of biomass**, potentially avoiding **up to 1.5 tonnes of CO₂ per tonne of biochar** produced.

Beyond technology, EMBEDDED is building **business models** that rural communities can adopt and scale. Certification of bio-materials, regional market studies, and stakeholder training will ensure that results last beyond the project. Open calls, field demonstrations, and targeted policy recommendations will invite farmers, SMEs, and decision-makers to join the transition to a **climate-neutral bioeconomy**.

The consortium unites **15 partners**—including SMEs, research institutions, and major players in the wine, dairy, and forestry sectors—under a common vision: **turning waste into opportunity while keeping value local**.

With its website now live and the first newsletter coming soon, EMBEDDED invites stakeholders, innovators, and citizens to follow the work and results of the project via LinkedIn, Bluesky, and YouTube.

For more information about the EMBEDDED project, visit our website (embedded.eu) or contact:

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