HarWASTing

The HarWASTing Project Launch: Transforming Waste into Value

Valorisation of Harvested Agroforestry Biomass Waste as Feedstock for Value-added Bio-based Solutions as a Green Developments Pathway

December 10, 2025

HarWASTING is an Innovation Action **funded by the European Research Executive Agency** (REA), under the HORIZON-CL6-2024-CIRCBIO-02 call, and it will be developed **through 42 months**, starting on September 1, 2025, and ending on February 28, 2029. The Project is based on a **16 Partners Consortium**, with representatives from **7 different countries** all over Europe: Spain, Finland, Denmark, Romania, Turkey, Austria, Ireland. The Project Coordinator is AIDIMME: Technological Institute, from Spain.

The new EU Project that was launched in September 2025, with the goal of developing **innovative, circular business models** to revitalize rural economies across Europe. The initiative is focused on efficiently **transforming underutilized biomass** from agriculture and forestry into innovative **high-value products**, to be used in different sectors, such as the **construction sector**. This concept marks a significant effort to step towards a **sustainable and circular bioeconomy in Europe**.

The project is set to implement a scalable process to valorise agricultural and forestry residues, including harvest and pruning waste, as well as side-streams from industrial processes. By implementing these circular economy principles, the project will promote sustainable resource management, **reducing overall waste generation, and minimising post-harvest losses.**

Innovative technology as a base

The technical core of the project relies on a highly energy-efficient and versatile approach combining **Hydrothermal Carbonization (HTC)** with **Pressurized Hot Water Extraction (PHWE)** and innovative post-treatment technologies. This strategy ensures a *'zero-waste'* philosophy, respecting the "cascade principle" for biomass use, preventing any non-valorized side-streams.

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The main focus of the project is the production of **hydrochar**, the solid product output from the **Hydrothermal Carbonization** process, which will be converted into high-performance materials:

- **Hybrid Wood-Hydrochar Panels:** These panels will use less than 10% bio-adhesive, and are designed for special applications requiring high performance, with features like good **fire performance and electromagnetic shielding**.
- **Bio-adhesives:** Further valorisation of process side-streams will lead to the development of sustainable bio-adhesives.

Digital tools to modernise the European circular economy

To support the transition to these new models, the project will also develop the following digital tools:

- **Feedstock Availability Forecast Digital Tool:** An artificial intelligence tool will be developed to accurately forecast the availability of non-utilized agroforest feedstock, optimising collection and processing logistics;
- **Innovative Digital Passports:** These passports will accompany the final products (the hybrid panels and bio-adhesives) throughout their lifetime, providing full transparency and traceability to facilitate their commercialisation;
- **HarWASTing Collaborative Digital Platform:** The hydrochar will be promoted through a dedicated online platform that will serve as a marketplace hub for networking, sharing best practices, and fostering collaboration among stakeholders in the biomass value chain.

The holistic concept will be demonstrated at a **small-scale pilot facility**, building upon existing wood, food, and bioenergy value chains in Mediterranean (Spain), Boreal (Finland), and Continental (Romania) bioregions. This real-world demonstration aims to strengthen the economic and environmental sustainability of these rural value chains through synergistic interlinkages.

This project represents a major step forward in creating resilient, self-sufficient, and economically growing rural areas, by turning residues into revenue and waste into marketable materials.

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Kick-Off Meeting and Project Launch

The HarWASTing Project was officially launched with a **Kick-off Meeting held in Valencia**, Spain, from September 17th to 19th, 2025. The event, hosted by the Project Coordinator, AIDIMME - Technological Institute, successfully gathered all the 16 project partners to **establish a unified vision and strategy.** This **collaborative alignment** marks the beginning of a focused path to generate **rural sustainability through resourceful technological innovation**.

A key highlight of the Meeting was the **visit to one of the Partners facilities**: **Ingelia**, a leading company in Hydrothermal Carbonization (HTC) technology, specialising in building and operating HTC plants that valorise organic waste. Their main process converts **waste into hydrochar**, a product with applications similar to biochar, while recovering over 98% of the carbon and nutrients. The plants are designed to be modular, scalable, and thermally self-sufficient, offering a sustainable, low-energy solution for waste management.

There was also a tour inside **AIDIMME - Technological Institute**, in which the consortium had the opportunity to understand how all the **tests and quality assurance** is done, with a special focus on **wooden based materials**. It included a visit to the fire performance laboratory, in which high-end methods and technology are used to guarantee materials have the minimum requirements before being used, and even to improve products.

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About the European Research Executive Agency (REA):

The European Research Executive Agency (REA) is a funding body established by the European Commission to manage and implement significant parts of the European Union's research and innovation (R&I) programmes. Its main role is to efficiently manage the entire project lifecycle for high-quality R&I projects, and it focuses on maximising the efficiency and impact of EU funding for the research community.

About AIDIMME Technological Institute:

AIDIMME is a non-profit entity with private legal personality related to metalworking, furniture, wood and packaging sectors. In addition, AIDIMME is a Technological Institute that is registered as an Innovative Business Association (AEI), being an independent association, whose purpose is to contribute to increasing the competitiveness of companies, fundamentally in the field of product design and development, innovative materials, advanced and sustainable supply, manufacturing, logistics, distribution and service processes.

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The HarWASTing Team:

- AIDIMME - Instituto Tecnologico Metalmecanico, Mueble, Madera, Embalaje y Afines
- UPV - Universitat Politecnica de Valencia
- VTT - Teknologian Tutkimuskeskus
- DTU - Danmarks Tekniske Universitet
- UTBV - Universitatea Transilvania Din Brasov
- WEIT Agrotecnia SL
- SRDC - Yazılım Araştırma ve Geliştirme ve Danışmanlık Ticaret Anonim Sirketi
- Ingelia SL
- FINSA - Financiera Maderera SA
- Foresa Technologies S.L.
- AMUFOR - Asociacion de Municipios Forestales de la Comunitat Valenciana
- Asociasion Desarollo Rural Turia Calderona
- APAPET - Associatia Proprietarilor si Administratorilor de Paduri Din Estul Transilvaniei
- Joutsenten Reitti LAG
- Brimatech Research GGMBH
- F6S EU Tech Innovation Network Designated Activity Company

HarWASTing Digital Channels:

Website: http://harwasting.eu/

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BlueSky: https://bsky.app/profile/harwasting.bsky.social

Youtube: https://www.youtube.com/@harwasting

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