PRESS RELEASE

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PYRAGRAF Project Milestone has been reached: Definition of feasible feedstock supply chains to be used to feed and test the PYRAGRAF concept.

The PYRAGRAF **(Decentralized pyrolytic conversion of agriculture and forestry wastes towards local circular value chains and sustainability)** project aims to utilize solar-assisted pyrolysis to convert lignocellulosic biomass residues into biochar and wood vinegar efficiently and cost-effectively. The project incorporates a mobile biomass pyrolysis unit enhanced with concentrated solar energy. During the project's 4-year duration, PYRAGRAF aims to facilitate the utilization of agricultural and forestry wastes through innovative solutions, contributing to local circular value chains and promoting sustainability. The project's methodology encompasses five phases, including feedstock selection, pyrolysis process optimization, development of a solar-assisted pyrolysis unit, demonstration of ecosystem services, exploration of energy applications, and assessment of sustainability aspects.

As the PYRAGRAF project reaches its ten-month mark, the completion of the "*Characterization of Local Feedstocks*" report represents a crucial accomplishment. Reaching this milestone is essential to the project's main goal of promoting sustainable forestry and agriculture practices in Portugal, Germany, and Turkey, the project's demonstration countries, by locating and assessing viable feedstock choices for biochar production. A thorough evaluation of forestry and agricultural residues and wastes was carried out through careful surveying activities carried out in cooperation with local stakeholders, including governmental organizations, research institutes, and industry partners. Using a wide range of data sources, including public and private databases, scientific literature, and national statistical databases, researchers painstakingly identified prospective feedstock candidates that have the capacity to produce biochar.

The report explores the physico-chemical characteristics, ultimate and proximate qualities, calorific values, inorganic contents, and thermal degradation profiles of feedstocks that have been pre-selected. It is the result of considerable research and analysis. Prominent alternatives high in lignocellulosic biomass among the several feedstocks assessed are pine tree bark, rice husk, miscanthus × giganteus, hemp, eucalyptus bark, olive pomace, and olive pruning. These feedstocks' varied properties show how versatile they are as well as how well suited they are for different pyrolysis methods, which opens up new opportunities for the creation of biochar.

The results of this report hold significant implications for the advancement of the PYRAGRAF project's objectives, particularly in the development of its mobile and integrated pyrolysis demonstrator. By strategically selecting feedstocks based on their availability, properties, and compatibility with biochar production processes, it is aimed to optimize biomass drying, pyrolysis parameters, and biochar characteristics. This holistic approach not only enhances the efficiency and effectiveness of biochar production but also paves the way for the

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implementation of sustainable soil management practices within agricultural and forestry sectors.

As the project moves forward, using feedstocks that are acquired locally highlights a dedication to resource optimization and regional sustainability, encouraging self-sufficiency and resilience in local communities. Furthermore, the collaborative character of the project, enabled by strong collaborations with regional stakeholders, guarantees that the research results correspond with the requirements and preferences of the corresponding demonstration nations. The PYRAGRAF project keeps working on the sustainable agriculture and forestry practices, delivering beneficial environmental, social, and economic consequences throughout Europe and beyond through interdisciplinary collaboration, innovation, and knowledge exchange.

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