Co-funded by the European Union

Project: «Region of CENTRAL MACEDONIA» 2021-2027
Action: «Innovation Investment Projects»

Project title: **"En Crop"**

Short Description of the funding project:
The Centre for Research and Technology Hellas (CERTH) participates in the «**Region of Central Macedonia**» Operational Programme of the NSRF 2021–2027 through the Action «**Innovation Investment Projects**», co-funded by the European Union and National Resources.

The project entitled «Production of 2nd generation bioenergy products from residues of existing energy crops - En Crop» aims at the rational management of primary production residues through environmental friendly supply chains and their utilization for energy production and/or solid biofuels at the local level. Activities are expected to contribute significantly to environmental protection and the enhancement of agricultural income.

Indicative expected benefits of the project through its proposed interventions include:

- ✓ The biofuels industry can leverage the project outcomes to improve its processes.
- ✓ The project can support the competitiveness and growth of the coordinating company, «BIOENERGEIA PAPANTONIOU S.A.», by integrating new knowledge and utilizing innovation.
- ✓ These contributions can play a key role in enhancing the excellence and competitiveness of the biofuels industry and the economy at the national, European, and/or international level.
- ✓ «BIOENERGEIA PAPANTONIOU S.A.», by reducing its operating costs through in-house production of 2nd generation biofuels, will be able to create and sustain valuable employment opportunities. CERTH, will capitalize on the technical know-how for the implementation of a gasification unit for power generation and for the development of technologies to further expand its service offerings in this domain.

The main objective of the project is the energy valorization of various sources of herbaceous biomass from existing biofuel crops through specific field trials and relevant technical, economic, and environmental assessments.
This main objective will be achieved through the implementation of six Work Packages (WP), with specific sub-objectives aligned to each WP as outlined below:

- ✓ Development, implementation, optimization, and economic assessment of processes for the collection and management of herbaceous residues from existing 1st generation energy crops. Establishment of standardized processes in line with supply chain management (logistics) practices for effective and cost-efficient organization of all

supply stages, along with data recording for future use. Preparation of best practice guides for farmers and biomass managers (WP1 & WP2).

- ✓ Production of shredded material from various residues, quality control, and comparative analysis of results. Testing in biomass boilers and economic assessment of the full supply chain (WP3).
- ✓ Production of pellets from various green residues, quality control, and comparative analysis of results. Testing in pellet boilers and economic assessment of the full supply chain (WP4).
- ✓ Production of briquettes from various green residues, quality control, and comparative analysis of results. Testing in gasifiers and economic assessment of the full supply chain (WP5).
- ✓ Evaluation of market acceptance of the produced solid biofuels through pilot-scale distribution to local consumers (WP4 & WP5).
- ✓ Environmental footprint assessment through Life Cycle Analysis (LCA) (WP6).

Total Budget of the project: 290.300,00 €

Budget for CERTH: 149.800,00 €