

Waste2Fuel

Olive mill wastewater: from a pollutant to green fuels, agricultural water source and bio-fertilizer

Key Facts



Funding Agency

ERA-Net MED (BMBF for Germany)



Duration

09/2017 - 08/2020



Coordinator

National Engineering School of Sfax (ENIS), Tunisia



Partners

- Centre for Research and Technology Hellas (CERTH), Greece
- Université de Lorraine, France
- Ege University Solar Energy Institute (EUSEI), Turkey
- Utah State University, USA
- Bks Energy LLC, USA

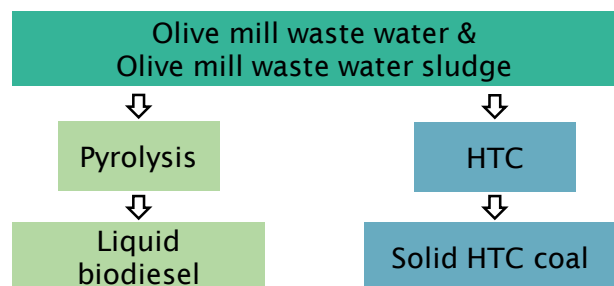
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Federal Ministry
of Education
and Research

Project Objectives

In Mediterranean countries, the production of olive oil generates every year important amounts of hazardous solid and liquid biogenic residues. This project investigates the conversion of such waste (olive mill wastewater (OMWW) and OMWW sludge) into biogenic secondary energy carriers; either by catalytic rapid pyrolysis into biodiesel or by HydroThermal Carbonization generating HTC coal. Technical, economic and ecological advantages and disadvantages of both process chains are evaluated and compared to existing disposal pathways.



EIFER's Contribution

The project wants to investigate how and under what conditions HTC can help to solve environmental problems of OMWW/OMWWS. The overall process chain of HTC requires appropriate integration and adaptation to local conditions.

EIFER is conducting experimental work on the HTC process, the production of HTC coal and characterization of its combustion behavior. The results give a deeper insight into the possible utilization of such biogenic wastes as a fuel. Furthermore, the better understanding of the HTC process shall broaden the range of potential applications and resources.

EIFER is using its expertise in Computational Fluid Dynamics (CFD) and process modeling to develop the appropriate design and integration of HTC into the existing local multi-energy system in Tunisia.

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