WaysTUP!

VALUE CHAINS FOR DISRUPTIVE TRANSFORMATION OF URBAN BIOWASTE INTO BIOBASED PRODUCTS IN THE CITY CONTEXT

BIOCHAR FROM SEWAGE SLUDGE, OLIVE MILL WASTE, COMPOST & SAWDUST

FEEDSTOCKS

- Sewage sludge
- Olive mill waste
- Compost
- Sawdust

SLOW PYROLYSIS

- 400°C
- Nitrogen gas
- Biochar

LAND APPLICATION

- Bio stimulant
- Tomato cultivation

Europe produces ~13×10^6 tons of sewage sludge bio solids, while their management remains one of the most complicated tasks for wastewater treatment plants.

OMW constitutes a notable amount of waste in the Mediterranean region, and significant volumes are produced annually ($3\times10^7 m^3$) during olive oil processing.

THE PRODUCT

Biochar acts as an effective and safe soil improver and plant bio-stimulant in agricultural applications. This effect is mediated by the feedstock. Fruit marketable yield and the crop performance increased significantly.

THE PROJECT

The EU funded WaysTUP! project aims to demonstrate the establishment of new value chains for urban biowaste utilisation to produce higher value purpose products through a multi-stakeholder approach in line with the circular economy.

THE PLANS

Looking for funding to improve the innovation product we have developed.

ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ
TECHNICAL UNIVERSITY OF CRETE

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 818308.

The technology owner is the Technical University of Crete, which is amongst the most prominent Research Institutions in Greece.

The technology was developed in the frames of WaysTUP! pilots' activities.

ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ
TECHNICAL UNIVERSITY OF CRETE

NIKOLAOS NIKOLAIDIS
Technical University of Crete
nikolaos.nikolaidis@enveng.tuc.gr
+30 28210 37785

CONTACT PERSON

THE TEAM

K. KOMNITSAS
Mineral Resources Engineer, Professor

M. LILLI
Environmental Engineer, Researcher

K. LIONOUDAKIS
Agricultirist

A. KRITIKAKI
Mineral Resources Engineer, Researcher

M. SARU
Chemist

S. VOUTSADAKI
Chemist

THE PILOT

The pilot plant is located at Chania (Crete, Greece).

The prototype was installed in an ISOBOX that mainly includes the furnace for drying the feedstock and producing the biochar, as well as the off-gas cleaning system.

The biochars produced are used for land application in tomatoes cultivation, both under greenhouse and field conditions.

THE PROCESS WAS DEVELOPED AT THE TECHNICAL UNIVERSITY OF CRETE

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Raw materials were obtained by the Municipal Enterprise for Water and Sewage of Chania, a local organic olive mill, the olive oil industry (ABEA) of Chania and, the Inter-Municipal Solid Waste Management Company of Chania (DEDISA).