WaysTUP!

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

BIOETHANOL PRODUCTION FROM PAPER & CARDBOARD WASTE

TURNING CELLULOSIC WASTE INTO ADVANCED BIOETHANOL, BIOPRODUCTS AND BIOENERGY

Food contaminated paper & cardboard waste → Pre-treatment → Simultaneous saccharification and fermentation → Solid / Liquid separation → Distillation → Dehydration → Bioethanol (EN 15376)

1 ton paper & cardboard waste → 135L bioethanol

30kg contaminated P&C per habitant per year in the EU could generate 1.8 billion L bioethanol yearly

THE PRODUCT

Bioethanol can be used as a biofuel or as chemical building block for the chemical industry. Advanced or 2G bioethanol (produced from biowaste) has more value in the market than 1G bioethanol (from edible biomass). The global bioethanol market was 100 billion litres in 2021 and is expected to grow at an annual rate of 4.8% until 2030.

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.

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

THE PLANS

Develop Plants with PERSEO Bioethanol® technology and/or licence technology to industrial waste generators or waste management companies

perseo biotechnology

PERSEO Biotechnology S.L. is specialized in process engineering and implementation of industrial plants for the valorisation of organic industrial and municipal wastes into bioethanol, bioproducts and bioenergy. PERSEO also develops innovation projects in the field of biowaste valorisation via biotechnological routes.
The technology was developed in the frames of WaysTUP! pilots' activities.

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THE TEAM

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THE PILOT

2,000 m^2 semi-industrial plant with a capacity to process 25 ton/day of organic waste to be converted into sugars or 2G bioethanol. The plant includes the following units: Pre-treatment, Fermentation, Solid-Liquid Separation, Distillation, Effluent Treatment, Auxiliary Systems, Final Product Storage, Control Center and laboratories for process development and optimization.

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The process was developed in cooperation with AMB (raw material collector and supplier) and CIEMAT (development of the process at lab scale).