OUR PROJECT

The energy consumed in the Waste Water Treatment Plants (WWTPS) of the European Union is between 1% and 3% of the total energy produced in the EU, which represents about 10,000 GWh/year and causes the emission of more than 27 million tons of CO2 to the atmosphere. Furthermore, this electricity demand is going to increase approximately 20% in 15 years. In this context, and given the need to reduce greenhouse gas emissions through the production of renewable energy, the energy recovery of wastewater is crucial, since it is estimated that the energy contained on this is about 2.7 kWh/m3.

Apart from the energy that can be extracted from wastewater, extra energy can be obtained in WWTP through the co-digestion of substrates, such as agri-food waste or manure. The production of agri-food waste is about 88 million tons per year in the EU, and, on the other hand, between 2010 and 2014 the production of manure was 283 million tons in the EU.

Energy production through co-digestion of waste in WWTP has significant environmental advantages in terms of energy production, offering an attractive alternative to fossil fuels in the production of energy and heat.

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LIFE ECODIGESTION 2.0

Project LIFE19 ENV/ES/000098

Innovative technology scale-up for the control and automation of codigestión in WWTPs to produce green energy on demand.

ÁGUAS DO CENTRO LITORAL Grupo Águas de Portugal
global omnium
Finnova

Co-funded by the European Union

Project duration: 4 years (2020-2024)

More than 970,000 euros of budget

Funding: 55%

PROJECT PARTNERS

GLOBAL OMNIUM (ES): Project coordinator international corporate group specialized in the different processes of the Integral Water Cycle.

FINNOVA FOUNDATION (BE): Beneficiary European foundation that supports the financing of innovation in companies, regions and municipalities.

AGUAS DO CENTRO LITORAL (PT): Beneficiary Multimunicipal Water Supply and Sanitation System of the Centro Litoral in Portugal.

OBJECTIVES

The tool developed in LIFE ECODIGESTION 2.0 will enable to control on-demand biogas production in digesters that treat sewage sludge, food waste and/or manure, achieving the following objectives:

1) on-demand biogas production at full scale
2) increase biogas production by the use of co-substrates
3) control of anaerobic digestion, maintaining process stability
4) economic management, considering the cost of co-substrates and the potential biogas that can be produced
5) calculation and correction of biochemical methane production during the operation (important to manage the co-substrate to be added)
6) simulation of co-digestion before the addition of co-substrate to the digester
7) stability management that enables the addition of a buffer in the event of a drop in pH

By achieving these, ECODIGESTION 2.0 will be the most versatile digestion control tool on the market.