

# PYROCHAR



## PYROLYSIS BASED PROCESS TO CONVERT SMALL WWTP SEWAGE SLUDGE INTO USEFUL BIOCHAR

Compiègne, November 2013. As part of the Seventh Framework Program (FP7), the European Commission has officially launched PYROCHAR, a 2 year project, which is expected to run until October 2015. This innovative research and development project aims at providing the small European municipalities with a solution to manage their sludge problem. Indeed, due to the lack of infrastructures and the more stringent EU and national regulations, the sludge treatment is nowadays compulsory and with limited and costly outlets.

The PYROCHAR project is supported by a strong Consortium of SMEs and research centers coming from a wide spectrum of industrial and academic fields, dedicated to design and develop an adapted process to thermo-chemically convert the municipal sewage sludge into useful biochar (charcoal from pyrolysis treatment) and synthetic gas (syngas).

PYROCHAR Consortium members form a well-defined supply chain: thermal treatment equipment (E.T.I.A., acting as coordinator, from France), sludge drier (Enviro-Pharm Ltd, Hungary), wastewater and gas treatment solution (Hydro Italia Srl, Italy), gas turbine (TURGUC, Turkey), wastewater treatment plant maintenance services (Biboaqua S.L., Spain). They are assisted by three research centres, selected according to their specific technical knowledge and expertise, i.e. biomass, biochar and gas clean-up technology (University of Teesside, the UK), flow simulation and control process (Tecnologías Avanzadas Inspiralia S.L., Spain), and thermal equipment optimization and prototyping (MESSAG, Switzerland).

The technology to be developed will address the problem of the small municipalities by decentralizing the management of the sludge directly within the small wastewater treatment plants with an affordable initial investment. Clear commercial advantages will be that the sludge will be treated on-site, decreasing its total dewatered volume by more than 95% and hence decreasing also in more than 50% its operating & maintenance cost. Besides, the PYROCHAR system will reuse the calorific power of the sludge to fuel its own system, making the overall system highly energy efficient. Finally, the useful nutrients such as nitrate, phosphorus or potassium, will not be lost during the process but trapped in stable by-products, the biochar, with high economic value for the end users.

### PYROCHAR project

Total Budget: €1,499,697

EU funding: €1,114,000

Duration: 24 months

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