



LIFE iCirBus-4Industries PROJECT



With contribution from the European Union's
LIFE financial instrument



Innovative Circular Businesses on Energy, Water, Fertilizer & Construction Industries towards a Greener Regional Economy

Project Description

Biomass power and water treatment plants produce waste that creates an environmental challenge for many parts of Europe.

The iCirBus-4Industries project demonstrates the possibilities of using fly ash from biomass power plants as an adsorbent agent of heavy metals and other dangerous organic compounds found in sludge from wastewater treatment plants (WWTP), using them as low-impact fertilizers. At a later stage, the usage as recyclable construction materials of the ashes used as pollutant absorbents is considered.

The aim of this project is closely related to the circular business philosophy. This philosophy proposes a model based on "3R", meaning to reduce, reuse and recycle all the waste possible arising from production and consumption processes to later reintroduce it into the production cycle as secondary raw materials.

After validation of the sludge treatment process at laboratory scale, a prototype will be put into action at a real WWTP.

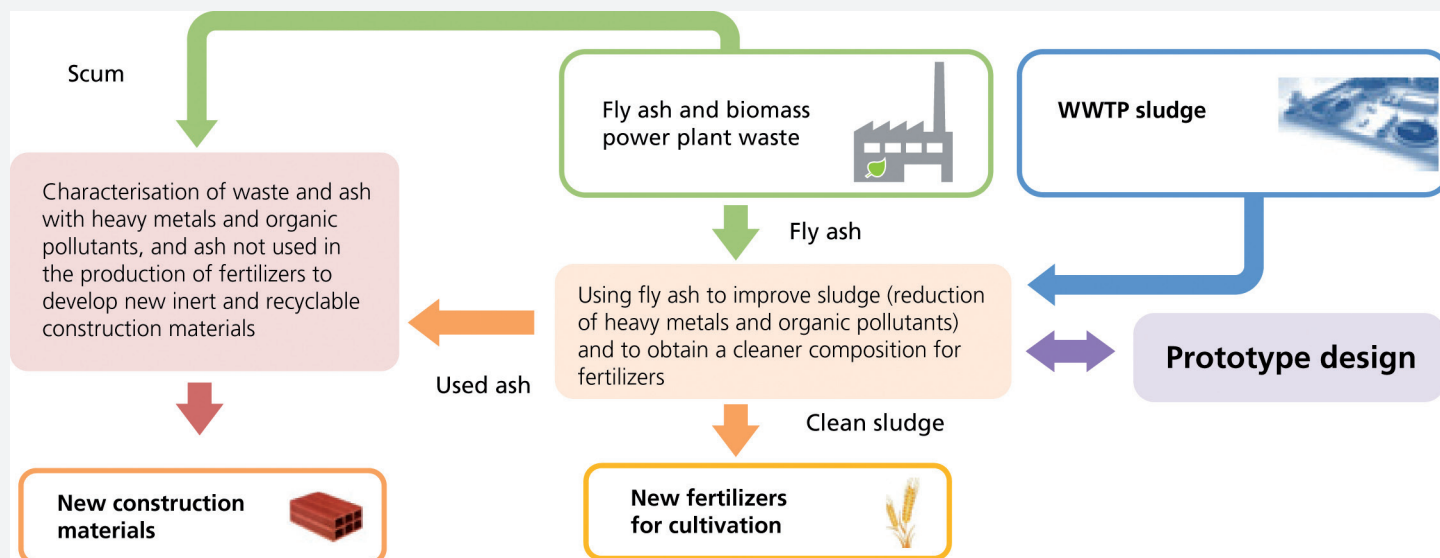
The project consortium, comprising public and private organisations, covers four different industrial sectors (water, energy, construction and fertilizer) that work on a local scale in the region of Extremadura.



Location: Extremadura

Duration: From the 16th of July 2015 to the 16th of December 2020

Total Budget in Euro: 2,287,270 € **Aqualia:** 288,980 €



Expected results

The main results expected from the LIFE iCirBus-4Industries project are, that:

- 100% of fly ash produced in biomass power plants will be suitable for use as an adsorbent agent for heavy metals, leading to a 100% reduction of fly ash disposed in landfill sites;
- 100% of treated sludge will be suitable for use as fertilizer, giving rise to a 15% reduction in harmful pathogens found in soil compared with current practices of direct sludge disposal onto agricultural land;
- after the absorbing process, 90% of fly ash will be suitable for use as an inerting agent for recyclable construction materials;
- a 15% cut in emissions from waste and landfill transportation;
- a 10% saving of energy, water and other resources used in the production of construction materials and fertilizers compared with current practices.

PROJECT PARTICIPANTS

- Instituto Tecnológico de Rocas Ornamentales y Materiales de Construcción (INTROMAC) (leader)
- Centro Tecnológico Nacional Agroalimentario Extremadura (CTAEX)
- FCC Aqualia, S.A.
- ENCE Energía Extremadura, S.L

- DISAIM Ingeniería, S.L.
- Agencia de Energía Extremeña (AGENEX)
- Estructuras y Placas Extremadura, S.L. (Grupo Manzano)
- Gabinete de Gestión Integral de Recursos S.L. (GESTIONA GLOBAL)



DETAILS OF FUNDING

Funding: Environment Programme and Climate Action (LIFE):
Environmental sub-programme (ENV).

Organism: European Commission (EC).

Project: LIFE14 ENV/ES/000688.

Grant: Subsidy of 60% of budget.

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Funding Received
Total Budget in Euro: 1,366,283 €
Aqualia: 173,388 €