

# European Funded Research Projects

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## Phos4You



Phosphorus is essential for all living organisms: animals, plants and human beings.

In parallel, the resources of phosphate rock on earth are finite and the European Union is dependent to almost 90% on mineral phosphorus imports. The long term objective of Phos4You is to guarantee feed and food security in Europe by reducing EU's dependence from imported phosphate rock.

Phos4You specifically targets Phosphorus recovery from municipal waste water treatment plants. The project partnership consists of 12 partners from Belgium, France, Germany, Ireland, the Netherlands, Scotland and Switzerland.

From March to June 2019, a 75 litre microalgae reactor was tested in real life conditions at the Bo'ness Development Centre, which is located within a live wastewater treatment works.

The four months long trial showed a good rate of phosphorus removal by the reactor. It also indicated a potential for secondary and tertiary treatment of wastewater. Extended testing of this technology will be conducted at the Bo'ness Testing Centre, out with the Phos4You project.



***The microalgae reactor at the Bo'ness Testing Centre***

In January 2020 Filtraphos Phosphorous adsorption reactor run by Environmental Research Institute (ERI), part of University of the Highlands and Islands will be tested at the Bo'ness Development Centre.

In spring 2020 a demonstrator for phosphorous recovery from partially / fully dried sewage sludge will also be tested at the Bo'ness Development Centre. Developed by the University of Liege, this PULSe process produces either as calcium or as magnesium phosphate, depending on fertiliser industry needs.

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## INNOQUA



Protecting and improving the quality of natural water resources is one of the major challenges of the 21<sup>st</sup> century. In the EU the percentage of the population connected to central water supply systems ranges from 53% to 98%, depending on the country, and about 20 million rural inhabitants are without proper sanitation systems.

INNOQUA, an EU-funded project through the Horizon 2020 research and innovation programme aims to meet this challenge by promoting sustainable water sanitation technologies capable of performing a whole water treatment cycle.

These technologies resemble natural cleaning processes and are based on the purification capacity of earthworms, zooplankton, and alternatively microalgae and sunlight exposure. Within the EU, partners will conduct demonstrations for performance validation as well as demonstrations of industrial, residential and tourism applications. Outside the EU, partners will implement demonstration sites for residential use.

The INNOQUA project comprises 20 partners from 11 countries ranging from research institutes and universities to water utilities, SMEs and an NGO.

The Innoqua system prototype will be tested from October 2019 in real life conditions, at Littlemill WWTW in north of Scotland (Nairn). The existing treatment works is a foul only system, located in a remote rural area. The Littlemill WWTW site will allow to evaluate the Innoqua system under potentially extreme weather conditions. The Innoqua system is aimed at small communities located in rural areas. It performs well with foul only flow and requires minimal maintenance. Therefore, Littlemill has ideal conditions for proving the reliability of this technology. The Innoqua prototype will be tested at the Littlemill WWTW for up to 12 months.



*The Innoqua pilot at the Littlemill WWTW*