

Holistic approaches for a sustainable phosphorus cycle

TransPhoR – Phosphorus Recycling for Sustainable Use of Phosphorus



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Phosphorus is a finite but essential and non-substitutable resource. RePhoR is a BMBF funding measure on regional phosphorus recycling with the associated project TransPhoR. It focuses on innovative approaches to phosphorus recovery in a large-scale implementation. The aim is to reduce significantly the dependence on phosphorus imports and to develop holistic concepts. The goal is to bring the phosphorus recyclates to the market as well as to the application and thus to return them to the cycle.

The task of the FiW as part of the accompanying project is to synthesise the results from individual research associations. Our interface competence can be used to clarify issues relating to different projects and to define criteria to ensure comparability. This should provide a guideline for the presentation and processing of the final results right from the start. A critical and neutral examination of the findings of the research networks is necessary here. Furthermore, the FiW is responsible for project coordination and evaluates project meetings, status seminars and discussion forums. The networking of the research project with actors in the water sector is given special priority here. The FiW, together with Tuttahs & Meyer Ingenieurgesellschaft mbH, will make

a contribution by presenting the results of the research project. National and international associations and committees of the water industry will be involved in order to promote a transfer into practice. It is also planned to integrate the findings of the project into the DWA's regulatory work. The final assessment of the economic efficiency and life cycle assessment of the developed methods will be carried out in cooperation with the INaB department (Institute for Sustainability in Building by Prof. Dr.-Ing. Traverso). The objective is to define uniform standards and criteria for the assessment in order to ensure reproducibility. A sensitivity analysis serves to estimate the effects of potential changes. The aim is to be able to make a comprehensive statement on the

environmental impact and the contribution to a closed phosphorus cycle for the different processes.

Ultimately, the research project should provide recommendations for action and present practicable solutions to the problem. To this end, the individual processes will be compared in terms of their feasibility from both an economic and an ecological point of view. The aim is to clarify which applications are preferable for the respective framework conditions and which product quality or quantity can be expected. The market analysis regarding the marketing possibilities of the resulting recyclates will be prepared by the individual research associations in cooperation with market participants and consumers.

The TransPhoR accompanying project therefore aims to bundle the answers to the future handling of one of the most important resources in the field of wastewater and compliance with the new recovery obligations of the Sewage Sludge Ordinance and transfer them to the professional world.

Project overview

PROJECT TITLE

TransPhoR – Networking and transfer project TransPhoR: BMBF funding measure Regional Phosphorus Recycling (RePhoR)

PROJECT PERIOD

2019 – 2025

PROJECTPARTNERS

HGoTECH GmbH; INAB RWTH Aachen University Institute for Sustainability in Building; TUTTAHS & MEYER Ingenieurgesellschaft mbH (Subcontractor)

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