

## Phosphorus precipitation at small-scale sewage plants : Struvia™

Piloted by: Véolia with Cork Institute of Technology and Glasgow Caledonian University  
 P-source: Waste water at small-scale wwtp  
 P-product: "Phosphate salt" product



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### The process

The Struvia™ process is downscaled to precipitate phosphorus at small-scale waste water treatment plants (wwtp). This solution contributes to deal with the challenge of diffuse phosphorus discharge in remote, rural and islands locations.

The Struvia™ process based on an "all-in-on" single stage crystallisation reactor, which combines a Turbomix® draft tube impeller, a crystallisation zone and a lamella separator in a single tank.

The Struvia™ reactor developed for small-scale wwtp is made of FRP or stainless steel as standard, and in several sizes (S, M, L, XL...) to fit customer's needs and requirements. It can be used as downstream wwtp biological system to recover phosphorous before discharge (with no metallic salts) or applied on septic tank outlet prior biological stage (providing primary clarification).

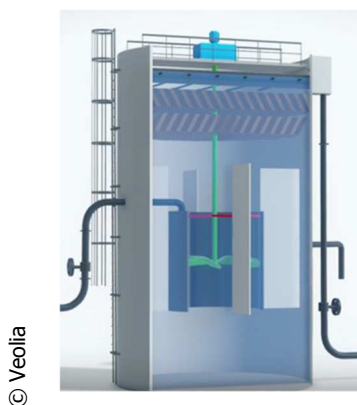
### The product

By default, products foreseen are "phosphate salts" fertilizers.

Use of lime and low cost minerals will reduce the OPEX and amend soil.

The Struvia™ process can nevertheless use a wide range of chemistry, from calcium to magnesium crystallisation, depending on customer's need and wwtp specificities.

### The demonstrator



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**Location:** The mobile-set up of the Struvia reactors is run in Ireland and Scotland

**Commissioning:** February 2019

**Input material:** wwtp streams

**Input mass:** app. 200 l/h pilot demonstrator

**Output:** "Phosphate salt" based products

**Output mass:** to be determined

**Contact:** Cédric Mébarki, Véolia Environnement, [cedric.mebarki@veolia.com](mailto:cedric.mebarki@veolia.com)  
 Dr Joe Harrington, CIT/WSSIC, [Joe.Harrington@cit.ie](mailto:Joe.Harrington@cit.ie), and Dr Ole Pahl, GCU, [O.Pahl@gcu.ac.uk](mailto:O.Pahl@gcu.ac.uk)