INCOVER
Innovative Eco-Technologies for Resource Recovery from Wastewater

Newsletter n°3, September 2018

Project coordinator's note

Dear reader,

On behalf of the whole INCOVER team, I am pleased to introduce the third **INCOVER Newsletter**. This newsletter will provide a status of the main advances of the INCOVER project to stakeholders and end-users related to water sector.

During the first half of the project, innovative added-value technologies have been designed, implemented and started up at real scale for extracting valuable resources from wastewater in three case-studies (municipalities, farms and F&B companies). The main innovations are the following:

- An innovative PHA production process from phototrophic bacteria/microalgae systems without the need for aeration, saving operational costs.
- Optical sensing and control for measuring PHA and the chemical/organic compounds of interest in INCOVER bio-processes.
- An innovative biogas cleaning technology capable of simultaneously removing CO2, H2S, NH3 and VOCs from biogas in order to provide a biomethane with enough quality to be injected in natural gas grids or to be used as biofuel in vehicles.
- Functionalised polymeric materials (sol-gel coatings) as innovative sorbents for a 70-80% P and N recovery from wastewater.
- Solar-driven power anodic oxidation and ultra-filtration systems as cost-effective disinfection systems in order to provide quality effluent (pathogen free) for irrigation and other uses (i.e. industrial).

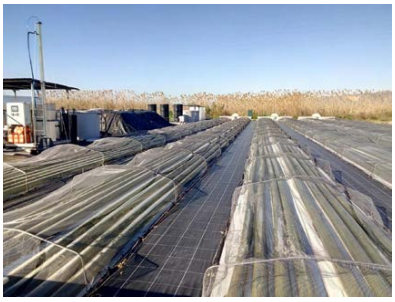
All consortium is very pride for winning the **Water Industry Award 2018 (Birmingham, May 2018) in the category of "Sludge & Resource Recovery of the Year"**.

To learn more on INCOVER project, visit our website and follow us on Twitter, LinkedIn and Youtube.

Best regards,

Juan Antonio Álvarez Rodríguez.
INCOVER Project coordinator

News from the field



Case study 1 - Pilot plant under full-operation

In the last few months in Agròpolis, the operation of the 3 tubular horizontal semi-closed photobioreactors (PBRs) has been maintained steadily in order to assess the nutrients removal capacity and biomass production under winter and spring time conditions. The PBRs have been operated in parallel, with a hydraulic retention time of 5 days. The activity of the microalgae has been clearly influenced by the environmental conditions.

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Case study 2 - Last adjustments to improve bioproducts recovery and water reuse

In Chiclana, PHA (bioplastics) production at demo scale is currently being operated by Aqualia. Two UASB reactors are fed with molasses and pretreated wastewater and permit to obtain a fermented effluent. Two jet mixed ponds are being fed with the fermented waste and supplemented with fertilizer (N and P source). After several weeks of operation purple bacteria have been selected.

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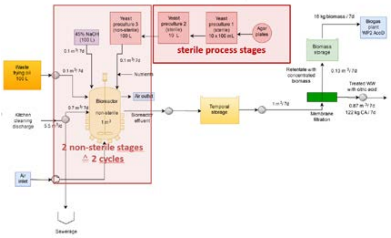

Case study 3 - Optimisation of bioprocesses

Since setting up the demonstration for organic acid production by way of unsterile process modes the UFZ is working on optimizing the bioprocess. The results for the AcoD using biomass from the yeast-based citric acid production are promising and validation of the results will be completed by the end of the project.

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More about Social Life Cycle Assessment (sLCA)

A Social Life Cycle Assessment is being done for each INCOVER technology. The Social Life Cycle Assessment (sLCA) is based on semi-quantitative social indicators system aggregated by impact categories (local jobs created, health and safety policies, etc.) and stakeholders groups (worker, local community, consumer, etc.). The data for calculating indicators was collected by a questionnaire from each INCOVER technologic partners individually and characterized with regional sector-specific reference data..

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Recent events

First Innovation Workshop in Lisbon

The 1st INCOVER Innovation Workshop was successfully delivered by ISLE (Isle Utilities) and hosted by IBET (Instituto de Biologia Experimental e Tecnológica) at the New University of Lisbon on 5th June 2018. The Innovation Workshops brought together end-user organisations, specifically water companies, from across Europe and connected them directly with INCOVER technology partners.

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Second Advisory Board Meeting in Lisbon

The second Advisory Board (AB) meeting of the project took place on 5th June 2018 at the premises of the New University of Lisbon (FCT-NOVA) in Portugal. The meeting was attended by the project's AB members from WssTP, Agracor, Aguas do Porto, EurEau, COPA-COGECA, and the Region of Attica, as well as the project partners.

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Other past events: World Congress on Industrial Biotechnology, ecoSTP18 Conference on Ecotechnologies for Wastewater Treatment, Investor's Café.

Coming soon

Second Stakeholder Workshop in Freiburg - October 2018

INCOVER will hold its second Stakeholder Dialogue Workshop in the context of the Local Renewables 2018 conference that is taking place in Freiburg and Basel from 24 to 26 October this year.

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Learn more about INCOVER

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INCOVER partners

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 689242. The dissemination of results herein reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.