News on biobased resource recovery

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Dear circular economy enthusiast,

Welcome to the first issue of the year, which will take you on a journey through the most interesting updates from our network!

The BCE community is quickly growing and we are happy to announce that ULTIMATE, WalNUT and ECOVAL Sudoe joined us to contribute together to the transition to the circular economy. Check the dedicated article below to know more about these projects and their activities!

Do not miss the chance to join the European Sustainable Nutrient Initiative! The ESNI Conference will be back in March 2022 to offer you an high-level discussion on the benefits of nutrient recycling in boosting agriculture, novel food production and sustainable development. The event will also include a policy session organised by Circular Agronomics which will discuss ways to achieve the goals set by the Farm to Fork strategy for reduction in nutrient losses by 2030.

In this issue, we offer you a closer look to the ALG-AD project, in which new technology is

being developed to take excess waste nutrients produced from anaerobic digestion of food and farm waste to cultivate algal biomass for animal feed and other products of value. You will read about project results and new objectives.

Along with that, breaking news from our community will enrich your reading and you will be updated on the latest initiatives, progress and results.

And lastly do not forget to take a peek at publications and events we chose for you!

We wish you a pleasant reading!

The BCE Team

Our latest updates will be waiting for you at @Bioref_Cluster and <u>www.biorefine.eu</u>. See you there!

You wish to share any news with us? Get in touch! info@biorefine.eu

Biorefine Community

3 new projects join the BCE community!



The Biorefine Cluster is happy to welcome ULTIMATE, WalNUT and Ecoval Sudoe in its network!

<u>ULTIMATE</u> focuses on Water-Smart Industrial Symbiosis (WSIS) and aims to create economic value and increased sustainability by introducing circular symbiotic arrangements between industry and water service providers.

<u>WalNUT</u> aims to develop the necessary concepts and technological solutions to redesign the value and supply chains of nutrients from waste water and brine.

Ecoval Sudoe promotes the biofactory model, replicable throughout the European Union, to obtain bio-products with high added value from sewage sludge and urban bio-waste.

Biorefine Community

The European Sustainable Nutrient Initiative (ESNI) will be back soon!



The European Sustainable Nutrient Initiative (ESNI) will be back on Tuesday 29 March 2022. Given the prevailing conditions of the COVID 19 situation, ESNI is organised as an online conference.

As one of the major events on nutrient recycling, ESNI will offer a platform for fruitful discussion and exchange of knowledge on the sector in Europe.

The event will also include a policy session organised by Circular Agronomics which will discuss ways to achieve the goals set by the Farm to Fork strategy for reduction in nutrient losses by 2030.

Read more <u>here</u>

Biorefine Community

Call for abstracts!



From 1st to 2nd June 2022, the Biorefine
Cluster will organise the **first edition of the**'Biorefine in EU Conference' that will take
place in Ghent. The event aims to highlight
and discuss the current research
innovations within the topics addressed by
the Cluster, their further developments and
the concrete solutions to make the transition
to circular economy work in practice.
Registrations to attend the conference will
open soon, but participants are invited to
submit already their abstracts and poster
presentations.

Read more here

Project's corner

Alg-AD



ALG-AD is an Interreg NWE funded project in which new technology is being developed to take excess waste nutrients produced from anaerobic digestion of food and farm waste to cultivate algal biomass for animal feed and other products of value.

ALG-AD has completed three pilot facilities construction at 3 distinct 'real life conditions' locations in North West Europe: Devon (UK), Ghent (Be) and Brittany (Fr). Each facility used local conditions to grow the algae and record data. Information from the three pilots is used to generate Decision Support Tools.

Read more here

In the context of the circular bioeconomy one of the main objectives of the ALG-AD project is to remediate AD digestate waste by algal cultivation and create feed from produced algal biomass for animal and fish nutrition. The regulatory aspects were covered in reports of ALG-AD project.

A Regulatory Review on the use of digestate to cultivate algal biomass for animal feed

Prepared by NNFCC for ALG-AD

Read more here



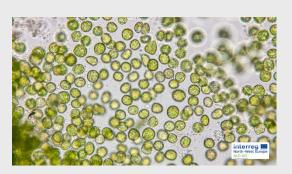
The ALG-AD consortium completed the capitalisation WP work focused on the 'Microalgae grown on digestate as a fish feed'.

The objective of these trials was to explore alternatives to fish meal and oil in commercial fish feeds, as there is increasing demand for sustainable aquaculture in

North-West Europe, and these fish byproducts are often sourced by the exploitation of natural stocks.

Read more here

Implementation of circular approaches in industry, by minimising waste and optimising reuse of resources, is of critical environmental importance. Microalgal cultures are particularly adept at waste remediation and are also incredibly versatile in how they can be processed and applied.



Read more <u>here</u>



One of the important aspects of the project was to operate the mass algal cultivation facilities at the industrial site location for almost 2 years. If you want to know how algae were cultivated at Langage AD, take a look at the ALG-AD algal inoculation and culturing explaining video! This informative video is available in English, but it has also been subtitled to better reach of stakeholders!

Food for thoughts

ScienceDirect - <u>Biodegradation and effects of EDDS and NTA on Zn in soil</u> solutions during phytoextraction by alfalfa in soils with three Zn levels

Science Direct - <u>Maximizing nutrient recycling from digestate for production of</u> protein-rich microalgae for animal feed application

ACS Sustainable Chemistry Engineering - <u>Environmental Performance in the Production and Use of Recovered Fertilizers from Organic Wastes Treated by Anaerobic Digestion vs Synthetic Mineral Fertilizer</u> (Nutri2Cycle project)

Project news The Flemish Algae month



The Flemish Algae Month Event (FAME) has been postponed to May. Three consecutive events will take place focusing on different aspects of microalgal technology. On May 4th will be discussed the use of (micro)algae in the food industry (ILVO-Flanders Food), while on May 12th the focus will be on the development and upscaling of a circular economy based on microalgae (Radius, Thomas More campus Geel). Finally on May 19th the topic will be the use of agricultural and food side streams for the cultivation of microalgae (UGent-Innolab),

Interested? Discover more on the events <u>here</u>

Project news

Recover at the 9th Ibero-American Congress on Contamination and Environmental Toxicology



In the framework of the 9th Ibero-American Congress on Contamination and Environmental Toxicology, under the theme "Advances in environmental toxicology in the face of the emerging challenges arising from global contamination", Miguel Hernández University's team held an exhibition on Interaction between Eisenia fetida and agricultural plastic waste in vermicomposting process"

Read more here

Project news

Sea2Land delivered its second newsletter!



Sea2Land has delivered its 2nd newsletter!

Discover the latest project updates and learn more on its pilot cases. Do you want to be informed about the project developments? Subscribe to their newsletter at the link below!

Read more here

Project news

Take part in the Ferticycle survey for the farming sector



Researchers from FertiCycle and ReFlow teamed up to conduct a widespread farmer survey across EU.

The aim of the survey is twofold: to identify the reasons behind the decisions to adopt or not adopt new bio-based fertilisers, and to quantify the value that farmers assign to

newly developed bio-based fertilisers.

Are you a farmer? Take the survey and make your contribution to the transition to a more sustainable agriculture in Europe!

Do you know anyone from the farming sector? Share the project link with your friends & network!

Take the survey here!

Project news

Phos4You Final Report published now



To encourage phosphorus (P) recycling from wastewater, the objectives of the INTERREG VB North-West Europe project Phos4You were to prove technologies that recover P from wastewater, to showcase possible values chains to reuse the recovered P materials, to prepare pathways for the deployment of P-recycling in urban and rural territories.

Find now the project's results being published in the Phos4You Final Report.

Read more <u>here</u>



Upcoming events Save the date!



EUBCE 2022

9-12 May 2022, Marseille & Online, France

EUBCE is the largest biomass conference and exhibition in the world.

Each year, EUBCE brings together the greatest minds and latest advancements in biomass, with the aim of accelerating research and market uptake across the globe. During the conference, over 2,000 experts from both academia and industry share and discuss groundbreaking ideas, technologies, applications, and solutions for the sourcing, production, and utility of biomass.

Continue reading



RAMIRAN 2020

19-21 September 2022, Cambridge, United Kingdom

RAMIRAN "Recycling of Agricultural, Municipal and Industrial Residues in Agriculture Network" is a research and expertise network set up over 25 years ago to improve nutrient utilisation and minimise the environmental impact from livestock manure and other organic material use in agricultural systems.

Continue reading

The Biorefine Cluster is supported by the European Biogas Association (EBA), a no-profit organisation which advocates for recognition of biomethane and other renewable gases as sustainable, on demand and flexible energy sources that provide multiple knock on socio-economic and environmental benefits. Learn more here



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