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Welcome to the 6th CAFIPLA Newsletter!

Dear Reader,

With this newsletter we bring you exciting updates on the CAFIPLA Project: Firstly, we would like to cordially invite you to join us in May at the **CAFIPLA Conference** "Urban Circular Bioeconomy" in Vitoria-Gasteiz – connect with experts in the field and discuss the latest advancements in biowaste valorisation. Moreover, we would like to present you the recently published **Market assessment** of our process and diverse product portfolio as well as our brand new **Implementation guideline**, which outlines the relevance of biowaste recycling and the high potential of the CAFIPLA technology. Finally, with a short recap of the latest **CAFIPLA Workshop**, we are happy to share the results and findings with you.

We hope to provide you with interesting materials and, of course, to see you in Spain!

The CAFIPLA Dissemination Team



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1. Final CAFIPLA Conference

We are excited to announce the upcoming **CAFIPLA Conference "Urban Circular Bioeconomy"**, taking place on May 10, 2023, in Vitoria-Gasteiz, Spain. This event is dedicated to exploring the latest advancements in bioeconomy and the upcycling of biomass.



CAFIPLA CONFERENCE

Urban Circular Bioeconomy

Valorising biowaste -
Creating prosperity

VITORIA-GASTEIZ (SPAIN)

10 MAY 2023

REGISTER
NOW!



Leading bioeconomy experts from both industry and research will share their insights on how to transform biowaste into valuable resources. This conference is a great opportunity for you to learn from top researchers in the field and connect with like-minded representatives from the industry. The **conference programme** features talks on biowaste valorisation from a variety of perspectives, such as:

- "Impact and Markets of Biowaste-derived Materials" / presented by Esther Hegel (DECHEMA)
- "Conversion Technologies - Tech4Biowaste" | presented by Stef Denayer (Bio Base Europe Pilot Plant)
- "MCCA production from LA rich waste streams" presented by Kevin Sabbe (Ghent University)

Don't miss the chance to be a part of the circular biowaste revolution! Register now for the CAFIPLA Conference, organised by TECNALIA Research & Innovation:

[More information and registration](#)

2. Market report on the CAFIPLA biowaste-derived materials

The bioeconomy is rapidly expanding and biomass is a crucial resource for biomanufacturing. With the increasing demand and competition, biowaste, which is currently underused, has the potential to play a key role in **creating novel urban bioeconomic value chains** and mitigating climate change. The CAFIPLA technology aims to turn heterogenous biowaste into valuable platform products which are further refined into **end products with high market potential**.

The recently published **final assessment on the market potential of the CAFIPLA technology and biowaste-derived bioproducts** evaluates both in the bigger picture of the bioeconomy expansion. The CAFIPLA process represents an attractive complementation for anaerobic digestion plants but also an economic alternative for conventional sugar-based biorefineries by avoiding energy and chemical costs for sugar extraction.

BIOWASTE IS A KEY FEEDSTOCK IN A MORE CIRCULAR ECONOMY

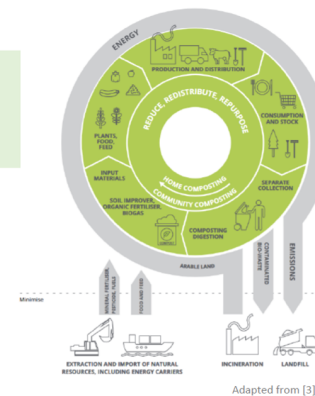
“Biowaste can play an important role in the transition to a circular economy, by both preventing its generation and capturing its potential as a source of valuable secondary resources.”

European Environmental Agency^[3]

Biowaste comprises^[4]:

- biodegradable garden and park waste
- food and kitchen waste
- comparable waste from food-processing plants

⇒ Food waste accounts for ~60% of all biowaste!



Adapted from [3]



[3] European Environment Agency (2020) Bio-waste in Europe turning challenges into opportunities, Report No. 04/2020

[4] European Commission (2008) Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (Waste Framework Directive)

January 2023 9

The **CAFIPLA pilot plant** with a Technology readiness level (TRL) of 5 has been established at the organic waste treatment site of IDELUX in Belgium. The pilot is designed to treat up to 10 tonnes of separately collected biowaste per year and demonstrates the upscaling potential of the CAFIPLA process. The end products generated by the CAFIPLA technology, including PHA, biocomposites, insulation materials, and caproic acid bio oils, target **various attractive markets such as bioplastics, construction, automotive industry, and the bulk chemical industry**.

Overall, the market report highlights the importance of developing biowaste-based production routes for **establishing a competitive European bioeconomy**.

[Read the full market report](#)

3. CAFIPLA Workshop

“Bio-based products from biowaste”

On February 23rd, the CAFIPLA Workshop **“Biobased products from biowaste: Project results and pilot plant visit”** was held at the waste treatment facility of IDELUX in

Tenneville, our project test site. Organised by IDELUX Environnement and the DBFZ, the workshop programme featured presentations from the Consortium members on the CAFIPLA technology and concept followed by discussion sessions on the **topics "Supply Chain Assessment", "Conversion and Processes" and "Market Uptake and Upscaling"** to assess and identify respective drivers and barriers.

We again thank all participating stakeholders and the speakers for providing valuable input. It was a pleasure to exchange knowledge and ideas. The workshop materials and findings of the table discussions can be accessed via the **CAFIPLA Stakeholder platform**. With your registration you can also find all previous workshop outcomes and a concise overview of our Market reports and papers:

[Get the workshop results](#)

The workshop was an excellent opportunity to share project results and visit our pilot plant, where we **showcased the production of our biowaste-derived platform products**. We hope that this event has given unique insights into our technology which aims to bring the circular bioeconomy to the next level.

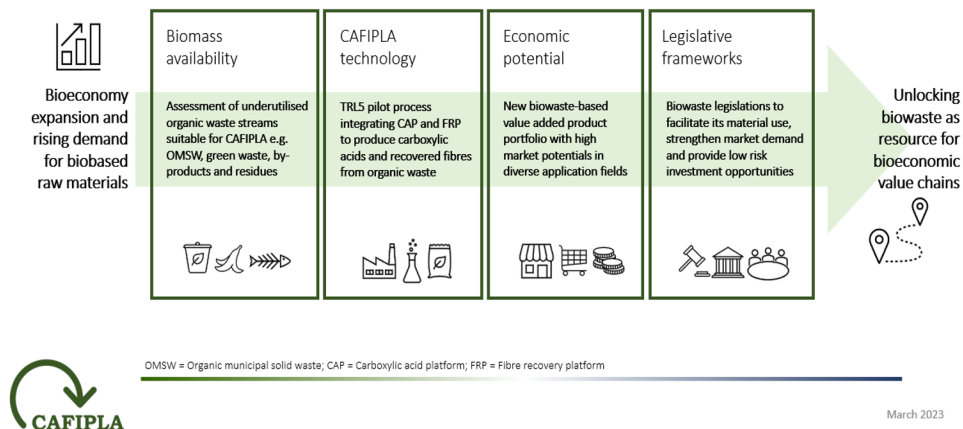


4. Implementation guideline

We are excited to share with you the recently published CAFIPLA Guideline that outlines how the **CAFIPLA concept can be successfully implemented** on a regional level and contribute to improving bioresource availability and closing material cycles.

The guideline emphasises the **relevance of biowaste recycling** for advancing the circular bioeconomy, highlighting the economic added value of the diverse biowaste-based end product portfolio. It also identifies **enabling and hindering factors** that must be considered when taking the next steps towards implementation.

GUIDELINE TO SUCCESSFULLY IMPLEMENTING THE CAFIPLA TECHNOLOGY FOR RECYCLING OF MIXED BIOGENIC WASTE



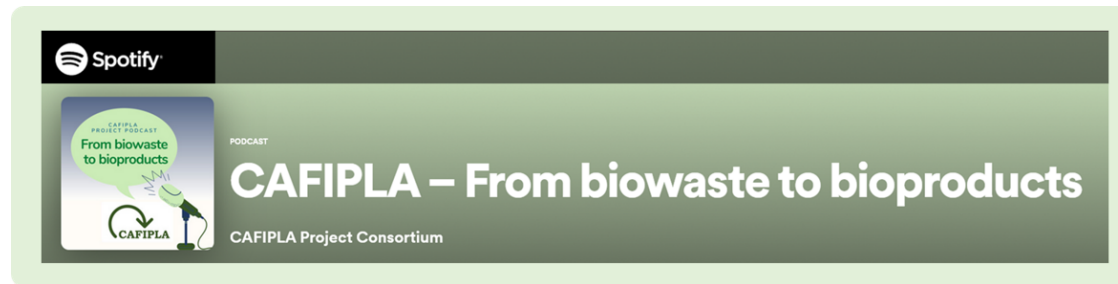
The CAFIPLA technology presents an innovative and economic alternative to existing **biowaste utilisation concepts**. By facilitating improved carbon recycling and achieving higher valorisation, it can advance the competitiveness of the circular European bioeconomy. The technology is highly flexible and can be **tailored precisely to specific local requirements by adapting the value chains to given environments**.

Larger-scale exploitation and further upscaling of the technology will be the next step to unlock biowaste as raw material for bioeconomic value chains. With an estimated 17 million tonnes of biowaste available for anaerobic digestion, the potential for the CAFIPLA technology being implemented at such facilities is extensive.

We hope that this guideline informs about current chances and challenges and stirs further research and development to **unlock the potential of biowaste as an essential resource** in the expanding circular bioeconomy.

[Check out the free guideline](#)

Reminder: CAFIPLA Podcast "From biowaste to bioproducts"



Have you already discovered the CAFIPLA Podcast? The podcast series provides exciting insights into the bioproducts that are produced using CAFIPLA technology. **Each episode focuses on one of the biowaste-based product and its application potential.** We discuss the chances and challenges of Lactic Acid, Medium-Chain Carboxylic Acids (MCCA), microbial protein, as well as fibers and fiber-based materials, together with our partners from the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Ghent University, Avecom, and Fibres Recherche Developpement (FRD). Give the CAFIPLA podcast a listen and spread the word:

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Consortium



The consortium consists of 6 SMEs and 6 research institutes:

Enterprises

- Idelux Environnement
- Biopract GmbH
- Fibres Recherche Développement (FRD)
- Organic Waste Systems Research Foundation (OWS RF)
- Biotrend – Inovação e Engenharia em Biotecnologia, S.A.
- Avecom

Research institutes

- Fundación Tecnalía Research & Innovation
- Deutsches Biomasseforschungszentrum Gemeinnützige GmbH (DBFZ)
- Universität für Bodenkultur Wien (BOKU) - Department of Agrobiotechnology IFA-Tulln
- Leibniz Institute for Agricultural Engineering and Bioeconomy e.V. (ATB)
- UNIVERSITEIT GENT - Center for Microbial Ecology and Technology (CMET)
- DECHEMA e.V. - Society for Chemical Engineering and Biotechnology

Pictures: AdobeStock, Pixabay, CAFIPLA consortium



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 DECHEMA e.V.
 Theodor-Heuss-Allee 25
 60486 Frankfurt am Main
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