VALUEWASTE

Unlocking new **value** from urban bio**waste**

The VALUEWASTE solution

Miguel Ángel Suárez Valdés

cetenma

Centro Tecnológico de la Energía y del Medio Ambiente

Horizon 2020 European Union Funding for Research & Innovation

"This project has received funding from the Europe Union's Horizon 2020 research and innovat programme under Grant Agreement No 818312"

Who we are?

cetenma Centro Tecnológico de la Energía y del Medio Ambiente

The Technology Centre for Energy and the Environment, CETENMA (Cartagena, Spain), is a private, non-profit Business Association, which was set up to support companies with technological research, development and innovation in all areas related to Energy and the Environment, thereby assisting them in becoming more competitive.

GA: 818312
Co-funded by the Horizon 2020 programme of the European Union

The project
at a glance

Start Date
1 November 2018

End Date
31 October 2022

48 months

17 partners

5 different **countries**

Title: Unlocking new VALUE from urban bioWASTE

Acronym: VALUEWASTE

Grant Agreement Number: 818312

Call: H2020-SFS-2018-1

Overall budget: 10,863,876.25 euros

EU Contribution: 8,375,472.25 euros

Pilot cities: Murcia (ES) and Kalundborg (DK)

Pilot Plant in Murcia (ES): working since January 2021

Integrated approach in urban biowaste upcycling

Standardisation body

UNE Normalización Española

Business model / Upscaling

SAVONIA

ITAINNOVA

Safety assessment

Gaiker — Member of Basque Research & Technology Alliance

Final product testing

GRUPO CARINSA®

Policy makers

Región de Murcia

Environmental Assesment

cetenma — Centro Tecnológico de la Energía y del Medio Ambiente

Technology providers

unibio

entomo agroindustrial

EKOBALANS

NuReSys

INDEREN

Regulatory assessment

Food & Bio Cluster Denmark

EUBIA

D&C

innovarum — Fostering innovation in the agri-food sector

Waste Management company

prezero

2 municipalities

KALUNDBORG KOMMUNE

Ayuntamiento de Murcia

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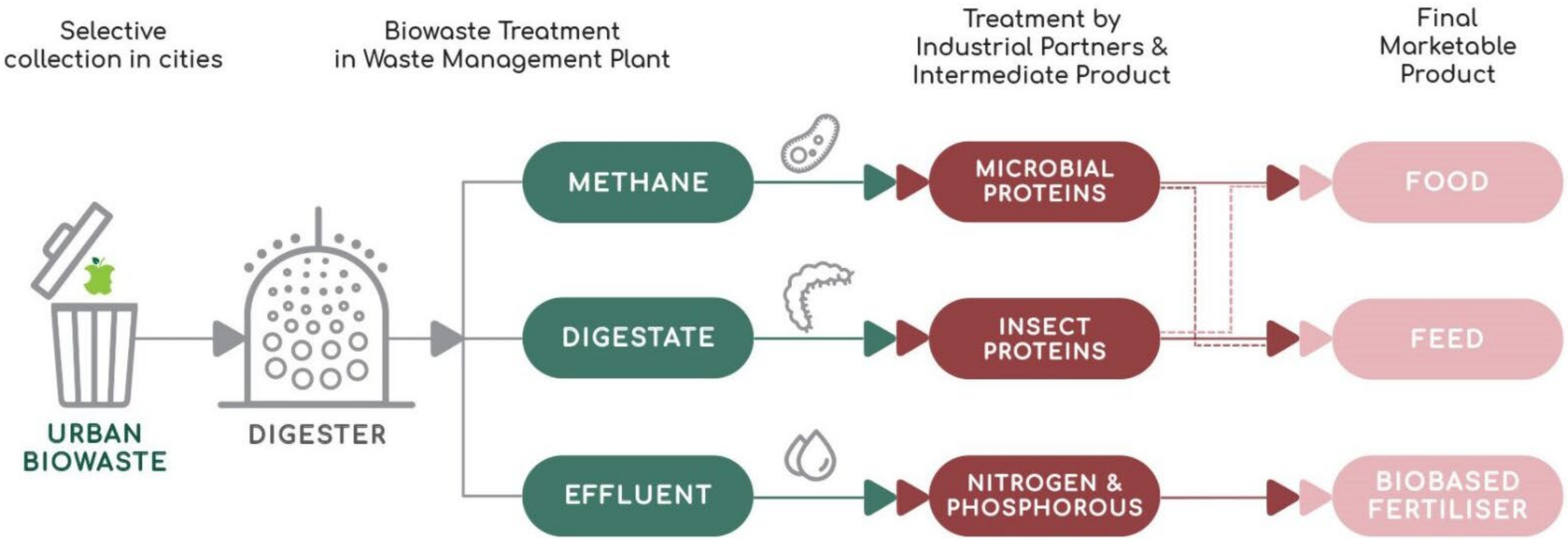
The VALUEWASTE solution



VALUEWASTE was born to help answer current EU urban biowaste management challenges

During last 4 years we are working to develop circular, sustainable and efficient biowaste valorisation schemes for cities across Europe.

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How VALUEWASTE has answered the challenges

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5 key challenges

1. **The biowaste collection challenge. Increase the quantity and quality of selectively collected biowaste. Poor selective collection (23%).**
2. **The social challenge.** The population has a limited understanding of the biowaste selective collection schemes and its importance: however, their participation is key.
3. **The technological challenge.** current technologies characterized by low TRL's (upscaling is expensive) and few large-scale experiences available.
4. **The regulatory challenge.** Regulation is not adapting fast enough to current technological developments, then again, it is key to pave the way to the market. Safety, standarisation & policy are core issues to tackle.
5. **The feasibility challenge.** Is a biowaste management solution ultimately feasible? Ensuring wide-scale application and replicability requires functional, sustainable and profitable business models.

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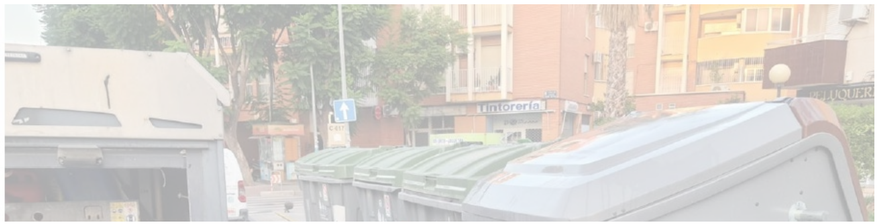
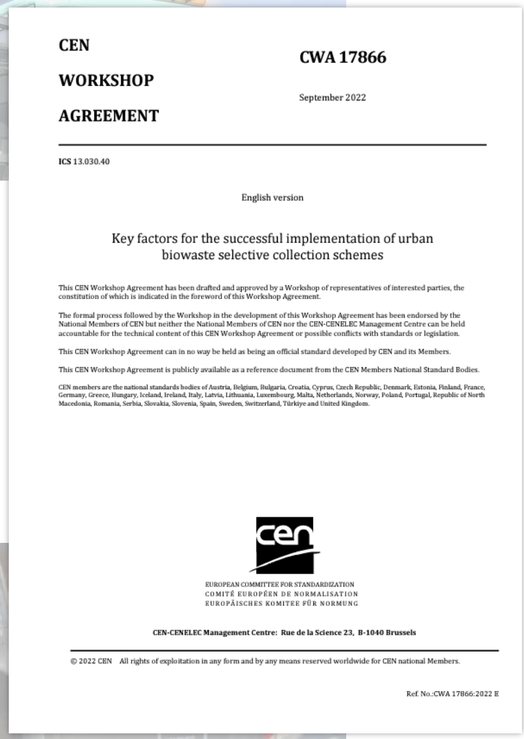
Pilot experience of urban biowaste selective collection in Murcia



European Committee for Standardization

“Key factors for the successful implementation of urban biowaste selective collection schemes”



CEN

WORKSHOP

AGREEMENT

CWA 17866

September 2022

ICS 13.030.40

English version

Key factors for the successful implementation of urban biowaste selective collection schemes

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN-CENELEC Management Centre can be held accountable for the technical content of this CEN Workshop Agreement or possible conflicts with standards or legislation.

This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its Members.

This CEN Workshop Agreement is publicly available as a reference document from the CEN Members National Standard Bodies.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No.:CWA 17866:2022 E

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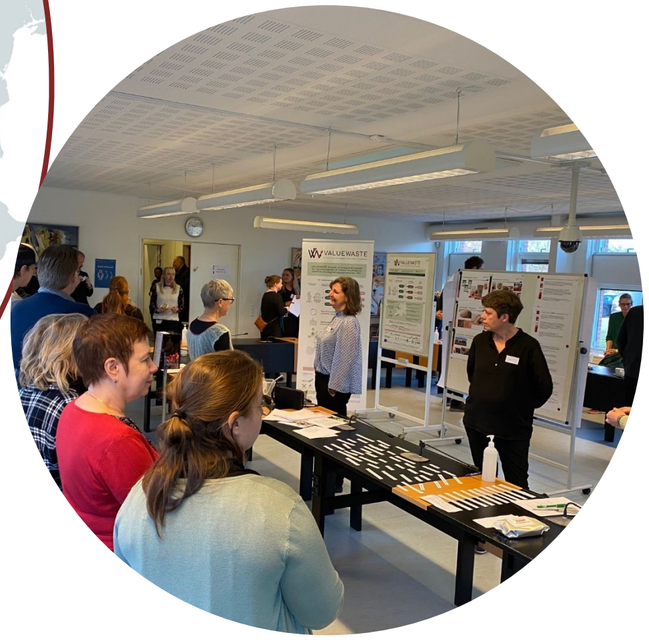

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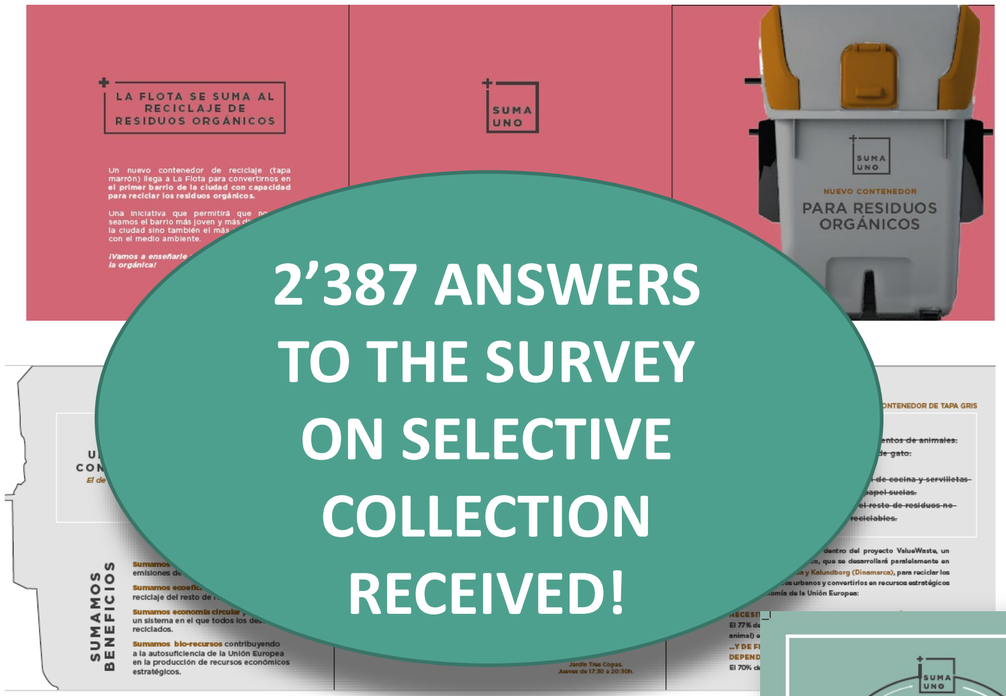
Citizen awareness campaign selective collection in Murcia



2’387 ANSWERS TO THE SURVEY ON SELECTIVE COLLECTION RECEIVED!

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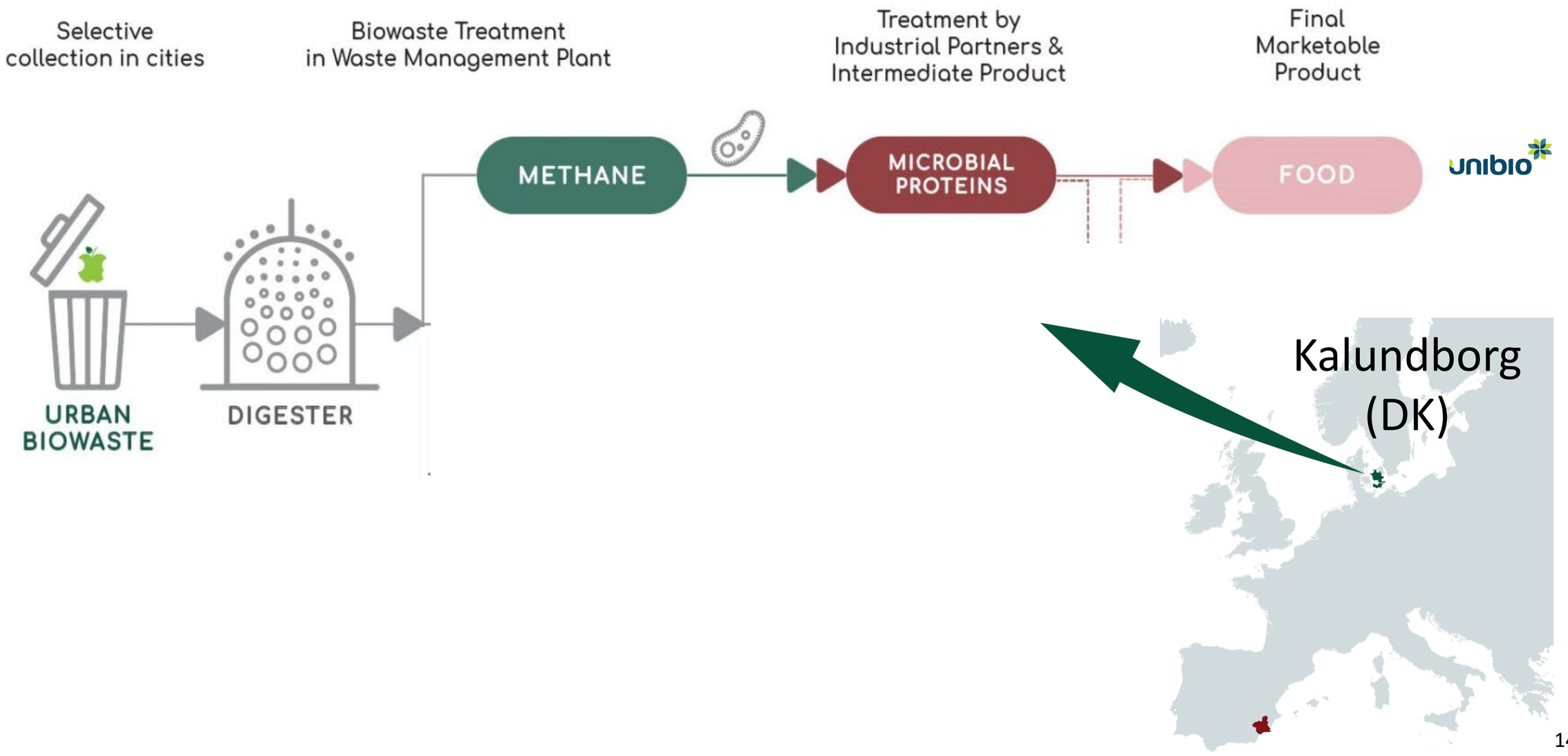
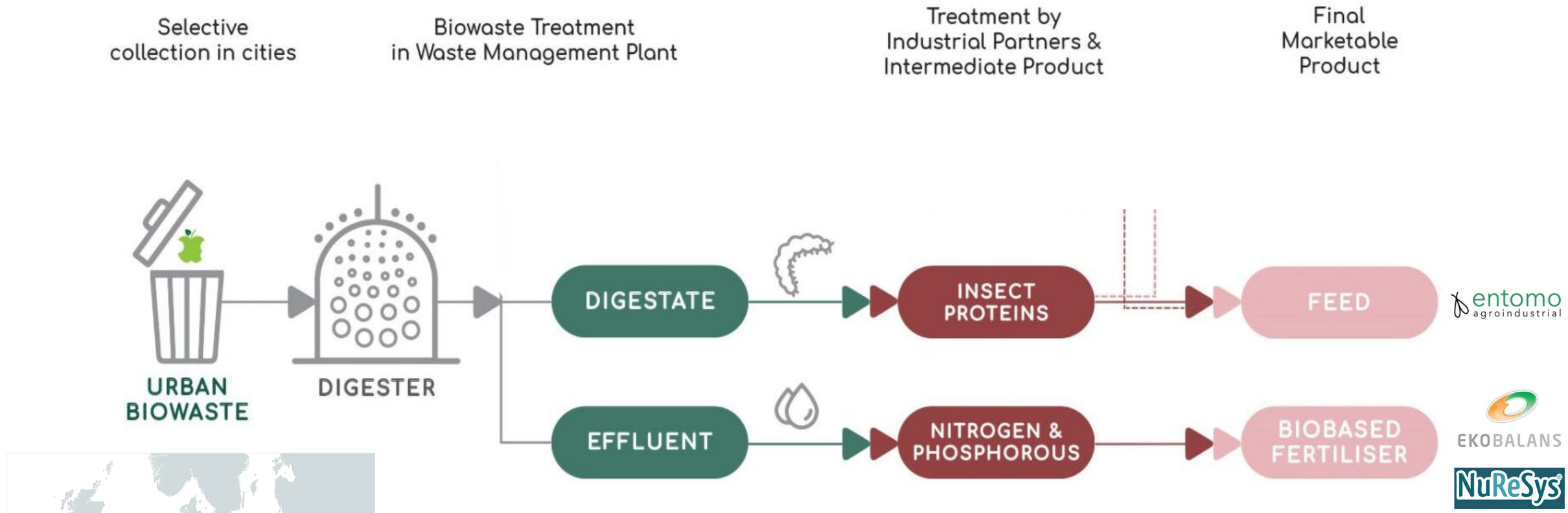
Demo site in Kalundborg: Microbial Proteins value chain



VALUEWASTE Demo site– Kalundborg (Denmark)

Demo site in Murcia: insect protein and nutrient recovery value chains



VALUEWASTE Demo site – Murcia (Spain)

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ROOTS Initiative:

Position paper and Policy Event

ROOTS - circular policies for changing the biowaste system

POSITION PAPER

The circular economy has a huge potential to make our societies more sustainable and decarbonised, with a reduced impact on the planet's resources. The European Union (EU) has made a significant commitment to this model and several initiatives and projects have been launched since the approval of the first Circular Economy package (2015).

As 34% of European municipal waste is organic, valorisation of biowaste is a key tenet of a circular economy. Indeed, the EU Bioeconomy Strategy (2018) sees cities becoming major circular bioeconomy hubs, where biowaste is a feedstock for safe and sustainable biobased products. Changes in the EU waste legislation are expected to lead to more quality biowaste becoming available for use in biorefineries from 2024.

The deployment of innovative solutions in the field of urban biowaste valorisation and reuse is still hindered by numerous bottlenecks, such as technological readiness, funding and financing tools availability, quality and quantity of biowaste and regulatory barriers. The European Green Deal and associated legislative initiatives provide the opportunity to overcome the last ones.

The ROOTS Initiative

Five Horizon 2020 projects working on biowaste valorisation have teamed up to promote innovative solutions for the European circular bioeconomy and help to overcome the barriers for the deployment of a circular bioeconomy. This joint initiative is named **ROOTS - circulaR pOlicies for changing the biOwasTe System.**

The projects **HOOP, VALUEWASTE, SCALIBUR, WaysTUP! and CITYLOOPS** are piloting new solutions to transform urban biowaste (food waste and green waste) and wastewater into valuable products like feed, fertilisers, bioplastics, biopesticides, proteins and bioethanol. They use different processes and technologies, but they all rely on high levels of recycling/upcycling and propose valorisation solutions relevant to the uptake of a truly circular bioeconomy.

At a first stage, the ROOTS promoters shared their concerns on the regulatory barriers hindering the deployment of circular bioeconomy. **The joint work resulted in the release of a first position paper in May 2021 discussing four policy issues and the related proposed recommendations.** The promoting projects have advanced providing results and evidences. The ROOTS group has grown including one more project and the 25 European cities participating in the five projects provided feedbacks and shared their views. All the gathered knowledge was used to further develop the position paper.

As a result of the work performed and experience acquired, a number of bottlenecks have been identified. For each identified bottleneck, this position paper proposes specific 1) policy recommendations for each level of governance, and 2) information about solutions, good practices and concrete experiences from the participating projects.

1. Biowaste prevention

Municipal waste accounts for 27% of total waste generated in the EU (excluding mineral waste). According to the waste hierarchy, prevention is the management system with highest priority. The 2020 EU Circular Economy Action Plan aims to halve the quantity of municipal waste not recycled or prepared for reuse by 2030, while all EU Member

WaysTUP! SCALIBUR VALUEWASTE hoop CITYLOOPS

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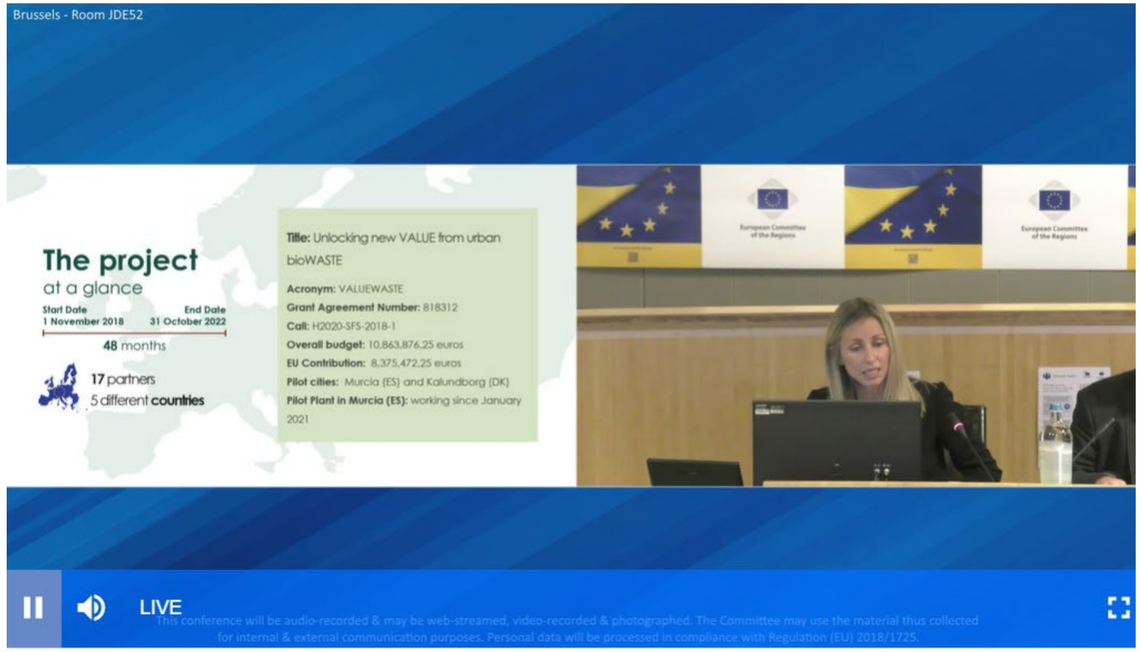

Circular Policies for changing the biowaste system

LIVE

TUESDAY 27 SEPTEMBER 2022 - 09:30 - 17:00

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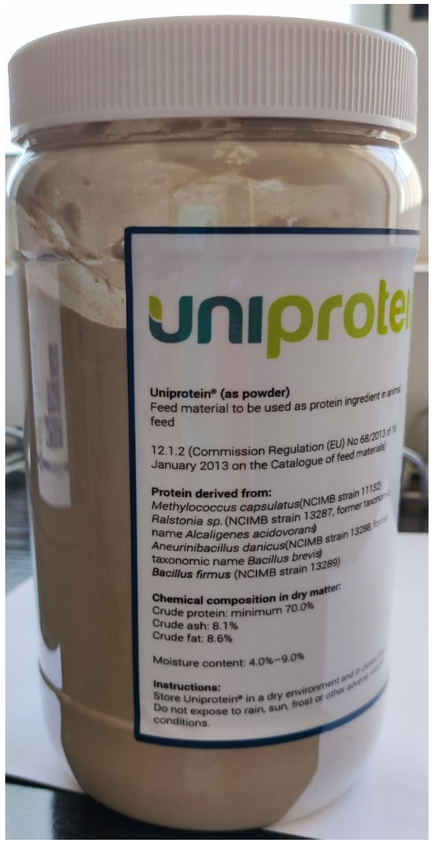
Microbial Proteins



Insect Proteins

Recovered Nutrients

STRUVITE

AMMONIUM SULPHATE

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PROJECT COORDINATOR
gemma.castejon@cetenma.es

COMMUNICATION COORDINATOR
valuewaste.project@innovarum.es

Twitter
@ValuewasteP

LinkedIn
Valuewaste H2020 Project

www.valuewaste.eu