# URBIOFIN

## KICK-OFF MEETING OF BBI-JU DEMONSTRATION PROJECT URBIOFIN

### URBIOFIN - Turning waste into new biobased products

The kick-off meeting of the URBIOFIN project "Demonstration of an integrated innovative biorefinery for the transformation of Municipal Solid Waste (MSW) into new BioBased products" was held last 12th and 13th June 2017 in L'Alcudia (Valencia, Spain). The project is coordinated by the Spanish engineering company IMECAL and has received funding from the Bio Based Industries Joint Undertaking (BBI JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 745785. With a budget of € 15 M and a duration of 4 years, the objective of the URBIOFIN project is to demonstrate the techno-economic and environmental viability of the conversion of the organic fraction of Municipal Solid Waste (MSW) into different bioproducts (bioethanol, biochemicals, biomethane, bioplastics and additives) with a high industrial interest. The international URBIOFIN consortium is composed of 16 organisations: IMECAL S.A., AINIA, CIEMAT, URBASER S.A., IRIAF, Biomasa Peninsular S.A., University of Valladolid (Spain), Novozymes A/S (Denmark), GI Dynamics B.V. and Wageningen University & Research (The Netherlands), VISUM Ltd. (Ireland), NaturePlast and SES Stefany Emballages Services (France), Exergy Ltd. (UK), NATRUE AISBL (Belgium) and BCM BioEconomy Cluster Management GmbH (Germany).

*URBIOFIN project partners attending the 1st General Meeting at IMECAL in L'Alcudia*

## OVERVIEW PARTNER

### AINIA (Spain)

ainia is a RTD centre focused in the agro-food sector and related industries. Nowadays, ainia has more than 700 food SME´s company members of its organization. The aim of the centre is to promote research and technological development in the agro-food sector, to increase quality in production, improve competitiveness and promote modernization and diversification in the agro-food industries. This is achieved providing a wide range of technological services to its members, through the execution of scientific research projects and technology transfer to the industry.

http://www.ainia.es

### BCM BioEconomy Cluster Manangement GmbH (Germany)

BCM GmbH is the management organization of the leading edge cluster BioEconomy. The BioEconomy Cluster is the only nationwide operating Cluster in Germany focussing on the complete value chain of wood based BioEconomy. The BioEconomy Cluster is a full member of BioBased Industries Consortium. BCM coordinates 80 Members from Industry, Scientific Institutes and Universities. BCM is responsible for the coordination of research activities with an actual Budget of 80 Mio. EUR. BCM focuses on Business Development support, Education, Communication, Dissemination and IP management.

http://en.bioeconomy.de/

### Biomasa Peninsular S.A. (Spain)

BIOMASA PENINSULAR is a Spanish SME providing technology and services for the recycling of bioresidues. BIOMASA operates 5 recycling centers and manages 170.000 t/year. Main role of BIOMASA as WP5 leader is related with production of biofertilisers and testing and validation of biofertilisers and bioplastics, as final products from URBIOFIN biorefinery. Liquid and solid state biofertilisers will be developed from microalgae extracts from Biomethane upgrading and organic residual flows from down-stream units of Fermentation and AD. Main biofertilisers formulation will take place at "R&D&i and Experimental Production Center Algodor", in Toledo (70 km from Madrid).

http://bpeninsular.com

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### CIEMAT (Spain)

CIEMAT (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas) is a Public Research Institution depending on the Spanish Ministry of Economy and Competitiveness. Main objectives of CIEMAT are to promote and execute research, innovation and technical development in the energy sector. CIEMAT research is conducted in cooperation with other institutions and organisations in joint R&D&I projects, providing specialized technical services, education and training.

The Biofuels Unit is attached to the Renewable Energies Department of CIEMAT, whose and the main objective is to perform R&D projects in the renewable energies area, both in resources evaluation and conversion technology development. The Biofuels Unit performs R&D projects in the area of bioconversion processes to transform lignocellulosic biomass into bioproducts and biofuels such as bioethanol, by means of efficient and low cost biotechnological routes, facilitating that these processes can be adopted by industry.
http://www.ciemat.es

### Exergy Ltd. (UK)

Exergy has been in the sustainable industry playing a major role in the development of sustainable and energy efficient engineering systems, including more than 20 Projects in the UK and Europe in collaboration with partner organisations and expanding to other countries around the world. Exergy Ltd is full member of BioBased Industries Consortium (BIC) and the department of Sustainable Process is involved in more than 10 projects in the area of waste and biomass valorisation (biofuels and bioproducts), algae transformation, waste to energy and circular economy, among others. Exergy Ltd is involved in the integration and virtual simulation and scaling-up of the URBIOFIN biorefinery as well as in the different economic, environmental and social analysis related to the processes and products.
http://www.exergy.uk.com/

### GI Dynamics B.V. (The Netherlands)

G.I. Dynamics is an independent and international leading technology partner founded with focus on the development and implementation of sustainable and circular projects worldwide. Operating together with a global network of unique industrial players, we provide the latest state-of-the-art proven technologies and processes.

Thanks to a comprehensive suite of technical competencies, we can add value to every phase of a project – from conceptual to up execution and implementation – through to technology development, project delivery and operational support.
http://www.gidynamics.nl

### IMECAL S.A. (Spain)

IMECAL is a SME which was founded in 1979 as an engineering company in the metal sector, working on demand and manufacturing all type of metal-mechanical equipment for civil works, petro-refineries and petrochemical, transportation, refrigeration industry and industrial auxiliary motor, among others. R & D IMECAL Department has allowed the company to progress in the technological field, having made significant partnerships with companies, universities and public research organizations.

The R&D line of production technology for second generation bioethanol has developed a biotechnological patented technology for obtaining bioethanol from Organic Municipal Waste. In 2007 IMECAL built a second generation bioethanol plant with a capacity to process 25 ton/day of organic fraction of MSW (PERSEO Bioethanol®). Since this year IMECAL has participated in different projects to test and improve PERSEO technology to different MSW raw materials with different companies.
www.imecal.com/perseo

### IRIAF (Spain)

The Regional Institute of Castilla-La Mancha for Agri-Food and Forest Research and Development (IRIAF), which belongs to the Ministry of Agriculture and Environment of the Regional Government of Castilla-La Mancha (JCCM), consists of 6 different research centres. It developed the CLAMBER Project (Castilla-La Mancha Bio-Economy Region Project) and has extensive experience in proceedings related to R+D+i as well as dissemination and training activities related to the agri-food and forest sectors.

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Thanks to this Project, which was co-funded with ERDF through the Ministry of Economy and Competitiveness of the National Government of Spain (MINECO), the CLAMBER Plant was built in 2015. It is a public demonstrative biorefinery at the service of companies and dedicated to scientific research, scale-up experiments and development of new processes and high value products from lignocellulosic and fermentable biomass, both residual and cultivated.
http://clamber.castillalamancha.es/

### NATRUE AISBL (Belgium)

Founded in 2007 NATRUE AISBL is a Brussels-based international non-profit association operating to protect and promote natural and organic cosmetics via three main areas of activity: Advoacy, Research and Label. NATRUE has currently 70 international members.

Since 2008, NATRUE is the holder and setter of a private standard for the sector. Adoption of the NATRUE label for certified products currently exceeds 5300 products across a total of 230 brands in 27 countries worldwide.

NATRUE is listed on the EU transparency register under the identification number: 75060586073-86, and is a liaison organisation representative at ISO TC/217/WG4.
http://www.natrue.org/

### NaturePlast (France)

Natureplast Company is specialized in supporting bioplastics applications developmentthrough its activities:

- Raw materials distribution: hundreds of different references of biobased and / or biodegradable materials (PLA, PHAs, PBS, starch based materials, etc.) available with worldwide network.
- Services such as project engineering, technical support, technical survey, training, etc.
- Research & Development through its 100% owned daughter company Biopolynov: our compounding facility allows us to develop and produce compounds with improved properties depending of our customers and applications needs.

The company's works usually concerns improving mechanical, processing or thermal properties through the use of several raw materials, additives, natural fibers, nanofillers or by-products (or wastes) from different industries. In summary, the goal is to help industry to put bioplastics end-products into the market through an access to raw materials and the capacity to develop specific compounds with improved properties.
http://www.natureplast.eu/

### Novozymes A/S (Denmark)

Novozymes is the world leader in biological solutions. Together with customers, partners and the global community, we improve industrial performance while preserving the planet's resources and helping build better lives. As the world's largest provider of enzyme and microbial technologies, our bioinnovation enables higher agricultural yields, low-temperature washing, energy-efficient production, renewable fuel and many other benefits that we rely on today and in the future. We call it Rethink Tomorrow.
http://www.novozymes.com

### SES Stefany Emballages et Services (France)

From the start, in 1988, STEFANY EMBALLAGES SERVICES Company has distinguished itself by manufacturing precut rolls polyethylene packaging. It has constantly adapted to new requirements and enlarged its range of products.

SES is the 1st french independant manufacture of water soluble strip laundry bags and blood specimens bags. Since 10 years, SES developps biocompostable packaging with permanent R&D.

The role of SES is focused on the validation of the use of biopolymers as materials to produce packaging such us bags or films for cosmetic sector. The biopolymers produced within the project will be tested in real manufacturing chains making possible to check at end-user level the suitability for specific sector of cosmetics.
http://www.ses-packaging.com

### University of Valladolid (Spain)

The Department of Chemical Engineering and Environmental Technology at Universidad de Valladolid (UVa) started its research activities in the early 80s in the treatment of industrial wastewaters and biological nutrient removal. Other research lines such as biological gas treatment or microalgae-based wastewater treatment were initiated in 2000 and 2001, respectively. Since 1980, the group of Environmental Technology at the Dept. of Chemical Engineering and Environmental Technology has conducted a sustained

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and intense labour in the development of cost-effective technologies for pollution control in both wastewater and off-gas emissions. The 15 years of expertise in microalgae-based wastewater treatment and biological gas treatment support the capacity of the group to conduct the task assigned in URbiofin. The academic and scientific productivity of the group during these past 10 years accounted for 31 PhD theses presented, 216 JCR articles, 4 patents and 250 contributions to International Congresses.
http://www.uva.es

### URBASER S.A. (Spain)

URBASER belongs to the group ACS ("Actividades de Construcción y Servicios"), which is a worldwide reference in infrastructures, industrial services, energy and environment. The environmental company URBASER is leader in waste management and treatment in Spain. It specializes in street cleaning, waste removal and transporting, urban waste treatment and recycling, waste to energy facilities and comprehensive management of the water cycle and urban landscape and gardening.

URBASER is the leader in removal and treatment of used mineral oils and treatment and removal of industrial waste. URBASER covers the entire value chain when providing these services, from designing and conception, carrying out the project, construction, financing and operating a highly-qualified professional team.

URBASER also operates in the field of renewable energies with a view to limiting the negative impact of greenhouse gases, for the purpose of which it is developing treatment processes for alternative sources of energy, biomass from biomass crops, waste woodland mass, biodegradable, agricultural and industrial waste.
http://www.urbaser.es/

### VISUM Ltd. (Ireland)

VISUM is as an advanced engineering and R&D company, specializing in the field of process engineering. We have a team of optical, electronics and software engineers supported by aa dedicated project management office. VISUM has c a fully equipped optics laboratory, mechanical and electronics workshop, and the solid expertise in developing spectroscopic and hyperspectral imaging solutions for industry. In addition, VISUM also has expertise in the development of cloud-enabled data management solutions for smart manufacturing and smart agriculture applications.

VISUM's role in the URBIOFIN project is to collaborate in the study of the relevant parameters to select the most suitable sensor technologies, test novel advanced sensors for monitoring selected process parameters and integrate them at plant level along with a bespoke control system. VISUM will also develop data mining tools to produce decision support tools for controlling production.
http://www.seeingnewdata.com

### Wageningen University & Research (The Netherlands)

Wageningen UR develops sustainable production processes, biobased materials, and biomass valorisation strategies that will transform the current economy into a sustainable bioeconomy. With innovative technologies, Wageningen UR turns both primary crops and residues from the food industry, agriculture and natural infrastructure into marketable products and energy: human food, animal feed, chemicals, materials, fuels, power and heat. The Institute Wageningen Food & Biobased Research (WFBR) will represent Wageningen UR in this project with its fermentation and expertise in microbial production of medium chain-length (mcl) fatty acids and of PHAs and with the development of industrial applications for these components.
http://www.wur.nl/es.htm

**MORE INFORMATION:**
https://www.bbi-europe.eu/projects

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