

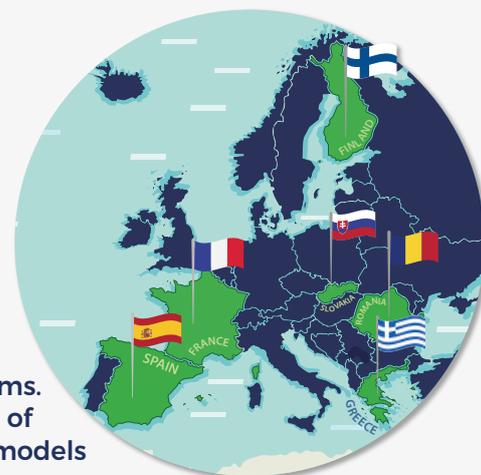


This is the 3rd BIOREGIO Newsletter.

The 3rd semester of the BIOREGIO project has been full of activities: 6 Local Stakeholder Group meetings, 6 regional dissemination events, internal and external transfer of knowledge and experiences, the 3rd interregional event, comprehensive analysis of the current policy situation and 4 regional Good Practices registered on IE Policy Learning Platform.

BIOREGIO is an EU funded project in collaboration with 8 partners from 6 EU countries. Together, we will improve and develop regional policies through increased focus on a circular economy related to biological streams. At the same time, we will transfer knowledge related to closing the loops of biological streams, best available technologies and relevant cooperation models such as ecosystems, networks and clusters.

In the following pages, you will find more information about the 3rd semester of BIOREGIO. The Greek project partners provide this newsletter: Laboratory of Heat Transfer and Environmental Engineering (LHTEE)(<http://aix.meng.auth.gr>) of the Mechanical Engineering Department, Aristotle University Thessaloniki and Regional Development Fund of Central Macedonia. (<https://www.rdfcm.gr>)



Read more about **BIOREGIO**:
www.interregeurope.eu/bioregio

BIOECONOMY is an economy that relies on renewable biological resources (crops, forests, fish, animals and micro-organisms) and their conversion into food, feed, products, materials and energy. Bioeconomy includes agriculture, forestry, fisheries, food and pulp and paper production, as well as parts of chemical, biotechnological and energy industries. (EU COMMISSION 2012)

BIO-BASED PRODUCTS are products that are wholly or partly derived from materials of biological origin, excluding materials embedded in geological formations and/or fossilized (EU COMMISSION 2017).

CIRCULAR ECONOMY means closing the currently linear economy in a loop where the value of products, materials and resources is maintained in the economy for as long as possible. Circular economy consist of biological and technical cycles. (EU COMMISSION 2015)

BIO-BASED CIRCULAR ECONOMY or bio circular economy is the circular economy of bio-based materials. I.e. biological resources are managed and used in a way that the value of the materials is maintained at the highest utility in the economy for as long as possible.

BIOREGIO 3rd Interregional Event 15th -16th May 2018 in Central Macedonia Region, Greece

The Laboratory of Heat Transfer and Environmental Engineering (LHTEE) of the Mechanical Engineering Department, Aristotle University Thessaloniki and the Regional Development Fund of Central Macedonia organized the 3rd interregional event in Thessaloniki, Central Macedonia Region, Greece.

The first day, representatives from each of the six regions discussed the current state of the policy development based on the outcome of each country's regional stakeholder group meeting conducted previously. The differences in decision making in each region were identified and discussed. Stakeholders had the chance to exchange ideas and expertise in the next session where "sharing and gaining" questions were answered by all stakeholders stating their expectations of the BIOREGIO project output and the field they can contribute to enhancing them. Motivation and potential education of the stakeholders to participate in experience sharing and involvement in the project activities were explored.

An interesting feature of day 1 was the fruitful discussion that took place during the 2 parallel workshops on: 1) policy and 2) technology. The workshops wrap-up proved that the stakeholders are in search of the best solutions and application methodology to incorporate circular economy. Additionally, the need for stakeholders to actively co-operate and contribute in the regional and interregional meetings was brought up. Following that, all participants visited the BIO2CHP; a small-scale decentralized biomass gasification unit, hosted in the university campus and were informed on the utilization of organic waste for on-site heat and power production.



On the second day, partners and invited stakeholders visited facilities of high interest to the BIOREGIO project purposes. The first stop of the day was at the Thessaloniki Waste Transfer Station, where partners had a plant tour. Then, they were welcomed to the Environmental park of Derveni (a restored old dumpsite). There, the managers informed on the targets set and the holistic approach of the Region of Central Macedonia on Solid Waste Management, also in a view of introducing the Circular Economy aspect in national legislation.

Later, partners and stakeholders were welcomed in EVYP SA, a company engaged in the production of hydrolysed proteins and amino acids, of plant origin only, for agricultural use. The company is highly involved in cooperation with universities and research institutes as they are experimenting with developing new products based strictly on plant-based raw materials.

The last visit was held on the premises of BIOGAS-LAGADA SA. The company was awarded in 2017 on their contribution to "waste & recycling". Its scope is the production, supply and market exploitation of electricity from renewable energy sources, specifically biogas. Since the manager of the company was an invited Greek stakeholder in the 2nd interregional event, partners were already familiar with the unit's goals, so they took the opportunity to further investigate the infrastructure, the technology applied and future set targets of the facility.

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1-6 / 2017

**Semester 1****Region in focus:**

Päijät-Häme, FINLAND

Partners: Lahti University of Applied Sciences & Päijät-Häme Regional Council**Theme:** Regional model of biological streams

7-12 / 2017

**Semester 2****Region in focus:**

Castilla La Mancha, SPAIN

Partner:

Deputy Regional Ministry of Environment

Theme: Biorefinery and high value products

1-6 / 2018

**Semester 3****Region in focus:**

Central Macedonia, GREECE

Partners:

Aristotle University of Thessaloniki & Region of Central Macedonia

Theme: Agricultural waste gasification

7-12 / 2018

**Semester 4****Region in focus:**

ROMANIA

Partner: National Research and Development Institute for Chemistry and Petrochemistry ICECHIM, Calarasi subsidiary**Theme:** Main challenges in developing bio-based circular economy

1-6 / 2019

**Semester 5****Region in focus:**

Nitra, SLOVAKIA

Partner: Slovak University of Agriculture in Nitra**Theme:** Biofuels and agricultural innovations

7-12 / 2019

**Semester 6****Region in focus:**

Pays de la Loire, FRANCE

Partner: Association of the Chambers of Agriculture of the Atlantic Area**Theme:** Policy development and action plans

The Hellenic Bioeconomy Strategy

HELLENIC BIOECONOMY IN NUMBERS

(Total Bioeconomy sectors, ref. year 2015)

- ✓ EUR 27,454 million was the turnover
- ✓ 604,653 people were employed
- ✓ 2.03 was the location quotient

(Reference: <https://biobs.jrc.ec.europa.eu/country/greece>)

The Hellenic Governmental Economic Policy Council approved the public policy framework for Circular Economy in April 2018, as being a key element of the country's Development Strategy update. The suggestion made by the Deputy Minister for the Environment and Energy states:

"Circular economy constitutes an opportunity for Greece as it may catalyse the productive reconstruction with a greater, regional dimension. The rational approach to recycling/reuse will enhance industrial symbiosis and the use of secondary materials, introducing a sustainable dimension to the existing production model that is mostly linear. Circular economy aspects introduction to the primary and secondary sector of economy will result into exploitation and respect of natural and environmental resources but on the same time it is expected to create job opportunities and background conditions fully compatible with the small and medium-sized increase of entrepreneurship and eventually upgrade social economy".

The National Strategy for a circular economy is expected to be issued in 2018. Its public consultation will provide valuable input to the future targets development. Also, by summer of 2018, the Hellenic Forum on Circular Economy will be launched. Large and small businesses, stakeholders and relevant social actors will be invited to participate, contributing to the update of the national strategy for the circular economy, enriching it with successful examples and innovative ideas.

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Central Macedonia Region Good Practices



1. Energy generation from agricultural residuals (BIO2CHP)

BIO2CHP offers small and medium industries in the agro-food sector, a bio-based power generator, which converts organic residues into power at a price 3-4x lower than the grid. The whole system is included inside a container and operates in a standalone mode. The system uses the raw residual biomass, which is currently treated as waste or goes to low added-value channels, for the on-site heat and power production, minimizing both energy and waste handling costs.

BIO2CHP combines two well-established technologies, gasification and gas engines, which are brought together through an automated control system, allowing energy production in small-scale applications. A working pilot has been developed and proved its potential for operation in real life conditions using up-to-date: grape seeds, peach kernels, olive kernels and almond shells. (<http://www.bio2chp.com>)

2. Production of hydrolysed proteins and amino acids of plant origin for agricultural use (EVYP S.A.)

The company produces amino acids for plant nutrition by extracting proteins, of non-GMO plant origin. The products are unique because of the 16 L-amino acids of plant origin content. Due to the content of hydrolysed proteins of plant origin as active ingredients, they are non-toxic and environmentally friendly. It is safe for trees, plants, as well as for humans, animals and beneficial for agriculture insects, thus suitable for use in organic farming. Their innovative composition and production method is a Granted European Patent, EP: 2537823, in the field of organic fertilizers in 2013. (<http://www.evyp.gr>)

3. Biogas generation through anaerobic digestion of stock-farming residuals (BIOGAS LAGADA S.A.)

Collection of locally available livestock and organic waste and transfer to the unit. The raw material mixture input of the biogas plant consists of the following: wet and dry dung cattle, poultry and pigs, cheese whey, olive mills wastewater, peels and fruit pulp, fruit and vegetables, planting of energy plants, wineries residues, beer yeast, by-products of biofuels production, etc. The generated biogas is exploited for energy generation while the digested solid residual is dispersed in the nearby fields as soil enhancer with the assistance of locals' agricultural machinery. (<http://www.biogaslagada.eu/>)

4. Biomass and solid waste composting (BIOSOLIDS S.A.)

The company's goal is to implement a rational approach to organic waste and biomass management, driven by our care for the environment and sustainable development. Their direct scope is the production of organohumic fertilisers and soil enhancers through biomass and solid waste composting.

The composted materials originate from: wastewater sludge, garden waste and residues from tree lines, lawn, brewery and winery residues, Industrial processing and food standardization waste, plant residues from crop industrial processing (e.g. from cotton ginning mills), crop plant residues (e.g. straw, reeds), wood residues (e.g. sawdust, pruning waste), manure, and pre-sorted municipal waste organic fraction. (<https://biosolids.gr/en/home>)

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Upcoming in Semester 4

The 4th Interregional Event will be held in early October 2018 in the region of **Sud Muntenia, Romania**. The theme of the event will be "Main challenges in developing a circular economy for biological flows and how to overcome them". Many activities will take place; a round table discussion concerning policy instruments and site visits to the Good Practices of the region are standing out!

This Newsletter reflects the author's views; the Interreg Europe programme authorities are not liable for any use that may be made of the information contained therein.

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