

D T.2.1.1 Missing Links for Regional Circular Bioeconomies BULGARIA



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1. Introduction

Results of the first output from the GoDanuBio project (“Analysis of Circular Bioeconomy Framework Conditions (WP T1)”) provide an overview of current strategies and governance structures in the Danube macro-region and offer a hint on the existing gaps of circular bioeconomy, in terms of concentration (critical mass of relevant actors), capacity (skills), conditions (rules, legislation procedures) and culture (social acceptance and impact of circular-bioeconomy approaches). The outputs from WP T1 should serve as a basis for the identification of actors that are currently neglected in the bioeconomisation of the respective regions.

2. Methodology

The aim of this report is to create an overview of actors that are neglected in the circular bioeconomy so far but are needed to co-create sustainable development models. To also serve as inspiration source, good practice examples (projects/initiatives/business models) that already exist in individual regions of GoDanuBio or outside the consortium area were collected.

The methodology encompassed the following steps:

Step 1. Analysis of the regional reports T.1.2.1 Development of regional stakeholder reports

Each region has identified the existing actors involved in the bioeconomisation process. They have been divided into 4 categories:

- Industry (chambers of commerce, clusters, cluster organisations, enterprises, professional associations)
- Academia & Research (universities, research institutes, competence centers)
- Public (state agencies, local government, regional/central government, regional development agencies)
- Society (NGOs, informal civil organisations)

These represent the maximal typology of actors to be considered in the elaboration of the Integration Plan for prospective actors for developing a sustainable and holistic circular economy (T2.1).

Some categories of actors are currently involved in the bioeconomisation process in all regions (e.g., universities), others are not and hence the regional gaps occur.

The current situation and the pre-identified gaps are shown in a google drive shared document (Annex 1)

Step 2. Identification of good practice examples

When adding a missing actor in the list, the partners have relied on the shared experience from other partners that have identified that specific missing actor.

The following table shows the shared experience for Bulgaria.

Type of stakeholder	Pre identified actors	Examples /Type of cooperation
Industry		
Chamber of commerce	Wood industry	Circular and low carbon economy Roadmap 2021-2027 (CaLCER)
Clusters	Green, circular economy	GREEN SYNERGY cluster ¹ ; “Circular Economy- the Green Alternative for Bulgaria” “CEGA BG” ²
Cluster organisations	European institute for Innovation and	Cleantech Bulgaria is EIT Food, EIT Climate KIC and EIT Manufacturing Hub manager in the

¹ <https://greensynergycluster.eu/about-us/?lang=en> Council/Cluster within BCCI

² <http://www.cega-bg.com/2> Srednogorie

	technology ³ and the EIT RIS Hubs, that work locally in the country	country, as well as local innovation network for circular economy working closely with start-ups, SMEs and academia in the field of circular economy.
Enterprises	Private producers (Large and SMEs in the processing industry and other industrial sectors processing biomass, large and small farms) Confederation of employers and industrialists in Bulgaria (KRIB)	Providing best practice examples, as well as defining needs and challenges of the business
Professional associations	Recycling; Meat Processors; Agricultural Producers; National Biofuels Association	Circular and low carbon economy Roadmap 2021-2027 (CaLCER)
Academia & Research		
Universities	University of Mining and Geology "St. Ivan Rilski", VUZF, Varna Free University, Agricultural university in Plovdiv, Technical University Sofia, Sofia University ⁴	-Circular and low carbon economy Roadmap 2021-2027 (CaLCER); -ISIS domains (CoC development thematic areas: "Healthy living and biotechnology industry"; "Mechatronics and clean technologies"); -Monitoring Committee for Strategic plan for agricultural and rural development 2021-2027(MC&SPARDP); -Integrated National Climate and Energy Plan and RDP (RES); -R&I (Research and Innovation (National science fund, OP for research, innovation and digitalization for intelligent transformation); -EU projects; -NPs (National programs (Healthy Foods for a Strong Bioeconomy and Quality of Life).
Research institutes	Agricultural Academy and its structural units Institute of Forests – BAS; Institute of Microbiology – BAS; Institute of Organic	Circular and low carbon economy Roadmap 2021-2027 (CaLCER); -ISIS domains (CoC development thematic areas: "Healthy living and biotechnology industry"; "Mechatronics and clean technologies");

³ <https://eit.europa.eu/>

⁴ https://www.uni-sofia.bg/index.php/bul/universitet_t/fakulteti/biologicheski_fakultet2/nauchna_i_mezhdunarodna_dejnost/cent_r_za_kompetentnost_clean_circle_chisti_tehnologii_za_ustojchiva_okolna_sreda_vodi_otpad_ci_energiya_za_k_r_gova_ikonomika

	Chemistry with Center for Phytochemistry; "CEGA BG";	-Integrated National Climate and Energy Plan and RDP (RES); -R&I (Research and Innovation (National science fund, OP for research, innovation and digitalization for intelligent transformation); -NCPs (National programs (Healthy Foods for a Strong Bioeconomy and Quality of Life).
Competence centres	14 Centres of Excellence (CoEs) and Centres of Competence (CoCs)	Approximately €160 million EU funding (combined with national co-funding resulting in a total of approx. €190 million) is dedicated to the establishment of 14 Centres of Excellence (CoEs) and Centres of Competence (CoCs) in the country, under the "Science and Education for Smart Growth" Operational Programme (SESG-OP)). The Centres are projects that involve a large number of partner organisations. Fourteen contracts for Centres are signed and the projects are at different stages of implementation. The CoCs and CoEs follow the Smart Specialisation priorities of Bulgaria (Mechatronics & Clean Technology, Informatics & Information and Communication Technologies, New Technologies in Creative and Recreational Industries, Industry for Healthy life and Biotechnology) and are to be operational by 2023.
Public		
State Agencies	Bulgarian Agency for promotion of the SMEs	Project partner and the main link to SMES from different sectors in Bulgaria
Local Government	Municipalities in rural area; Srednogorie Industrial Cluster; National Association of the Municipalities in Republic of Bulgaria; Sofia Municipality	232 municipalities in rural areas – municipalities' councils and administrations
Regional/Central Government	Ministries (Agriculture, Food and Forestry; Environment and Water; Economy, Education an science); National Agricultural Advisory Service; Agriculture Fund	S Growth-Sustainable growth (National Development Program: Bulgaria 2030; Plan for recovery and sustainability of the Republic of Bulgaria, etc.);

Society		
NGOs	Bulgarian National LEADER Network	-Monitoring Committee for Strategic plan for agricultural and rural development 2021-2027; - ISIS domains (CoC development thematic areas: "Healthy living and biotechnology industry"; "Mechatronics and clean technologies"); -Integrated National Climate and Energy Plan and RDP (RES); -R&I (Research and Innovation (National science fund, OP for research, innovation and digitalization for intelligent transformation));
Informal civil organizations	Different local NGOs and civil society organizations	Dissemination and citizens engagement initiatives

Step 3 Identification of the potential stakeholders

In Bulgaria the pre-identified gaps are: cluster organisations, competence centres, regional development agencies, informal civil organisations as shown in Annex 1 (google drive shared document). The potential stakeholders are fill in Annex 2 (google drive shared document).

Step 4 Identification of good practices

The identified good practices are listed in Chapter 4 and will be further described in a dedicated template which will be integrated into the Best Practice Brochure (D.T2.1.2).

3. Missing Actors

Stakeholder group	Industry
Stakeholder subgroup	Cluster <u>organisation</u>
Position in the network	<p>Cleantech Bulgaria⁵ is network for clean technologies, innovation and sustainable development. The organization is working actively to introduce resource-efficient solutions leading to a shift to new business models, such as the low carbon and circular economy. Cleantech Bulgaria is a catalyst for innovative solutions and a trusted partner of the business, public administration, science and education. Cleantech Bulgaria provides acceleration services for innovative enterprises, start-ups support and access to an international network of experts, partners, clients and investors.</p> <p>Cleantech Bulgaria is an official partner of European Institute for Innovation and Technology (EIT), a body of the EC, acting as EIT RIS Hub Manager in Bulgaria for EIT Manufacturing, EIT Food, EIT InnoEnergy and EIT Climate KIC.</p>

Commented [CD1]: In the google drive you have identified Local Government actors but you have not described them. Please add a description table.

Commented [CD2]: Are you sure this is a cluster? Would it not fit better to competence centers or professional associations?

Commented [DD3R2]: Cleantech Bulgaria is a cluster based organization working with different companies/stakeholders on the topics of green economy, innovation, sustainable development, etc. This can be proved in the following site:
<https://clustercollaboration.eu/cluster-organisations/cleantech-bulgaria>

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⁵ <https://cleantech.bg/en/home/>

Importance for GoDanuBio	Expert support, provision of “on ground information”, identification of best practices, as well as supports the dissemination of project results
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Stakeholder group	Academia & Research
Stakeholder subgroup	Competence centre “Clean&Circle” ⁶
Position in the network	<p>The Centre of competence funded under the OP for Science and education for sustainable growth with a budget of circa 12 million EUR. It supports the energy and resource efficiency through:</p> <ul style="list-style-type: none"> • Operation of the water and waste treatment facilities and of the water supply and sewerage networks; • Renewable and alternative energy sources by producing biogas, bioethanol, biodiesel, hydrogen, hydro power, combined with sediment bioremediation technologies and solving of crucial environmental problems; • Recovery of resources such as phosphorus, precious and rare metals, bioremediation of sludge, soils and sediments that have accumulated toxic pollutants; • Obtaining alternative resources - zeolite from ashes, slags, cake, new construction and composite materials from waste, RDF fuel, high quality bioreactors from composting plants, microbiological detoxification preparations, etc. <p>A key focus is placed on the module “Technology Transfer”. It foresees activities related to training, dissemination of results, technology transfer and tech-entrepreneurship.</p>
Importance for GoDanuBio	Providing information on the latest research activities in the field of circular economy, as well as information and best practices on technologies that have been developed further and/or jointly with the business. The Centre has it’s own technology transfer unit that is responsible for the commercialization and the contact with the business.

Stakeholder group	Public
Stakeholder subgroup	Ministry of economy and MA of the Program “Innovation and Competitiveness”2021-2027
Position in the network	MA for the new program “Innovation and competitiveness” 2021-2027 is under the responsibility of the ministry, as well as the development of the new Smart specialization strategy of the Republic of Bulgaria 2021-2027
Importance for GoDanuBio	Circular economy is paying a key role in the new Smart specialization strategy of the Republic of Bulgaria 2021-2027. The close contact

⁶ <http://www.clean-circle.eu/>

	with the ministry is essential for the GoDanuBio project as it will ensure transfer knowledge and capacity, as well as of the good practices and results achieved within the project.
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Stakeholder group	Public
Stakeholder subgroup	Stolichna Municipality, Municipality of Plovdiv, Municipality of Burgas
Position in the network	<p>These are three of the biggest municipalities in Bulgaria –</p> <ul style="list-style-type: none"> - Stolichna Municipality is a municipality in Sofia City Province, Western Bulgaria. It is named after its administrative centre - the city of Sofia, which is also the capital of Sofia City Province and Sofia Province and the capital of Bulgaria as well. The population of the municipality is about 1 373 335 people. - Municipality of Plovdiv is situated in southern Bulgaria and is named after its administrative centre – the city of Plovdiv, which is the second largest city in Bulgaria and has been chosen as European Capital of Culture for 2019. The population of the municipality is about 370 000 people. - Municipality of Burgas is located in Southeastern Bulgaria, with access to the Black Sea. It is named after the administrative center – the city of Burgas, which is one of the seaside resorts in Bulgaria. The population of the municipality is about 219 000 people. <p>The three municipalities are experienced enough in implementation of measures and projects on energy efficiency, green and circular economy under Operational Programmers, International cooperation programmers and in implementation of the local policies in the fields. The municipalities have also the needed expertise in organization of awareness raising activities on the above issues.</p>
Importance for GoDanuBio	The three municipalities will share lessons learned, exchange experience and good practices, as well as raise awareness to the citizens for the importance of bio economy.

Stakeholder group	Society
Stakeholder subgroup	Informal civil organizations
Position in the network	Food for the Earth - Our Neighborhood Association “Food for the Earth” is a community-based initiative for composting on site. It offers well designed and beautiful community composting

	system, where the community provides the raw materials and benefits from the end product. It creates spaces for social cohesion and transgenerational connections – adults, kids and elderly. Food for the Earth empowers local communities and promotes climate-friendly behavior and ways to live.
Importance for GoDanuBio	GoDanuBio results could be directly transferred to citizens and local communities to increase their awareness of the importance of bioeconomy for rural area

4. Good Practice Examples

4.1 Atlas Agro Science

The main activity of the company is related to the utilization of biodegradable non-hazardous waste generated by companies in the rural areas, incl. treatment of waste water. Atlas Agro Science aims creating new technologies for recovery and utilization of materials from waste products and turning waste into a resource and closing its cycle in the circular economy.

4.2 Food for Earth

Creating, adapting, transferring knowledge and raising awareness among citizens and municipalities about soil's health in urban and peri-urban areas. The organization has multiple compost zones in Bulgaria and Romania.

4.3 Nasecomo

Production of premium sustainable insect products for the feed and agriculture industries. Nasecomo rears Black Soldier Fly to produce insect protein, oil and fertilizer for the feed and agriculture industries. The industrial-scale production facility is in Bulgaria and the company has the ambition to grow and expand also in other Balkan countries.

4.4 Biomyc

An eco-design company that specializes in innovative materials and sustainable product design. Its main expertise is in mushroom technology, additive manufacturing and simulation and sustainable product design and production of packaging from sustainable sources.