

D.T1.1.1

Capitalisation of existing results

Bulgaria

BSMEPA, BRAIT
December 2020



Project Information

Project Title: GoDanuBio - 'Participative Ecosystems for fostering the revitalization of rural-urban cooperation through governing Danube Circular Bioeconomy'

Project code: DTP3-471-4.1

Lead partner: BIOPRO Baden-Württemberg GmbH

Start of the project: 01/07/2020

Duration: 30 months

<http://www.interreg-danube.eu/approved-projects/godanubio>

Deliverable Information

Author/-s: BSMEPA, BRAIT

Deliverable nr.: DT.1.1.1

Submission date: December 2020

Dissemination level: Public

Version	Date	Content	Elaborated by	Reviewed by
Report BG	23.11.20	according to template sent	Anna-Maria Kukuvska, Kalina Trendafilova	BIOPRO
	23.11.20	1st draft	Anna-Maria Kukuvska, Kalina Trendafilova	Vladimir Minev
	7.12.20	2nd draft	Anna-Maria Kukuvska, Kalina Trendafilova	Vladimir Minev
	17.12.20	3 rd draft	Anna-Maria Kukuvska, Kalina Trendafilova, Vladimir Minev	BIOPRO
	22.12.20	Final draft	Anna-Maria Kukuvska, Kalina Trendafilova, Vladimir Minev	BIOPRO

Table of content

Chapter 1: Short description of the region and the economic situation in Bulgaria.....	4
Chapter 2: Objectives and identifications.....	4
2.1. Capitalisation of EU-funded projects.....	5
2.2. Capitalisation of macroregional documents.....	7
Chapter 3: Findings.....	8
3.1. Policy framework supporting transformation.....	8
3.2. Bioeconomy in motion.....	10
3.3. Role of clusters.....	11
Chapter 4: Consequences for GoDanuBio	11

Disclaimer:

The information and perspectives set out in this document are those of the authors and do not necessarily reflect the official opinion of the European Commission. Neither the European Commission institutions and bodies nor any person acting on their behalf may be held responsible for the use that may be made of the information contained therein.

1.Short description of the region and the economic situation in Bulgaria

Bulgaria enjoys one of the most stable political and economic environments in Southeastern Europe. Bulgaria's population is 7.00 million¹. Bulgaria's workforce amounts to 4.6 million. The urban population is 73%. The employment rate is 76,3%. The unemployment rate is 3.7 %. According to the European Commission, Bulgarian bioeconomy sectors employ 413 466 people and generate EUR 3 741 million value added and EUR 13 107 million turnover. In Bulgaria, there is relatively low bioeconomy employment compared to the EU average (38%). Bulgaria offers a good mix of high skills, fairly low labor costs and good production quality. Many investors in the sector chemistry highlight the existence of natural raw materials as one of Bulgaria's biggest advantages. As far as the automotive sector is concerned, 90% of the cars in Europe have parts produced in Bulgaria. More than 65 000 are employed in the automotive sector and the share of the automotive industry of GDP is 5.9%. Automotive is the booming part of the industry in Bulgaria, with more than 230 companies working in the automotive sector. 80% of the sensors in all European cars are made in Bulgaria.

The agricultural sector still accounts for a significant share of the activity of the country. It employs nearly 7% of the working population. The useful agricultural surface (UAS) is almost half the national territory. Bulgaria is lagging behind the average EU values in most of the innovative sectors. The low innovation potential of the economy is one of the reasons for its slow recovery. According to the European Innovation Scoreboard 2020² by the EC, Bulgaria remains at the penultimate place, defined as a "modest" innovator. Bulgaria lags behind other EU countries in relation to the environment of entrepreneurship and for enterprise growth. Bulgaria is a country rich in biologic diversity of crops and wild plants and animals combined with a wonderful landscape. The soil fertility and water purity are excellent preconditions for the development of organic production in the country:

- 80% of arable land in the country is suitable for bio-farming;
- 33% of the territory is mountainous and hilly;
- the country ranks first in Europe in the export of herbs

2. Objectives and identifications

The main objective of this deliverable is to gain good knowledge and, when possible, capitalise results from a selected list of EU-funded projects and macroregional documents that are related with demographic change, circular bioeconomy and sustainable rural development.

The first research batch, focused on Horizon 2020 projects, was delivered by MIZS; BIOPRO made a first selection from this batch and extended the search in October 2020 with a focus on Interreg projects (Danube Transnational Programme, Alpine Space and Interreg Europe, including ARPAF) using the keep.eu database. Further research related to Horizon 2020 projects was done through [CORDIS](https://cordis.europa.eu/) and the

¹Source: Invest Bulgaria agency

² <https://ec.europa.eu/docsroom/documents/42981>

database of the Bio-Based Industries / BBI JU funded [LIFT project](#), that encompasses the results of up to 34 coordination and support actions funded mainly by Horizon 2020.

As search criteria, project starting from 2016 onwards were considered and it was intended that most of the selected projects had at least one of the GoDanuBio participating countries in their consortia. From each relevant project, its deliverables and outputs that could be interesting for the development of GoDanuBio were identified using the project websites. In some particular cases, the deliverables were not available and, when relevant, were requested by other means.

The search has delivered 19 EU-funded projects and 12 transregional documents. Only a handful of them have a focus on the deployment of the bioeconomy in the Danube macro-region; some of the outputs can be used as inspiration or guideline to gain insight in the transnational approach aimed by the project. Complementary to this search, all partners are invited to identify and include in their reports further transregional projects and macroregional documents that are relevant for their regions in regard to the implementation of GoDanuBio.

2.1. Projects:

2.1.1.

Bio-based strategies and roadmaps for enhanced rural and regional development in the EU (BE-Rural)³

- **Coordinator:** Ecologic Institute, 10717 Berlin, Germany

- **Start/Finish date:** 01/04/2019 – 31/03/2022

- **Main objective/s:** development of bioeconomy strategies, roadmaps and business models; establishing Open Innovation Platforms (OIPs) within selected regions in five countries: Bulgaria, Latvia, North Macedonia, Poland and Romania.

- **Measures related to demographic change, circular bioeconomy and/or rural development:** identification of new, sustainable technology options and bio-based business models suitable for local deployment; facilitation of technical knowledge sharing by means of an easy-to-understand handbook, available in seven languages.

- **Did your organization take part in the project?** No

- **Specify briefly the results to be capitalized in your region/country**

BE-Rural will establish five regional Open Innovation Platforms (OIPs) to kick-start the co-creation process, bringing together key stakeholders from academia, policy, business and civil society to develop ideas and capitalise on the identified bioeconomy potential.

³ <https://cordis.europa.eu/project/id/818478>

2.1.2.

Title: Mobilising Institutional Learning for Better Exploitation of Research and Innovation for the Circular Economy (MOVECO)⁴

- **Coordinator:** Chamber of Commerce and Industry of Slovenia

- **Start/Finish date-Project start date:** 01/12/2016- 31/08/2019

- **Main objectives:** to improve framework conditions for innovation (short title), to improve the institutional and infrastructural framework conditions and policy instruments for research & innovation to ensure a broader access to knowledge for the development of new technologies and the social dimension of innovation

- Measures related to demographic change, circular bioeconomy and/or rural Development:

a) Three cross country roadmaps of innovation: MOVECO contributes to the improvement of the framework conditions and policy instruments for eco innovation and the transition to a circular economy. To implement the transnational strategy, three cross country roadmaps of innovation group 1 (also available in German and Slovenian), group 2 (also available in Croatian, Hungarian and Slovakian), and group 3 (also available in Bulgarian, Romanian and Serbian) have been developed. These, together with the thereof derived action plan help to achieve the transition to a circular economy. (April 2019)⁵

b) Circular economy toolbox: For GoDanuBio it will be very useful to be implemented the Circular economy toolbox: For small and medium-sized enterprises, including financial, technical and information tools. (July 2019)⁶

The circular economy toolbox contains information tools, qualification programme, collaboration tools ,financing tools.

c) Checklist to support SMEs: MOVECO presents innovative and inspiring best practices of the circular economy in the Danube region.

- **Did your organization take part in the project?** No

- **Specify briefly the results to be capitalized in your region/country**

a) MOVECO built competences and capacities among all stakeholders to cooperate and implement policy recommendations for the transition to the Circular Economy.

b) The Circular Economy toolbox of MOVECO enforces research-business cooperation with focus on resource-recovery and efficiency; it will offer new formats of cooperation and value chain creation tailored to regional and institutional framework conditions.

2.1.3.

BioSTEP - Promoting stakeholder engagement and public awareness for a participative governance of the European bioeconomy ⁷

-**Coordinator:** ECOLOGIC INSTITUT gemeinnützige GmbH, Berlin, Germany

-**Start date/Finish date:** 1/03/2015-28/02/2018, Closed project

⁴ <https://keep.eu/projects/18488/>

⁵ <https://danube-goes-circular.eu/sites/default/files/uploaded%20files/IG3-Action-Plan.pdf>

⁶ <http://www.interreg-danube.eu/approved-projects/moveco/section/circular-toolbox>

⁷ <http://www.bio-step.eu/>

Funded under H2020-EU.3.2. With the participation of the Bulgarian Industrial Association

- **Main objective:** Engaging society, reaching end users and linking with policy makers for a participative governance of the bioeconomy

- **Measures related to demographic change, circular bioeconomy and/or rural Development:**

- **Did your organization take part in the project?** No

- **Specify briefly the results to be capitalized in your region/country**

a) “Review of bioeconomy strategies at regional and national levels” report, January 2016⁸

b) Case studies of regional bioeconomy strategies across Europe, August 2016⁹

2.2. Macroregional documents:

2.2.1.

“Resource efficiency and the circular economy in Europe 2019 – even more from less. An overview of the policies, approaches and targets of 32 European countries” (2020), European Environment Agency

This report presents an assessment of approaches and identifies trends, similarities and new directions taken by countries in the connected policy areas of resource efficiency and the circular economy. The EU's principal role is seen as providing a policy framework, ensuring better integration between related policy areas, and adapting EU financial mechanisms to support circular economy activities. The changing role of governments has been analysed. It varies from a regulator and an enforcer to that of facilitator and promoter, typically involving wide-reaching stakeholder engagement in policy development.

2.2.2.

“European Commission Report on the Impact of Demographic Change” (2020), European Commission

This report presents the drivers of demographic change and the impact they are having across Europe. These drivers of demographic change vary across Europe, often significantly between different regions of the same country. At regional level, population movements also have a big impact on a region's demographic profile. Also, measures regarding demographic change are presented in the study and rural development's impact has also been explored.

2.2.3

“EUSDR Revised Action Plan- Commission Staff working document” (2020), European Commission

The report presents an action plan in order to reveal the full potential of the Danube region. The EU Strategy for the Danube Region (EUSDR) provides an integrated framework for strengthening this cooperation between nations. This revised EUSDR Action Plan is the integrated response to common set of challenges and opportunities. It updates and concentrates the 2010 actions, puts them into a **strategic background, and provides links to "embed" the EUSDR into other programmes.**

⁸ http://www.bio-step.eu/fileadmin/BioSTEP/Bio_documents/BioSTEP_D2.3_Review_of_strategies.pdf

⁹ http://www.bio-step.eu/fileadmin/BioSTEP/Bio_documents/BioSTEP_D3.2_Case_studies_of_regional_strategies.pdf

2.2.4.

BIOEAST Vision paper (2018), BIOEAST initiative

Through the BIOEAST Initiative, the Central and Eastern European (CEE) countries set the vision for 2030 to develop knowledge and cooperation based circular bioeconomies, which helps to enhance their inclusive growth and to create new value-added jobs especially in rural areas, maintaining or even strengthening environmental sustainability.

2.2.5.

“Transition to bioeconomy: Perceptions and behaviors in Central and Eastern Europe” (2018), Amfiteatru Economic Journal

The report contributes to a better understanding of the concept and policies of bioeconomy and provides an analysis of citizens' behaviors and perceptions about the development of bioeconomy in the countries of Central and Eastern Europe. The report identifies differences and similarities between national systems by applying a cluster analysis. According to the report, the involvement of stakeholders and the general public in the development of bio-economy strategies and policies are key elements.

2.2.6.

Bioeconomy development in EU Regions (2017), European Commission

The study focuses on the priorities and activities of EU Member States and regions with regard to research and innovation (R&I) on bioeconomy. Furthermore, the report provides a Bioeconomy R&I maturity index for different regions. The study presents recommendations for better strategic planning, enhanced value chain development and R&I on technologies, better knowledge transfer and skills, more efficient coordination of funding and synergies between instruments, as well as proposals to raise public awareness and acceptance. The report includes a map with the EU Member States that and regions have R&I priorities in the field of biochemicals.

3. Findings

3.1. Policy framework supporting transformation

Unlike the majority of the EU member states, which have a ready-made national strategy for the development of the circular economy, Bulgaria has still to develop a proper policy framework in the area of circular economy. In April 2020, the Ministry of Environment and Water of the Republic of Bulgaria signed a contract for the preparation of a national strategy for the period 2021–2027. Moreover, 14 EU countries, including Bulgaria, were shortlisted as being at risk of missing the 2020 recycling target on municipal waste in a Commission report on implementation of waste legislation, including the Early Warning report adopted on 24 September 2018. For each Member State, the Commission presented blueprints for action to ensure compliance with EU waste legislation. In the 2019 European Semester Country Report¹⁰, Bulgaria reiterates that ‘the potential of new circular economy business models is not

¹⁰ https://ec.europa.eu/info/sites/info/files/2019-european-semester-country-report-bulgaria_en.pdf

being exploited' and waste management continues to be a challenge, despite municipal waste generation being below the EU average. The current Bulgarian Government Programme 2017-2021¹¹ includes the objective of 'achieving resource efficiency by applying the waste management hierarchy, waste prevention, promotion of reuse and recovery by recycling to reduce disposal and adverse impacts on the environment and human health', and the following measures: further development of the waste pre-treatment infrastructure for recovery in 17 regions; completion of systems for separate collection of biowaste; completion of composting and anaerobic digestion facilities to ensure a high level of environmental protection and the use of environmentally safe materials produced from biowaste; development of a National Strategy in relation to the European Union's (EU) Circular Economy Package. The following institutions are responsible for the set up for material resource efficiency policies in Bulgaria: Ministry of Environment and Water, Ministry of Economy, Ministry of Energy, Municipalities. The new Waste law will enter into force on January 1st, 2021 in Bulgaria. Based on the Eionet Report "Resource efficiency and circular economy in Europe – even more from less - An overview of policies, approaches and targets of Bulgaria in 2018", it is obvious that Bulgaria strives to achieve the Sustainable Development Goals (SDGs) by 2030, which is the driver for material resource efficiency and circular economy in Bulgaria. There are results of transnational projects that could be useful for regional policies and cross-regional cooperation, such as Be-Rural. The "Options for the use of biomass in a regional bioeconomy" within the BE-Rural handbook (a catalogue of seven conversion technologies and pathways, supplemented with concrete and existing technology and business examples) can be used by the Managing Authorities of the Operational Programme "Innovation and Competitiveness" and the Rural Development Programme in Bulgaria when designing the funding schemes in the Programming period 2021-2027 as to achieve a more tailored approach to regional development. These options include: energy uses of biomass; material uses of biomass; bioplastics; bio-based packaging solutions, packaging materials from agricultural residues; bio-based insulating materials; bio-based textile solutions; the food and beverage industry plays a prominent role in bioeconomy from a social and an economic perspective. BioSTEP has explored bioeconomy strategies at the regional level in Europe, focusing on the cases of 14 regional 'bioeconomy clusters' across 10 different countries. The Bulgarian Industrial Association was responsible for the accomplishing of the regional case in Stara Zagora – development of regional Bioeconomy strategy. At present, the regional authorities do not have a vision about the bioeconomy and the necessary investments. The region provides important resources, i.e., fertile farmlands (cereals, oil-seed sunflowers, vegetables, orchards etc.) forests and springs. For biopharming, the Stara Zagora strategy promoted the development of plants for biodiesel derived from the processing of sunflower seeds in the near future. The agricultural faculty of Stara Zagora's Thracian University played an important role in the national strategy for sustainable agricultural development and might play a role in the predevelopment of a bioeconomy cluster.

For more than seven decades the scope and pace of depopulation of rural areas in Bulgaria have been describing as one of the most significant social evils and obstacles before the development of the

¹¹ <http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=1240>

country. The pace of depopulation of villages in Bulgaria in the second half of 20-th century is among the highest in the world. The main government document for the development of the demographic policy in Bulgaria is the Updated National strategy for demographic policy in Bulgaria (2012-2030)¹². It formulates priorities and activities in the area of demographic policy and it also addresses the decrease of the pace of the depopulation, provision of high quality of human capital. The policy of demographic development of the population is an integral part of the overall policy of economic, cultural and social development of the country. The subject of demographic policy is a balanced demographic development of the population and development and improving the quality of human capital. The main goal for the period 2012-2030 of the Demographic Development Strategy of the Republic of Bulgaria is to slow down the rate of decrease of population and achieve its stabilization in the long run; to ensure high quality of human capital, including people with regard to their health condition, education attainment level, abilities and skills.

3.2. Bioeconomy in motion

Bulgaria published the Innovation Strategy for the Intelligent Specialization of the Republic of Bulgaria for the period 2014-2020, where one of the two main strategic goals is the efficient use of resources while reducing carbon emissions and preventing the loss of biodiversity, ensuring that present and future needs are optimally of the population. The Ministry of Economy was responsible for the innovation policy in Bulgaria and the Assignor of this document which encompasses a vision and processes related with the circular economy, but the term bioeconomy is not mentioned. At the Ministry of Agriculture, Food and Forestry's website could be found the adopted policies and programs in the main sectors of the bioeconomy - agriculture, forestry, agriculture, fisheries, organic production, etc., but in Bulgaria, there is still no common basis for available potential resources for bioeconomic development. One study of the Joint Research Centre with the Commission for Science and Knowledge established by the European Commission, is to develop a common platform that provides information on the available resources for bioeconomic development both in quantity and at location, thus facilitating their economic evaluation and the possibility of new industries emerging. In the next programming period, funding is foreseen within 100 mil. EUR to build a platform where this information will be made available. This will require European countries, including Bulgaria, to be prepared to provide up-to-date information, which needs of a change in the indicators by which the national statistical authorities provide the data.

Another area of support for the development and understanding of the need for the bioeconomy are various EU funded projects (see Chapter 2) and initiatives. Ministry of Agriculture, Food and Forestry of the Republic of Bulgaria is an associate member of the BIOEAST initiative - the Central and Eastern

¹²https://old.mlsp.government.bg/ckfinder/userfiles/files/politiki/demografska%20politika/nacionalni%20strategicheski%20dokumenti/BG_MLSP_National_demographic_strategy_summary_En.pdf

European Knowledge-based Agriculture, Aquaculture and Forestry Initiative, which offers a shared strategic framework for research and innovation to work for sustainable bioeconomies in Central and Eastern Europe. There are other local initiatives that are rather sporadic and not supported by a comprehensive national policy.

3.3. The Role of clusters

The role of industrial clusters is still insufficient. Partly driven by misunderstanding of their essential characteristics and purpose as innovative organisation network and partly by deficiencies in the legal framework and mechanisms related to their registration, functioning and monitoring of activities. A long-term government cluster policy and programme support, complimented by a single register of industrial clusters and regular analysis of their development and results, would provide the right conditions to enhance their impact on the development of entrepreneurial and innovative environment in Bulgaria. The smart specialization strategy being implemented for the period 2014-2020 has yet little effect on the entrepreneurship ecosystem because of the short period of its effective implementation and the resources invested by now. In Background, Bulgaria is a modest innovator and Bulgarian SMEs are low performers in eco-innovation. Among SMEs there is low level of awareness about circular economy and its potential to improve their competitiveness. There is a need for raising the awareness through launching campaign, focused on shifting the SME mindset towards perceiving the circular economy, resource efficiency and environmental protection as an opportunity for growth, investment and export. Last but not least, there is a very weak cooperation between science and academia and businesses, including SMEs. The Green Deal should be seen as an opportunity and their priorities need to be incorporated in future measures in Bulgaria aiming at making value chains more circular.

4. Consequences for GoDanuBio

Bulgaria could capitalize some of the findings listed in Chapter 3 and the regional local and regional activities of GoDanuBio could boost the implementation of the National circular economy strategy. Among the priorities of the Bulgarian Innovation strategy for smart specialization 2021-2027 are informatics and ICT, health industries and **biotechnologies**, new technologies in creative and recreative industries, clean technologies and **circular economy**. They will be supported by the activities in the National Road Map for science infrastructure. The cooperation between universities, research institutes and companies is necessary for the implementation of the new horizontal policies such as circular economy, industrial transition and digitalization of the enterprises. Bulgaria has an excellent potential for fostering a bioeconomy, but there is a need for a bold, ambitious vision for bioeconomy development as well as for investment incentives and the facilitation of collaboration in sectors and between public and private entities. Our expectations are that, as a result of GoDanuBio project, the policymakers will be influenced to organize the macrosocial structural change that interlinks economic growth with ecological and social compatibility. Bulgaria has suitable soil and climate resources for the development of bio-agriculture. There is a need for stronger involvement of the stakeholders in the management processes of the biological productivity, biological associations, consulting companies, research organizations etc. There is a need for measures and solutions in the area of bioeconomy.

Membership in the biological associations might be widened by introducing schemes for integrating all the stakeholders, associated with the development of the bio productivity. There is a strong need for communication tools between the stakeholders and synergies between the separate elements of the biological sector. The role of clusters should be strengthened. The realistic strategic goal of the demographic policy up to the year 2030 is to slow down the rate of decrease of the population by purposefully influencing the processes of natural movement (birth rate, mortality, and migration) and simultaneously achieve an optimal balance of the population.