

ACTION PLAN TOWARDS CIRCULAR BIOECONOMY IN THE NITRA SELF-GOVERNING REGION



European Union
European Regional
Development Fund



General information

Project

BIOREGIO - Regional circular economy models and best available technologies for biological streams 2017-2021

Slovak partner

Slovak University of Agriculture in Nitra

NUTS3 Target area

Nitriansky samosprávny kraj (Nitra Self-Governing Region), Slovak Republic

Contact persons

prof. JUDr. Eleonóra Marišová, PhD.

Slovak University of Agriculture in Nitra
eleonora.marisova@uniag.sk

Mgr. Ján Veteráni

Office of the Nitra Self-Governing Region
jan.veterani@unsk.sk

Ing. arch. Viera Juricová-Melušová

Office of the Nitra Self-Governing Region
viera.melusova@unsk.sk



European Union
European Regional
Development Fund

Contents

- Policy context 4**
- Circular Economy and Bioeconomy in the Policy Framework of the EU 4
- National Programmes Related to Bio-based Circular Economy 4
- Regional Programmes Related to Bio-based Circular Economy 6
- Action Plan Preparation..... 7
- General Overview and Background 7
- BIOREGIO Project Goals 8
- BIOREGIO Good Practices Criteria 8
- Good Practices in the Nitra Region 9
- Actions 10**
- Action 1: Promoting the dissemination and application of the principles
of the circular economy 11
- Action 2: Elaboration of concept materials for use of bio-waste energy and support for the
introduction of biowaste technologies 12
- Action 3: Implementation of measures and projects aimed at streamlining the management
system with communal waste, biodegradable communal waste and bio-waste 14
- Monitoring the Action Plan Implementation 16**
- Signature 16**
- References 17**

Policy context

Circular Economy and Bioeconomy in the Policy Framework of the EU

The term **Circular Economy** (CE) was presented in the EU context in 2011 through the Flagship Initiative under the Europe 2020 Strategy concerning a resource-efficient Europe. The initiative stated that there was a need for a strategy to make the EU a 'circular economy'. In 2015, the European Commission released a CE package, proposing a series of actions towards CE. With the aim to boost efficient production, the roadmap stipulates that Member States should help companies work together to make the best use of the waste and by-products they produce e.g. by exploiting industrial symbiosis.

CE differs from an 'unsustainable' traditional linear economy by introducing a cyclical flow model. CE represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits (Ellen MacArthur Foundation 2017). CE promotes an environmentally sound use of resources and the idea of new business models. According to the definition (European Commission 2015), CE aims at enabling the maximization of resource efficiency and minimization of waste production, benefiting the environment and tackling production costs at the same time.

Bioeconomy can be defined as an economy where materials, chemicals and energy are developed and derived from renewable biological resources. In the *Bioeconomy Strategy* (European Commission 2012), bioeconomy is defined as an economy that relies on renewable biological resources (e.g. crops, forests and animals) and their conversion into food, feed, products, materials and energy. Bioeconomy includes agriculture, forestry, fisheries, food production, and pulp and paper production, as well as parts of the chemical, biotechnological and energy industries.

In 2018, this *Bioeconomy Strategy* was updated to meet current environmental, social and economic challenges. The updated strategy identifies three main priorities: (1) Strengthen and scale-up bio-based sectors; (2) Rapidly deploy local bioeconomies across the whole of Europe; and, (3) Understand the ecological boundaries of the bioeconomy. Activities related to these priorities include the establishment of the €100 million *Circular Bioeconomy Thematic Investment Platform* and the implementation of an EU-wide monitoring system following the development of a sustainable bioeconomy (European Commission 2018b).

National Programmes Related to Bio-based Circular Economy

Greener Slovakia – Strategy of the Environmental Policy of the Slovak Republic until 2030

In 2019, the Ministry of the Environment of the Slovak Republic approved a new environmental policy strategy up to 2030: *Greener Slovakia – Strategy of the Environmental Policy of the Slovak Republic until 2030*. The strategy was drawn up on the basis of a public consultation, analysis and input from expert working groups as well as suggestions from the public. For each area, the identification of problems and the objectives currently in force is followed by framework measures to improve the current situation. The strategy proposes a basic direction for future environmental policies. Whether legislation; implementing regulations or the use of public finances are to be approved in the future, they should be in line with the objectives and measures of this strategy.

Circular economy is included in the focus area of "Green Economy". The main aim for CE is following: *By 2030, the municipal waste recycling rate, including its preparation for re-use, will be increased to 60% and by 2035, the land-filling rate will be reduced to less than 25%. Slovakia will use green public procurement at least in 70% of the total value of the public procurement. It will increase support for green innovation, science and research. Disposal of food waste for supermarkets will be prohibited.*

Emphasis will be put on prevention of waste generation, creation of conditions for the priority use of residues and recovered waste from industry to reduce the use of natural materials, ecological design of products and lack of technologies for the treatment of certain types of waste. Companies will be informed about the possibilities of support programmes, and the administration of grant applications and project implementations will be simplified. Stimulating green innovations will also increase the proportion of green procurement.

The strategy describes several support instruments for circular economy development, such as (1) gradual increase of fees for waste landfill; (2) introduction of incentive for waste collection depending on the actual quantity of waste; (3) increase in the prevention of illegal dumping of solid waste based on the "polluter pays" principle; and (4) prevention of the production of biodegradable and food waste.

Vision and Strategy of the Development of Slovakia 2030 (draft)

Vision and Strategy of the Development of Slovakia 2030 (hereinafter Slovakia 2030) introduces integrated strategic management and planning at all levels of public administration, which significantly contributes to reducing the negative impacts of the political cycle and to ensuring continuity in the implementation of strategic programmes and projects in the Slovak Republic. It is therefore a tool for change and brings solutions whose implementation requires horizontal (trans-sectoral) and vertical (between levels of government) integrated management (as recommended to Slovakia by OECD). The strategy specifically addresses the level of regions (self-governing regions) as a key level of spatial integration. *Slovakia 2030* will be the basis for the new programming period 2021 – 2027.

The main content of the strategy consists of four integrated development programmes: (1) Protection and development of natural, human and cultural resources; (2) Innovative and sustainable economy; (3) Quality of life for all; and (4) Multilevel governance closer to citizens.

Under the Integrated Development Programme 2 (Innovative and sustainable economy), the objective is to transform the Slovak economy into an innovative green economy by 2030, which will effectively value education and available resources and be environmentally and socially sustainable and resistant to external and internal adverse impacts. A key change to achieve the goal is to transform the economy towards high added value by linking academia, industry, the public sector and civil society to the development of innovation; exploiting the internal potentials of the regions and diversifying economic activities; and decarbonisation of the economy and its transition to circular economy.

In the areas related to bioeconomy and circular economy, *Slovakia 2030* outlines several goals, e.g. increase of eco-farming production per min. 13.5% of agricultural land; cost-effective decarbonisation of energy, industry, agriculture and transport; increasing the share of renewable energy sources to at least 27% of gross domestic electricity consumption; reduction of greenhouse gases emissions by at least 42% in ETS sectors and by 30% in non-ETS sectors compared to 2005; Increasing waste sorting and recycling to 65% and reducing landfilling to maximum 10% of the total volume.

Waste Management Programme of Slovak Republic 2016 – 2020

In the *Waste Management Programme of Slovak Republic 2016 – 2020*, the concept of "circularity" is included in waste recycling. Focus area is to limit the deposition of communal and industrial biodegradable waste to landfills. Its strategic goals are to significantly reduce the amount of communal biodegradable waste deposited on landfills and increase the waste material and energy recovery.

The Operational Programme Quality of Environment

The Operational Programme Quality of Environment is the Slovak Republic's programming document for use of EU Structural Funds and the Cohesion Fund in the programming period 2014 – 2020 in the field of sustainable and efficient use of natural resources, protecting the environment, active adaptation to climate change and support energy-efficient and low-carbon economy.

The Strategy of this Operational Programme, i.e. the selection of thematic objectives and the relevant investment priorities, as well as the definition of specific objectives, results and types of activities, was set out to: (1) support the implementation of the priorities defined in Europe 2020 Strategy; and (2) to respect the needs and challenges of national and regional level, which need to be addressed in order to ensure the sustainable and efficient use of natural resources, including energy sources. The *Strategy* has also the potential to contribute to smart growth.

Regional Programmes Related to Bio-based Circular Economy

The Programme of the Economic and Social Development of the NSGR

The Programme of the Economic and Social Development of the NSGR (PESD) is a part of the system of strategic and programme documents of the Slovak Republic, drafted at the state level and at the level of the regions for the use of the European structural and investment funds. It is one of the main instruments through which the region ensures its regional development. The document was elaborated on a partnership basis and the possibility of involving partners, regional policy actors and the public in its creation and preparation (such as representatives of cities, municipalities, entrepreneurs, educational institutions and non-profit organizations). The point of the vision is: *“Nitra Self-Governing Region will develop a diversified economy based on modern technologies producing goods and services with high added value and create an active environment for research, development and innovation. By 2022 it wants to increase the social and environmental standards of living of the population with quality and accessible infrastructure.”*

PESD includes 4 priority development areas: Economy; Human Resources; Environment and Transport and Technical Infrastructure. Each priority area has its Strategic objective. Each Strategic objective consists of several Specific objectives, which are implemented through specific Actions and framework activities.

PESD is an umbrella document covering regional strategies such as Waste Management Programme of the Nitra Region, Strategy of Rural Development in Nitra region, Community-led Local Development (CLLD) Regional Strategy. The issue of “circularity” is involved through areas of sustainable growth and waste management. **Sustainable growth** means supporting of more ecological and competitive economy and effective using the resources. The targets of the **waste management** are to achieve increased waste recycling, particularly for municipal waste and construction waste; to apply best available techniques and environmental practices; and to minimize the negative effects of the generation and management of waste on human health and the environment.

Programme to Support Integrated Rural Development LEADER NSK

Programme to Support Integrated Rural Development LEADER NSK (hereinafter LEADER NSK) is a unique instrument that provides funding for small-scale projects in the Nitra Self-Governing Region (NSGR), in Slovakia. It is based on the principles of the generally-known EU initiative LEADER (Liaison Entre Actions de Développement de l'Économie Rurale), but it does not use any EU funding; it is funded entirely from the own budget of the NSGR. LEADER NSK provides funding also for implementing small-scale projects to support circular economy in rural areas. It is as an innovative and successful instrument reflecting local needs through the "bottom-up" principle and represents also an example of a Good Practice in terms of the Interreg Europe Programme.

Implementation of the LEADER NSK is guided by the *Guideline for Administration of Funding from the Budget of the Nitra Self-governing Region to Support Implementation of Community Led Local Development – CLLD Strategies of Local Action Groups*. In July 2017, the Supplement to this Guideline was adopted, which extended eligible activities to the elaboration of a concept on the use of energy from biowaste and the promotion of biowaste processing technologies in line with BIOREGIO project. Supported can be the activities such as bio-waste processing technology, conversion of bio-waste to energy, information campaigns, educational activities, studies, strategies, concepts and analyses to improve circular bioeconomy.

Waste Management Programme of the Nitra Region

Waste Management Programme of the Nitra Region is a programme document developed by the District Office of Nitra and its provisions shall apply in the Nitra Region. Based on the previous negotiations of the Nitra Region and the District Office it was found that the state of bio-waste management is insufficient. Since the objectives of BIOREGIO are in line with these issues, the Slovak University of Agriculture and the Nitra Region negotiated with the District Office in order to include them into this document. Available objectives of BIOREGIO therefore represented an important input during the development of the Programme. The provision about circular economy has a recommendation character and states that waste management and the construction of its infrastructure should aim to achieve better environmental quality and contribute to a sustainable circular economy. The Slovak University of Agriculture continues the negotiations with the Nitra District Office in the *Waste Management Programme of the Nitra Region for 2021-2025* and implementation of more sustainable circular economy into this programme.

Action Plan Preparation

General Overview and Background

Action Plan towards Circular Bioeconomy in the Nitra Self-Governing Region is a result of close cooperation of the Slovak University of Agriculture in Nitra (SUA), Office of the Nitra Self-Governing Region and the group of regional stakeholders.

The Office of the Nitra Self-Governing Region (NSGR) acts as the core regional stakeholder of the BIOREGIO project and actively participates in its implementation from the very beginning. It is an institution responsible for the policy instrument in focus – Programme of the Economic and Social Development of the Nitra Self-Governing region. Based on discussions with its responsible managers, the Office of the NSGR proposed the inclusion of BIOREGIO features into this policy instrument to be applicable in the region.

The preparation of the *Action Plan* took place within several stages. Regular discussions between SUA and Office of the NSGR resulted into a proposal of the general framework of the *Action Plan's* content and its compliance with the policy instrument in focus. Consequently, the Action Plan was supplemented by the specific features of the good practices identified in the region. Also the inputs from the stakeholders during regular meetings played significant role in its final development. The **BIOREGIO stakeholder group** of the Nitra region consists of the following institutions:

- Office of the Nitra Self-Governing Region (responsible for policy instrument in focus)
- Municipal Office of the Nitra City
- National Recycling Agency of Slovakia
- Association for Separate Waste Collection of the Ponitrie Region
- Municipality of Veľké Turovce (mayor)
- Kuruc Company Ltd.

- District Office of Nitra
- Savings Cooperative of the Ponitrie Region
- Envien Group Ltd.
- University Farm in Koliňany, Ltd.

BIOREGIO Project Goals

Overall objective of the BIOREGIO project is to **boost bio-based circular economy through transfer of expertise about best available technologies and cooperation models**. The project has the **aims** such as improving knowledge related to circular economy of biological streams i.e. bio-based circular economy; increasing recycling rates of biological materials e.g. food waste/biowaste, municipal and industrial sludge and agricultural residues; transferring expertise about cooperation models, e.g. ecosystems, networks, administrative cooperation and best available technologies, e.g. bio refinery and biogas production.

These aims are going to be achieved by implementation of specific project **activities** (joint development of policy instruments; defining best practices of bio-based circular economy and describing regional biological streams) and **actions** (regional stakeholder group meetings; interregional events; policy briefs; expert papers and regional dissemination events).

The BIOREGIO project strives to improve the *Programme of the Economic and Social Development of the Nitra Self Governing region* in favour of bio-based circular economy.

BIOREGIO Good Practices Criteria

In 2017, the BIOREGIO project consortium developed criteria for good practices in bio-based circular economy. Good practices fulfilling these criteria are shared in the project. Criteria for BIOREGIO good practices are as follows:

1. Promote circular economy and keep products, components, and materials in the economic cycle as long as possible (Ellen MacArthur Foundation 2017; European Commission 2015).
2. Are related to biological materials i.e., bio-based materials and products are made wholly or partly from organic raw material) (European Commission 2017a).
3. Promote social and environmental sustainability, economic growth, and taking into account all dimensions of sustainability (European Commission 2017b).
4. They are resource-efficient and economically viable (European Commission 2015)
5. Minimize direct or indirect waste generation according to the waste hierarchy (i.e., waste prevention, reuse, recycling, energy recovery, and safe disposal) (European Commission 2016).
6. Encourage closing the loops and emphasising longer cycles/cascades (Ellen MacArthur Foundation 2017).
7. Encourage cooperation between stakeholders (e.g., businesses, universities, administrations, and consumers). Collaboration is the foundation of a functioning circular economy (Ellen MacArthur Foundation 2014).
8. Are most likely transferable and scalable to different European regions (Interreg Europe 2018a).

Good Practices in the Nitra Region

Table below shows the overview of the good practices identified in the Nitra Region (situation as of 09/2019)

Good Practice 1	Short description
Programme to support integrated rural development Leader NSK (operated by Nitra Self-governing Region)	LEADER NSK provides funding for implementing small-scale projects to support circular economy in rural areas
<ul style="list-style-type: none"> • the first and the only bottom-up regional support instrument in Slovakia; • Nitra Self-Governing Region annually reserves approximately EUR 50,000 to support projects from its own budget; • a programme complementary to the national Rural Development Programme; • instrument reflecting the principle of subsidiarity in multilevel support to local actions; • inspired further development of similar approaches in circular economy in Nitra region 	
Good Practice 2	Short description
Separate collection and recovery of biodegradable waste (operated by the Association for separate waste collection of the Ponitrie Region)	Reducing the amount of landfilled municipal waste by separating the biowaste
<ul style="list-style-type: none"> • inspired support for projects to prevent the formation of biodegradable municipal waste through domestic and community composting; • Association for separate waste collection of the Ponitrie Region received a certificate for selling the compost to farmers (in 2019); • the example of regional association managing collection and recovery of biodegradable waste brings high financial savings to all associated parties and citizens 	
Good Practice 3	Short description
Separate waste collection and composting of biowaste on municipal level (operated by municipality of Veľké Turovce)	Separate waste collection and successful operation of small composting plant using the municipality's own resources
<ul style="list-style-type: none"> • inspired support for small-scale composting projects in municipalities; • it worth replicating of the collection and composting of biowaste on municipal level; • as Nitra region consist of 354 municipalities, where separate collection and composting of biowaste is rare, there is a regional need 	
Good Practice 4	Short description
Production of biofuels from crops and oils (operated by the Envien Group)	Saving natural resources and protecting environment by producing biofuels from agricultural crops and oils
<ul style="list-style-type: none"> • inspired support for projects to modernize existing composting and biogas plants; • shows, that it is interesting and it worth to promote the production of alternative fuels; • it worth replicating the system of cooperation and management of the activities among Envien Group entities; • there is a regional need to establish similar alliances 	

Actions

The BIOREGIO stakeholder group of the Nitra Region has identified the following actions for the *Action Plan towards Circular Bioeconomy in the Nitra Self-Governing Region*:

ACTION 1:	Promoting the dissemination and application of the principles of the circular economy
ACTION 2:	Elaboration of concept materials for use of bio-waste energy and support for the introduction of biowaste technologies
ACTION 3:	Implementation of measures and projects aimed at streamlining the management system with communal waste, biodegradable communal waste and bio-waste

All actions are in line with the *Update of the Action Plan of the Programme of the Economic and Social Development of the Nitra Self-Governing Region 2016 – 2022 for the period 2019 – 2021*, which has been approved by the Board of the Office of the Nitra Self-Governing Region (NSGR) in May 2019.

Policy changes in the policy instrument in focus related to BIOREGIO project are already achieved and actions are started to be implemented. Project partner SUA in cooperation with NSGR will continue to follow up and monitor the impact in Phase 2.

In accordance with established practices of the Office of the NSGR, there are basically the following **steps in the process of relevant actions' implementation**:

1. Legal acts and General Binding Regulations of Nitra Self-governing Region (NSGR) formally includes circular economy (CE) in to the internal funding system of NSGR budget (*already accomplished*)
2. Strategical planning – incorporating the CE into strategic planning documents of the region (PESD, Waste management Programme of Nitra Region) lays ground for formal recognition of the CE as an inherent policy in the frame of Environmental issue of the NSGR (*already accomplished*)
3. Current grant schemes – various grant titles within the framework of Environmental policy of NSGR ensure the presence of CE topic via the concrete actions in municipalities of NSGR (already ongoing at year-to-year basis on repeating 7 year cycle period). In general, grant titles promote CE in municipalities within actions focusing on improving infrastructure, system of waste management and pervasion of new technologies and innovations.
4. Future strategic planning and funding opportunities – with the regard of impeding of the new programming period, there are currently the preparations of the new National Strategy of Regional Development 2030, which elaboration is being in progress (autumn 2019). This programming document with utmost priority formally lays the ground for establishing of new funding instrument – Regional Development Fund, which would pool the funds from at least three different sources: EU project grants, Slovak grants for projects, Nitra Region resources for activities defined in district level strategies – this part of the funds comes from the sources of the NSGR which will be spend on strategic objectives of the region, in which the CE is integrated.
5. Evaluation and monitoring – the viability of the policy might be observed on regular basis via collecting information about the adopted projects concerning the CE and collected data about waste management within the CE.

Action 1:

Promoting the dissemination and application of the principles of the circular economy

Relation to the BIOREGIO project

The action is a part of the intended results of the project BIOREGIO, thus contributing to the fulfilling of the strategic goals of the project. The action is also one of the results of transfer of knowledge and experience sharing on the international level, which only highlights the successful models of cooperation between the various actors within the European space.

Free-access platforms indicating the generated waste of any facility may present an opportunity for cooperation. Regional support and encouragement of such cooperation present a stepping-stone towards industrial symbiosis among facilities that use various biological streams and eventually facilitate the application of the CE concept on a larger scale (Vanhamäki et al. 2018).

Particularly, the action have taken inspiration in adopting of the so called "the Finish regional model of circular economy", so called Regional Road Map towards Circular Economy: Finland, Päijät-Häme region, tailored on the conditions and the needs of the regional authorities, municipalities and evenly citizens in Slovak Republic.

The main aim of the circular economy is considered to be economic prosperity, followed by environmental quality (Kirchherr et al.2017). Being inspired by the BIOREGIO project and partners, new sub-activities related to circular economy were introduced. The aim was to provide funding for projects focused on bio-based circular economy and environmental activities.

Action and actors

Implementation of the activity includes providing opinions and supporting methodological and professional guidance from NSGR- the main Slovak stakeholder towards self-governing authorities at the level of municipalities.

Instruments:

- financial support for the dissemination and application of the principles of the circular economy at the local level through the generally binding regulation of the Nitra Self-governing Region no. 10/2018 amending the General Binding Regulation of the Nitra Self-Governing Region no. 3/2016 on the provision of subsidies from the budget of the Nitra Self-governing Region to support the implementation of CLLD strategies of local action groups in the Nitra region;
- The Program of Economic and Social Development of Nitra region (PESD) is main strategic document prepared on the basis of Act No 309/2014, as amended (Act on support of Regional development). This document is always drafted on 7 year cycle period. However during this period there is almost always some kind of update/upgrade due to reflection of the new policies and developments. In 2018, the document was updated by Action Plan also about CE topic. Also CE topic became part of the legislation on the regional level and financial tool for CE interventions was developed. In current period there was also draft of the CE strategy of adopting the fundament of the CE has been created on the regional level.
- promotional tools: (local government meetings, newsletter, workshops, etc.) Promotion and dissemination of approaches and principles of the circular economy at local level, focusing on the use of bio-waste as secondary raw materials for the production of new products

The result would contribute to the creation of a comprehensive and effective system for securing and protecting the life, health and property of the population as well as the NSGR's environmental components. The main actors of this action are as follows:

- Slovak University of Agriculture in Nitra – BIOREGIO project partner
- Office of the Nitra Self-Governing Region – Department of Strategic Activities – guarantor of the action and main Slovak stakeholder of BIOREGIO project
- interest associations of municipalities (Association of Towns and Communities in Slovakia, Local Action Groups) – interested party
- state administration (District office in Nitra – responsible for Waste Management Programme of the Nitra Region (2016 – 2020) – interested party
- managers of big and small watercourses – interested parties
- civic associations – interested party
- entrepreneurs – interested party

Schedule

Schedule for this activity is planned as follows:

- preparation of the text of General Binding Regulation of the Nitra Self-Governing Region and its publication at website of the NSGR
- preparation of strategies (PESD, Waste management programme of the Nitra Region)
- PESD elaboration is repeating in 7 year cycle period
- Other dissemination documents – at least once a year

Cost and source of finance

Nitra Self-governing Region plans to support the strategic aim of PESD “Environment” by estimated financial amount 50 000 EUR each year from their budget.

From 2016 to 2018, more than 400 projects in the total amount exceeding 1,1 million EUR have been supported from the LEADER NSK of which about 13,000 EUR have been used for implementation of six circular economy related projects. This support was provided by NSGR from its own budget. In 2018, NSGR supported projects within this action in total amount of EUR 23,512.

Some examples are e.g. the following: Collection point for the separate waste from the flat houses in the municipality Trávnica; Collection point for waste in the municipality Mudroňovo; Let’s separate the waste properly and everyone! - Improvement of environmental education about the possibilities of separated waste collection in the municipality in Local Action Group Nový Tekov.

The Slovak operation program “Quality of Environment” supported 12 projects in the amount of 2 447 490.10 EUR in accordance with the Program of Economic and Social Development of Nitra region (PESD) for 2016 – 2022 – Measure III.III.I. "Reducing energy intensity and increasing the use of RES (renewable energy sources)"

From the state budget through the fund “Envirofond”, 10 projects were supported in 2018 in the amount of 520,274 EUR in accordance with Program of Economic and Social Development of Nitra region for 2016 – 2022, Measure III. II.I. "Streamlining of the waste management system" is also in line with the PESD 2016 2022 Action Plan.

Action 2:

Elaboration of concept materials for use of bio-waste energy and support for the introduction of biowaste technologies

Relation to the BIOREGIO project

The action plan and other concept materials are part of the intended results of the project BIOREGIO in order to implement the principles of circular bioeconomy. Concept materials should provide advisory assistance and technical backup in terms of implementing the system of handling

the waste according the principles of the circular bioeconomy. The content of the action plan or other conceptual materials reflect already adopted "best" practices in terms of the handling waste and also results of exchange of the experiences and knowledge from the field of adopting the policy related to circular bioeconomy.

Action comprises creation of concept materials, so called "circular bioeconomy roadmap" thereby laying ground for introduction of the system of handling with biowaste and its secondary use in local level.

Action and actors

Within this action, the following documents were issued:

- **Annual Report on the Implementation of the Economic and Social Development Program of the Nitra Self-Governing Region 2012 – 2018 for 2017**", in accordance with Act No. 539/2008 Coll. on support for regional development, as amended.
- **Territorial Plan of the Nitra Region** – study for evaluation and monitoring of the plan and updating data
- Based on the results and conclusions of the Environmental Study of the Territorial Impacts of Climate Change in the Nitra Region, an Environmental strategy document **"Parks as an adaptation potential for climate change in the Nitra Region"** was elaborated. The document contains a mapping of all parks in the territory of the Nitra Region and a case study for the solution of destroyed parts of parks, their solution and further use.

Being inspired by Regional Road Map towards Circular Economy of the Päijät-Häme region (Finland), the municipalities and LAGs in Nitra region are supported to enhance the cooperation, reduce the landfills and introduce bioeconomy and bioeconomy education.

The result of this action would contribute to the creation of a comprehensive and effective system for securing and protecting the life, health and property of the population as well as the NSGR's environmental components. The main actors of this action are as follows:

- Office of the Nitra Self-Governing Region (NSGR) – Section of Strategic Actions – guarantor of the action
- Department of the Strategy and Programmes of Regional Development (of the NSGR) – executive body of the action
- interest associations of municipalities (Association of Towns and Communities in Slovakia, Local Action Groups) – interested party
- Association for separate waste collection of the Ponitrie Region
- managers of big and small watercourses – interested parties
- civic associations – interested party
- entrepreneurs – interested party

Schedule

Annual reports are issued each year and other documents at least one year, other documents need a meeting with professionals and then discussions with citizens in the region. Afterwards comes the periodical monitoring and progress review.

Cost and source of finance

- costs associated with data gathering, field research, analysis and strategy draft, authorship's royalty, administrative and personal costs connected with review and monitoring

- “Annual Report on the Implementation of the PESD for 2017”, in accordance with Act No. 539/2008 Coll. on support for regional development, as amended, in the amount of EUR 3,900
- “Territorial Plan of the Region of Nitra” – Study for evaluation and monitoring of the Territorial Plan of the Nitra Region - updating data” in the amount of EUR 28,499
- Based on the results and conclusions of the Environmental Study of the Territorial Impacts of Climate Change in the Nitra Region, an environmental strategy document “Parks as an adaptation potential for climate change in the Nitra Region” was elaborated in the amount of EUR 9,480. The document contains a mapping of all parks in the territory of the Nitra Region and a case study for the solution of destroyed parts of parks, their solution and further use.
- In 2018, NSGR supported projects within this action in total amount of EUR 30,000.

Action 3:

Implementation of measures and projects aimed at streamlining the management system with communal waste, biodegradable communal waste and bio-waste

Relation to the BIOREGIO project

Actions should contribute to strategic goals of the project BIOREGIO in terms of fulfilling the scope and general objective of the international project. Furthermore, it would represent the model of successful cooperation between the project partners on international level, in the field of knowledge transfer, experience share in order to adopting of contemporary and sustainable system of treating and secondary use of the bio-waste.

For 2019, the amount of EUR 599,000 was singled out from Nitra Self-Governing Region budget for LEADER for waste management in the NR region. It means especially, projects to support and disseminate the circular economy will also be supported. The aim of these projects is to reduce the volume of landfill waste through separation of its components to be used in a process of recycling. Especially separation of bio-waste is very important since it represents the largest part of the waste. Additional education in the field of waste separation shows as a very promising way to learn children about basic principles of bio-based circular economy.

LEADER NSK is a bottom-up instrument. Firstly, aspects of Finnish good practices (such as cooperation with regional stakeholders in defining a common vision, regional objectives and specific actions organized through workshops, discussions and requests for comments from other stakeholders) were inspiring for its further development. Secondly, the good practice of France, Pays de la Loire Region: Reduction of Biowaste as Share of Domestic Waste led to implementation quantifiable reduction of biowaste as a share of domestic waste of all households. This way the other possibilities of applying the aspects of the circular economy at regional level were shown.

Action and actors

Implementation of the activity includes providing opinions and supporting methodological and professional guidance from NSGR towards self-governing authorities at the level of municipalities.

Instruments:

- Implement the principle of extended producer responsibility in the system of sorted municipal waste collection for municipal waste components, which is subject to the principle of extended producer responsibility;
- support for small-scale composting projects in municipalities where building such facilities is effective;
- support for projects to prevent the formation of biodegradable municipal waste through domestic and community composting;

- continue to introduce separate collection of kitchen, restaurant waste and biodegradable waste from public and private green areas and gardens based on separate collection standards for biodegradable municipal waste;
- support for projects to modernize existing composting and biogas plants about hygiene units enabling the processing of biodegradable kitchen and restaurant waste;
- support for biogas projects that will produce biogas predominantly from kitchen and restaurant biodegradable waste;
- promote the production of alternative fuels made from mixed municipal waste in support of the use of renewable energy sources if their material recovery is not environmentally sound;
- support for biogas projects that will produce biogas exclusively or predominantly from biodegradable waste;

The main actors of this action are as follows:

- Office of the Nitra Self-Governing Region (NSGR) – Section of Strategic Actions – guarantor of the action
- Department of the Strategy and Programs of Regional Development (NSGR) – executive body of the action
- interest associations of municipalities (Association of Towns and Communities in Slovakia, Local Action Groups) – interested party
- state administration – interested party
- managers of big and small watercourses – interested parties
- civic associations – interested party
- entrepreneurs – interested party

Schedule

Schedule for this activity is planned as follows:

- preparation of strategies (Economic and Social Development Program of the Nitra Self-Governing Region, Waste management program of Nitra Region)
- PESD elaboration is repeating in 7 year cycle period
- Action plan of PESD is prepared in 3 years cycle
- Other strategies – at least ten years or more

Cost and source of finance

- Nitra Self-Governing Region plans to support the strategic aim of the Programme of Economic and Social Development of Nitra region – Environment by estimated amount of EUR 50,000 each year from its budget.
- In 2018, Operational Programme Quality of Environment and state budget (fund “Envirofond”) supported projects within this action in total amount of EUR 2,967,764.

Monitoring the Action Plan Implementation

Monitoring of the *Action Plan towards Circular Bioeconomy in the Nitra Self-Governing Region* will be carried out in cooperation of the BIOREGIO project partner Slovak University of Agriculture in Nitra and the Office of the Nitra Self-Governing Region, Department of Strategic Activities as the institution responsible for the policy instrument in focus.

For the BIOREGIO project, the monitoring period for the *Action Plan towards Circular Bioeconomy in the Nitra Self-Governing Region* is 1.1.2020 – 31.12.2021.

Signature

On behalf of the Office of the Nitra Self-Governing Region, Department of Strategic Activities, I agree to support and promote the implementation of the Action Plan detailed above.

Date: 18/12/2019

Signature:



Mgr. Ján Veteráni
Office of the Nitra Self-Governing Region
Department of Strategic Activities

Stamp:

Úrad Nitrianskeho samosprávneho kraja
Rázusova 2A
949 01 NITRA
- 19 -

References

Ellen MacArthur Foundation. 2014. Towards the Circular Economy Vol. 3: Accelerating the scale-up across global supply chains. <https://www.ellenmacarthurfoundation.org/publications/towards-the-circular-economy-vol-3-accelerating-the-scale-up-across-global-supply-chains>

Ellen MacArthur Foundation, 2017. Circular Economy Overview.
<https://www.ellenmacarthurfoundation.org/circular-economy/overview/concept>

European Commission, 2012. Innovating for Sustainable Growth: A Bioeconomy for Europe.COM(2012) 60 final.
http://ec.europa.eu/research/bioeconomy/pdf/official-strategy_en.pdf

European Commission, 2015. Closing the loop - An EU action plan for the Circular Economy. COM(2015) 614 final.
https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF

European Commission 2016. European Commission. Directive 2008/98/EC on waste.
<http://ec.europa.eu/environment/waste/framework/>

European Commission 2017a. European Commission. Bio-based products.
http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products_en

European Commission 2017b. European Commission. Sustainable development.
http://ec.europa.eu/environment/sustainable-development/index_en.htm

European Commission, 2018. Feedback from: BIOREGIO project consortium on the EU 2012 Bioeconomy Strategy
http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-975361/feedback/F10485_en

Interreg Europe. 2018a. Policy Learning Platform System.
<https://www.interregeurope.eu/policylearning/>