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CELEBio

D.2.3 BIO-ECONOMY STAKEHOLDERS IN SLOVAKIA

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Publishable executive summary in English	<p>The report is divided into 9 chapters. The first chapter contains an introduction, objective and approach. The second chapter focuses on the Agricultural and Agro industrial sector and represents the actors of this sector. The third chapter includes actors invoiced to the Forestry and Forest industry. The fourth chapter focuses on the waste sector, the fifth on Fisheries, aqua culture and other sectors. Actors of the sixth chapter operate in bio-based industries and markets, the seventh chapter in knowledge and innovation, the eighth in government and semi-government organizations and NGOs, the ninth in financial organizations and banks. At the end of the report, a conclusion is given as well as a key message, exploitable results / lesson learned, value for target country / stakeholders and value for BBI JU / BIC / EU stakeholders and resources.</p>

Publishable executive summary in national language	<p>Správa je rozdelená do 9 kapitol. Prvá kapitola obsahuje úvod, cieľ a prístup. Druhá kapitola je zameraná na poľnohospodársky a agrárny priemysel a predstavuje aktérov tohto odvetvia. Tretia kapitola obsahuje subjekty prislúchajúce odvetviu lesného hospodárstva. Štvrtá kapitola sa zameriava na odvetvie odpadu, piata na oblasť rybného hospodárstva, akvakultúry a ďalšie odvetvia. Aktéri šiestej kapitoly pôsobia v biologických odvetviach a trhoch, siedma kapitola v oblasti znalostí a inovácií, ôsma vo vládných a polovládnych organizáciách a NGO, deviata vo finančných organizáciách a bankách. Na konci správy je uvedený záver, ako aj kľúčové posolstvo, využiteľné výsledky / získané ponaučenia, hodnota pre cieľovú krajinu / zúčastnené strany a hodnota pre zúčastnené strany spoločného podniku BBI / BIC / EÚ a zdroje.</p>
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1 INTRODUCTION

Slovakia is a highly industrialized country, the share of the industry sector in the national GDP exceeds 20 % and belongs to the highest in the EU. There are 4 automotive companies in a country with 5.4 million inhabitants, large steel and aluminum production, mechanical engineering, chemical, electro-technical and other industries. On the other hand, the food processing industry is underdeveloped and the bio economy, except for pulp and paper industry, lags far its potential. The automotive industry generates 26.5 bill. € while the bio economy just 11.1 bill. € (2016). The potential of the bio economy is not used by far, although Slovakia has ALL preconditions to develop it. In the land with the whole area of 49 000 km² i.e. 49 000 ha, there are 2.2 mil. ha forests – 45 % of the whole area, 1.4 mil. ha arable land – 29 % of the country surface and 0.8 mil. ha pastures – 17 %. There are also sufficient water resources, rivers and water reservoirs and still relative enough rainfall. There is also a solid potential of human resources and a relative developed education, research and development and innovation base.

1.1 OBJECTIVES AND APPROACH

In this report we present an overview of all actors and actor groups that need to be involved when setting up biomass delivery chains. To ensure a complete mapping of these actors several stakeholder exchanges at *national stakeholder workshops* were held.

The actors presented can be specific persons, companies, and other type of organisations (e.g. farmer's organisations. In case of listing companies in certain sectors we listed the top largest and/or most influential ones.

For the actors presented in this report the following information is provided:

1. Company name/person name
2. Company location in town/municipality
3. Company location in region
4. Type of activity (for company)/ type of function (for person)
5. (if company/organisation) specify number of employees
6. Already involved in bio-based activities (Y/N)
7. If yes, describe bio-based activity it is involved in

2 ACTORS IN AGRICULTURAL AND AGRO INDUSTRIAL SECTOR

2.1 ACTORS IN PRIMARY AGRICULTURAL SECTOR

Name:	<i>Polnohospodárske výrobné- obchodné družstvo Madunice/</i> Agricultural trade production association Madunice
Location:	Madunice
Region:	Trnava region
Type of activity:	Primary agricultural production
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Direct farming of onion, maize, etc. The company is a direct supplier of onions to the Slovak company Ryba KE, s.r.o.

2.2 ACTORS IN AGRO INDUSTRIES

Name:	ENVIRAL,a.s.
Location:	Leopoldov
Region:	Trnava region
Type of activity:	Bioethanol producer of the 1 st Generation
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The bioethanol production in ENVIRAL is a wasteless process. The plant also operates its own wastewater treatment plant, which ensures the high purity of discharged wastewater. In the wastewater treatment process biogas with high methane content is produced, which is subsequently used to produce steam in boiler room. The whole process is focused on minimizing electricity and natural gas consumption, enabling the bioethanol produced in ENVIRAL to reach a reduction of greenhouse gas emissions of at least 60%, when compared with the fossil equivalent - gasoline.

Name:	BIORAFINERIA SK
Location:	Sučany
Region:	Banská Bystrica region
Type of activity:	Biofuels production
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The company Biorafineria offers technologies for vegetable oil, biodiesel/FAME and <i>next generation</i> biofuels production such as: biodiesel plants, edible oil plants, distillation equipment, and production of methyl esters from fa, two stage pressing, recycling of used mineral oils, gasification, pyrolysis and depolymerization.

Name:	GLORTEX
Location:	Šenkvice
Region:	Bratislava region
Type of activity:	Biodiesel production
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Glortex's uses waste, incl. food waste and petrochemical residues or residues from other industries like Fat, Oil and Grease from the sewer as well as used coffee grounds to explore new fields of sustainable biodiesel production and maximize waste to energy production

2.3 OTHER ACTORS RELATED TO AGRICULTURE & AGRO-PROCESSING CHAIN

Name:	RYBA Košice, spol. s r.o. (Fish meals production)
Location:	Košice
Region:	Košice region
Type of activity:	Sale and manufacturing of fish <i>meals</i>
Already involved in bio-based activities:	N
Bio-based activity involved in:	

2.4 CLUSTERS AND ORGANISATIONS

Name:	Bioeconomy Cluster
Location:	Nitra
Region:	Nitra region
Type of activity:	Supporting organization
Already involved in bio-based activities:	Y
Bio-based activity involved in:	To support innovation in the field of bioeconomy by linking innovative companies with research organizations

3 ACTORS IN FORESTRY AND FOREST INDUSTRY

3.1 ACTORS IN PRIMARY FOREST SECTOR

Name:	LESY Slovenskej, republiky / Forest of the Slovak republic
Location:	Banská Bystrica
Region:	Banská Bystrica region
Type of activity:	Forest management
Already involved in bio-based activities:	Y
Bio-based activity involved in:	To satisfy the public interest needs and protection of the natural environment with the aim of sustainable forest development of the state owned forests.

Name:	PRO POPULO Poprad, s.r.o.
Location:	Spišská Teplica
Region:	Prešov region
Type of activity:	Administration of forest and agricultural land owned by the Roman Catholic Church
Already involved in bio-based activities:	N
Bio-based activity involved in:	

3.2 ACTORS IN FOREST INDUSTRY

Name:	DREVODOM ORAA, S.R.O
Location:	Podbiel
Region:	Žilina region
Type of activity:	Production and installation of wooden log houses and recreational cottages
Already involved in bio-based activities:	N
Bio-based activity involved in:	

Name:	KRONOSPAN,s.r.o.
Location:	Zvolen
Region:	Banská Bystrica region
Type of activity:	Bučina DDD, s r.o. is the largest producer of raw chipboard, laminated chipboard and glued wood in Slovakia
Already involved in bio-based activities:	N
Bio-based activity involved in:	

3.3 CLUSTERS AND ORGANISATIONS

Name:	Zväz spracovateľov dreva / Association of Wood Processors
Location:	Zvolen
Region:	Banská Bystrica region
Type of activity:	The aim of the Association is to carry out activities for the benefit of the professional, economic, legal and social interests of its members, to represent them in relation to trade unions and other employers' associations, government, parliament, associations, abroad and others.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	One of the priorities on which the association focuses is to increase the finalization of wood in Slovak conditions so that this strategic raw material, as far as possible, is enriched with the greatest possible added value.

Name:	Združenie obecných lesov Slovenskej republiky/ Association of Municipal Forests of the Slovak Republic
Location:	Zvolen
Region:	Banská Bystrica region
Type of activity:	The Association of Municipal Forests of the Slovak Republic is an interest association of legal <i>municipal</i> entities that own forests or manage forests.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Participate in the creation and implementation of forestry policy of the state.

4 ACTORS IN THE WASTE SECTOR

4.1 ACTORS IN WASTE SECTOR

Name:	ODVOZ A LIKVIDÁCIA ODPADU, a. s Waste treatment
Location:	Bratislava
Region:	Bratislava region
Type of activity:	To provide quality and efficient services in the field of collection, removal and disposal of municipal and small construction waste.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	One of the company's priorities is a long-term program to support separate collection.

Name:	KOSIT, a.s. s Waste treatment
Location:	Košice
Region:	Košice region
Type of activity:	Collection, removal and disposal of municipal and small construction waste.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	One of the activities of KOSIT, a s. it is also a center of environmental education, which has the main goal of spreading awareness in the field of environmental responsibility.

4.2 CLUSTERS AND ORGANISATIONS

Name:	Asociácia podnikateľov v odpadovom hospodárstve/ Association of Entrepreneurs in Waste Management
Location:	Bratislava
Region:	Bratislava region
Type of activity:	A voluntary professional association of entities doing business in waste management.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Collection, collection of waste, its transport, treatment, energy and material use, recycling to ecological landfilling of unusable parts, but also consulting services dealing with waste management.

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Name:	Ponitrianske združenie obcí pre separovaný zber a nakladanie s odpadmi/ Ponitrian Association of Municipalities for Separate Collection and Waste Management
Location:	Výčapy- Opatovce
Region:	Nitra region
Type of activity:	The subject of the association's activities is long-term comprehensive waste management.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Long-term implementation of separate waste collection in municipalities, sorting and subsequent recovery of separated components, ensuring the collection, transport and disposal of unsorted municipal waste, construction of own sorting equipment, solving problem phenomena in waste management.

5 ACTORS IN FISHERIES, AQUA CULTURE AND OTHER SECTORS

5.1 ACTORS IN FISHERIES AND AQUACULTURE

Name:	AGRO RYBIA FARMA,s.r.o.
Location:	Handlová
Region:	Trenčín region
Type of activity:	Fish farming
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The integrated fish farm and greenhouse management project uses the energy potential of the mining water that flows out of the portal of the old and new tunnel mine. In addition to water management importance, it also has considerable heat and energy potential, which can be used for the production of heat, cold and hot water by transformation using heat pumps.

5.2 ACTORS IN SECTORS MANAGING / MAINTAINING LARGE AREAS OF LAND & WATER

Name:	Slovenský vodohospodársky podnik, štátny podnik Slovak water management company, state enterprise
Location:	Banská Štiavnica
Region:	Banská Bystrica region
Type of activity:	Administrator of watercourses and river basins in Slovakia.
Already involved in bio-based activities:	N
Bio-based activity involved in:	

5.3 CLUSTERS AND ORGANISATIONS

Name:	Združenie chovateľov rýb na Slovensku/ Association of fish breeders in Slovakia
Location:	Ivanka pri Dunaji
Region:	Bratislava region
Type of activity:	Promotion and protection of the interests of fish farmers in Slovakia. Gradually build a service information center for productive fish farming, be a partner for decision-makers in the process of globalization and integration and generally assist in the development of fish farming in Slovakia.
Already involved in bio-based activities:	N
Bio-based activity involved in:	

6 ACTORS IN BIO-BASED INDUSTRIES AND MARKETS

6.1 CHEMICAL AND PETRO-CHEMICAL INDUSTRIES

Name:	SHP Group (Slovak Hygienic Paper Group)
Location:	Harmanec/ Slavošovce
Region:	Banská Bystrica region
Type of activity:	The largest sanitary paper producer.
Already involved in bio-based activities:	N
Bio-based activity involved in:	

Name:	Metsä Tissue
Location:	Žilina
Region:	Žilina region
Type of activity:	Producing exclusively paper hygiene products from tissue paper. It produces toilet paper, kitchen towels and sanitary towels.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Since March 2011, the plant has been using electricity generated in a nearby hydroelectric power plant on the VVB Žilina, the river Váh dam. At present, this volume represents 70% of the plant's total electricity demand

Name:	Mondi SCP
Location:	Ružomberok
Region:	Žilina region
Type of activity:	Producing paper and pulp
Already involved in bio-based activities:	Y
Bio-based activity involved in:	After its latest investment into a new recovery boiler, the mill is 100% energy self-sufficient with over 94% of its energy coming from renewable resources.

6.2 TEXTILES

Name:	Tatralan, s.r.o.
Location:	Kežmarok
Region:	Prešov region
Type of activity:	Manufacture of cotton, semi-linen, whole linen and mixed fabrics.
Already involved in bio-based activities:	N
Bio-based activity involved in:	

Name:	Pohan, s.r.o.
Location:	Plavé Vozokany
Region:	Nitra region
Type of activity:	Textile production
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Manufacture of textiles from pure natural materials.

Name:	SLOVENKA-Silver, s.r.o.
Location:	Banská Bystrica
Region:	Banský Bystrica region
Type of activity:	Textile production
Already involved in bio-based activities:	N
Bio-based activity involved in:	

6.3 ENERGY

Name:	BIOPEL, a.s.
Location:	Kysucký Lieskovec
Region:	Žilina region
Type of activity:	Production and trade of wide range of wood fuels.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The company generates appropriate ecologic fuels from domestic renewable energy sources.

6.4 CLUSTERS AND ORGANISATIONS

Name:	Hemp Cluster
Location:	Viničné
Region:	Bratislava region
Type of activity:	Research and development of new and innovative hemp products.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The cluster is focused on the production of pressed boards and panels from hemp-shives (85-98% by volume) and recycled materials.

Name:	Združenie výrobcov ekologickej energie Slovenska/ Association of Biofuels Energy Producers of Slovakia
Location:	Považská Bystrica
Region:	Trenčín region
Type of activity:	To associate Slovak manufacturers of equipment used for the production of bioenergy.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Supporting of biofuels energy.

7 ACTORS IN KNOWLEDGE AND INNOVATION

7.1 CAMPUS, INCUBATORS AND TECHNOLOGY PARKS & HUBS

Name:	Argrobiotech at the Slovak University of Agriculture
Location:	Nitra
Region:	Nitra region
Type of activity:	A university-wide, specialized facility which performs concentrated innovative research in the relevant fields aimed at conducting new methods and procedures in research, especially within applied research, with the express goal of transferring its results into practice.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The ABT RC is equipped with state-of-the-art research infrastructure, thereby enabling the centre to conduct research at the highest level, applicable in practice, and consistent with the core needs of the priorities of agrobiology, the processing technology of agricultural products and the agri-food industry, biotechnology, genetic technologies, agroecology, bioenergetics, and bioeconomy.

7.2 RESEARCH AND INNOVATION ORGANISATIONS

UNIVERSITIES:

Name:	Slovak University of Agriculture in Nitra
Location:	Nitra
Region:	Nitra region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The university provides education in the field of agriculture and related research areas such as: Agro biology, Food resources, sustainable agriculture, Agricultural production, biotechnology, food technology, Engineering of agricultural machinery and equipment, Computerization and automation of agricultural equipment, Operation of energy facilities on agricultural production, Gardening and landscape design, Economics and Management, International trade in agricultural commodities, Marketing, Development of rural tourism, Project management for rural development, Lifelong learning, etc.

Name:	Technical University in Zvolen
Location:	Zvolen
Region:	Banská Bystrica region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	A unique specialisation within a focus on the spheres of forest – wood – ecology – environment with an appropriate expansion in other technical, natural, security, economics as well as design spheres.

Name:	University of Veterinary Medicine and Pharmacy in Košice
Location:	Košice
Region:	Košice region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Health control and health treatment of animals.

RESEARCH ORGANIZATIONS

Name:	National Agricultural and Food Centre
Location:	Lužianky
Region:	Nitra region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	The National Agricultural and Food Centre focuses on comprehensive research and gathering of knowledge in the sustainable use and protection of natural resources, especially soil and water resources for crop production and animal husbandry, quality and safety, innovation and competitiveness of food and non-food products of agricultural origin, productive and non-productive impact of agriculture on the environment and rural development and the transfer of knowledge from agricultural and food research to end users.

Name:	National Forest Centre
Location:	Zvolen
Region:	Banská Bystrica region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Development and promotion of sustainable forest management and its implementation in practice, it secures the tasks of forestry research development in all areas of forestry and nature environment bonded with forest ecosystems.

8 GOVERNMENT AND SEMI-GOVERNMENT ORGANISATIONS AND NGO-S

Name:	Ministry of Agriculture and Rural Development of the Slovak republic
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Government
Already involved in bio-based activities:	Y
Bio-based activity involved in:	E.g. Bioeast projects.

Name:	Ministry of Economy of the Slovak republic
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Government
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Bioenergy.

Name:	Ministry of Environment of the Slovak republic
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Government
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Environment and waste treatment.

Name:	Ministry of Finance of the Slovak republic
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Government
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

Name:	Bratislava self-governing region
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Banská Bystrica self-governing region
Location:	Banská Bystrica
Region:	Banská Bystrica region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Košice self-governing region
Location:	Košice
Region:	Košice region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Prešov self-governing region
Location:	Prešov
Region:	Prešov region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Trnava self-governing region
Location:	Trnava
Region:	Trnava region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Nitra self-governing region
Location:	Nitra
Region:	Nitra region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Agrofood enhancement.

Name:	Trenčín self-governing region
Location:	Trenčín
Region:	Trenčín region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

Name:	Žilina self-governing region
Location:	Žilina
Region:	Žilina region
Type of activity:	Self- government of the region
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Regional government involvement.

NGOs

Name:	"Biomasa" Association
Location:	Kysucký Lieskovec
Region:	Žilina region
Type of activity:	Contribution to the use of renewable energy sources, especially biomass in Slovakia.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Participation in the process related to the use of renewable energy sources through the dissemination of information and the implementation of new biomass technologies suitable for the environment

Name:	Bratislava Regional Association of Environmentalists
Location:	Bratislava
Region:	Bratislava region
Type of activity:	A leading non-governmental organization in the field of protection and restoration of rare habitats.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Especially in the Danube region, restoration of wetlands and river branches, floodplain forests, meadows and pastures. Support of traditional, nature-friendly forms of farming, such as cattle grazing, cane mowing or pruning of willows.

Name:	Centre of Environmental Activities - Trenčín
Location:	Trenčín
Region:	Trenčín region
Type of activity:	Ngo interested in the environment and on improving the quality of life in Trenčín and in the region of the White Carpathians.
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Helping to promote an environmentally friendly way of life. Taking positions on the problems of quality of life and the environment and participate in their solution.

9 FINANCIAL ORGANISATIONS & BANKS

Name:	Tatra Banka, a.s.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Bank
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

Name:	Všeobecná úverová banka, a.s.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Bank
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

Name:	Slovenská sporiteľňa, a.s.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Bank
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

Name:	Československá obchodná banka, a.s.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Bank
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

Name:	Agricultural Paying Agency at Ministry of Agriculture and Rural Development
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Paying Agency
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Financing.

MARKET ACTORS: BRAND OWNERS AND CONSUMER GROUPS

Name:	Slovak Consumers' Association
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Consumer protection
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Public consulting.

Name:	Slovak Agriculture and Food chamber
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Chamber
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Public consulting.

Name:	Slovak Academy of Agricultural Sciences
Location:	Lužianky
Region:	Nitra region
Type of activity:	Research
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Public consulting

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Name:	Slovenský potravinársky priemysel, a.s.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Retail sale
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Bring truly high-quality, honest and mostly local food to Slovak tables. Efforts to support local producers.

Name:	TERNO real estate, s.r.o.
Location:	Bratislava
Region:	Bratislava region
Type of activity:	Retail sale
Already involved in bio-based activities:	Y
Bio-based activity involved in:	Products from regional suppliers from Slovakia, healthy assortment (organic, raw, vegetarian, vegan or eco), including products for customers with food intolerance.

CONCLUSIONS

■ KEY MESSAGE

The bio economy has a huge development potential in Slovakia. While the automotive industry generates 26.5 bill. € while the bio economy creates just 11.1 bill. € (2016), it could grow to 25. bill. €, if the national bioeconomy strategy will be developed and implemented and the needed investment will be carried out.

■ EXPLOITABLE RESULTS / LESSONS LEARNT

There are following main development areas within the Slovak bioeconomy sectors:

- Efficient agriculture implementation,
- Fodder production,
- Food processing development and modernization,
- Crop production,
- Animal production,
- Food processing industry development,
- Biofuels second generation from agro residues,
- Efficient forestry reacting on climate change incl. CO₂ capturing,
- Furniture and construction wood industry,
- Paper and pulp industry,
- Wooden bio-based residues based renewable energy generation,
- Wooden polymers based biochemical,
- Waste treatment, recycling and energy generation.

■ VALUE FOR TARGET COUNTRY/ STAKEHOLDERS

- Bio based economy the gross nation product increase,
- Achievement of relative food self- sufficiency,
- Biomass- agro and forest residual based renewable energy generation,
- Enhancement of circular economy,
- Higher added value generation, e.g. food processing, paper and pulp industry,
- Climate change mitigation and CO2 capturing,
- Job creation in rural areas.

CELEBio activities generate benefits for local stakeholders. As there is no national strategy for bio development in Slovakia, the CELEBio work provides the main module for its development and implementation and thus contributes to the sustainable and climate friendly development and to the “Green deal” implementation in Slovakia.

■ VALUE FOR BBI JU/BIC/EU STAKEHOLDERS

CELEBio activities have identified following potential investment opportunities national and international BBI and bio economy general investors:

- Food processing: + 1, 5 bill. €
- Biofuels second generation from agro residues: + 250 million €
- Wood processing and furniture industry: + 500 million €
- Paper and pulp industry: + 1, 5 bill. €
- Renewable energy: + 300 million €
- Waste processing: + 500 million €

Concrete results of CELEBio work:

- Description of bioeconomy status and biomass feedstock availability in Slovakia,
- Development of national Action plan and basic modules for bioeconomy development in coming decade,
- Communication of bioeconomy development meaning to regional and national government, to the European commission and BBI JU,
- The important step to development and implementation of the bioeconomy strategy in Slovakia. (The strategy on bioeconomy development has not been elaborated yes.

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