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**EU-Western Balkans**

**Cluster Policy Learning and Matchmaking Event**

# **Roadmap Bio-based Advance Packaging Value Chain**

**Awareness workshop for cluster managers**

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Project co-funded by European Union funds (ERDF, IPA)

# IMPORTANCE OF BIOBASED PACKAGING VC

Global production packaging capacities by market segment (2017)



Danube region Packaging sector – numbers:

- 450.000 employees
- 27% of all related jobs in EU
- 28% of related firms in EU
- 10% growth rate
- Biobased „newcomers“, start-ups
- Innovation potentials
- Niche market

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Source: European Bioplastics, nova-Institute (2017)



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**Bio-based packaging materials can be defined as „materials derived from renewable sources“.**

In addition, such materials recognized as biodegradable according to the standards outlined in related EU Standards can be also understood as bio-based materials.

Reference: Claus J. Weber (eds), 2000, Biobased Packaging Materials, The Royal Veterinary and Agricultural University, ISBN 87-90504-07-0



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# DanuBioValNet Bio-based packaging industry and value chain



# GAPS, MISSING LINKS AND REGULATIONS

## DanuBioValNet bio-based packaging value chain

Gaps	Missing links	Regulation / legislation
<ul style="list-style-type: none"> <li>• High price of raw materials</li> <li>• Better production processes</li> <li>• Technical problems with manufacturing</li> <li>• Lack of knowledge</li> <li>• Better "End-of-life" infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Better networking connections with other regions</li> <li>• Suppliers of raw material/manufacturers of adequate machinery</li> <li>• Market demand</li> <li>• Sustainability and environmental impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Need for joint bio-based strategy</li> <li>• Lack of legal regulations at EU and on national level</li> <li>• Clear distinction of compostable plastics from biodegradable plastics</li> <li>• Support for bioplastics on national level</li> <li>• Better recycling strategies</li> </ul>

Source: Value Chain Mapping Synthesis Report: BioBased packaging

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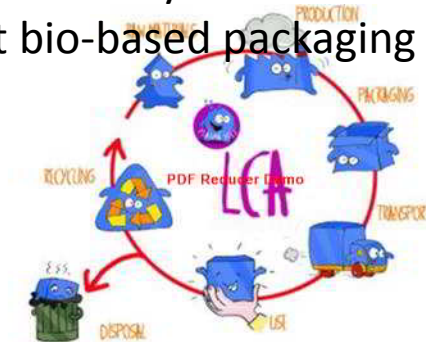
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## OVERVIEW OF MAIN CONSTRAINTS AND IDENTIFIED GAPS

Field/VC	Bio-based sources / feedstock	Technology and application (R&D)	Market development	Socio-economic factors (legal, economic, social conditions, HR etc.	Policy / business environment / legislation
<b>Bio-based Packaging</b>	- lack of support for agriculture to produce the crops suitable for production of biopolymers	- lack of adequate machinery/technical solutions suitable for processing used raw materials	- lack of triggers for market demand for bio-based packaging products	- missing composting system of bioplastics, education of the population	- lack of cross-sectional/sectorial strategies
	- lack of constant supply of source material	- problematic technical properties of the biodegradable bioplastics	- greater involvement of brands (brand messages) and retailers for using the bio-based packaging	- insufficient knowledge about biobased potentials - lack of information, explanation and awareness	'- need for a joint bio-based strategy that also involves bioplastics and bio-based packaging
	- lack of continues supply chain of raw materials for the region	- lack of manufacturers of adequate machinery for suppliers of raw materials	- lack of cross-regional connections and networks - economy of scale	- issue of the exploitation of agricultural products for non-food processes	- better recycling strategies
	- missing suppliers of raw materials	- technical problems with manufacturing	- missing market and demands of the bioplastic packaging	- lack of training and education in relation to the biodegradable materials	- need for positive legislation
		- need for specialized tools to be developed for streamlined research projects	- weak price/performance ratio	- lack of better "End-of-Life" infrastructure	- lack of data inputs and outputs for basic LCA (lifetime cycle assessment) for different bio-based packaging products
			- very small and limited market of the bioplastic products for the final products	- lack of knowledge and SME knowledge exchange	
			- inadequate / lack of market demand	- need for involvement of NGOs and consumer organisations	

Source: Roadmap Workshop Bio-based Advanced Packaging Value Chain

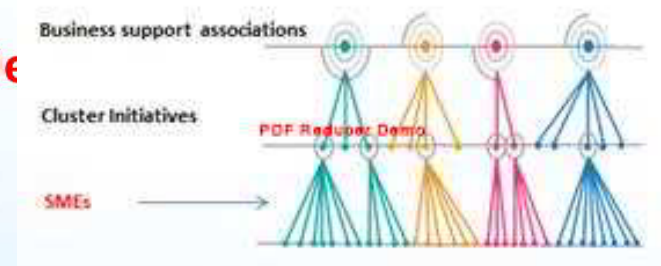
- National and **Danube-wide platforms** for providing and extending knowledge should be developed.
- **Measures**, such as subsidies and quotas must be developed for bioplastics and the bio-based packaging industry.
- Specialized tools need to be developed for streamlined research projects in the field of bio-based packaging.
- **Sustainability and environmental impacts** measures should be developed on the national and Danube region level. Advanced recycling strategies should be set.
- Assuring **data inputs** and outputs for basic LCA (lifetime cycle assessment) for different bio-based packaging products.
- Developing measures to **better inform the consumers** by involvement of NGOs and consumer organisations.
- Provision of a market-driven approach to using advanced packaging as a substitute for common non-reusable packaging by **involving multinational corporations and retailers**.



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- **Information, explanation and awareness on bio-based products** must be spread by involvement of all actors in the bio-based ecosystem.
- **Cluster organizations** should take the leading role in **provision of new services like networking and matchmaking events, training, project development, offering comprehensive information and education/training by covering the topic of bio-based materials.**
- Better integration of all the players could greatly improve the adequacy of the material developments upon their launch into the market – **new role of cluster managers.**
- **Pilot installations** should be developed to address the demand of development of new technology and services for obtaining high quality products and services from bio-based materials.
- The intermediary players are generally **micro, small- and medium-size companies**, which do not have the resources to invest or alter processes in order to make prototypes which could **demonstrate the potential of new bio-based materials.** It is important to link this to R&D institutions and to proposals for pilots and demonstration projects.





We need to develop sustainable bio-economic structures

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**THANK YOU FOR YOUR ATTENTION**



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