

Joint Action Plan for Developing Bio-economy Clusters/Innovation Ecosystems for a Sustainable Bioeconomy in Estonia

INTRODUCTION

Joint Action Plan (JAP) is the document aiming to support smart, sustainable and inclusive growth in bio-economy in rural regions. It is elaborated within the project “Rural RDI milieus in transition towards smart Bioeconomy Clusters and Innovation Ecosystems” (RDI2CluB), part-funded by Interreg Baltic Sea Region Programme.

It is developed in cooperation with stakeholders (authorities, experts, businesses and university researchers) working with aim to develop and implement national bioeconomy-related policies and action plans. Civil society shall also be engaged into the planning and implementation process. Corresponding communication tools shall be applied to reach wider audience on bioeconomy.

JAP is elaborated as roadmap and is connected to the EU, EUSBSR, national and regional policies and strategies, aiming to promote regional development, innovation and bio-economy. A long term objectives and actions defined JAPs can propose strategic and policy changes (new strategic priorities, new funding schemes to be developed etc.) to aforementioned policy documents, but short and medium term actions should be in line with already existing policies and either be complementary to the existing measures or provide a more practical, focused actions in the framework of existing priorities and funding schemes. Actions planned arise from Bio-economy profile of the region, consisting of objective facts on the present performance and the future potential of bio-economy in regions and good practices and lessons learnt from other bio-economy clusters and bioregions, and SWOT analysis. Therefore actions planned are viewed and discussed in context with and referring to the above mentioned profiles.

The plan is developed for 5 years period (2019-2023), structured in three periods:

- Short term actions – for 3 years (immediate actions, inter alia those to be implemented during the project within WP3 and WP4)
- Medium term actions for 5 years (to be implemented in the nearest future)
- Long term objectives and actions for their achievement

The **JAP is including measures and actions, structured in two groups:**

- 1) **Internal (regional and/or national)** measures and actions (to be implemented by one or several actors at regional level),
- 2) **Transnational** measures and actions (to be implemented by involving partners from two or more different regions).

The plan contains the following sections:

1. EUSBSR principles addressed.
2. SWOT analysis and status quo analysis of available bioeconomy potential available from Bioeconomy profiles.
3. Objectives described considering SWOT results and identified bioeconomy potential.
4. Relevance of objectives to EUSBSR Strategy Policy area “Bioeconomics”.
5. Relevance of objectives to regional and national development strategies.
6. Good practices – cases and elements for transfer - identified in partner regions and benchmarking visits (approaches, actions, instruments).

7. Priority areas of the action.
8. Measures/actions needed to achieve the objectives, associated with involved stakeholders, where diverse actions are associated to each relevant stakeholder group.
9. Stakeholders involved, inter alia identified preferable/suggested partnerships.
10. Proposed timeline.
11. Potential funding instruments and mechanisms to be used.
12. Mechanisms and indicators for measuring achievements (to be revised once a year).

The Estonian Action Plan for a Sustainable Bioeconomy was developed by Stockholm Environment Institute Tallinn Centre (SEI Tallinn) in cooperation with other stakeholders over a period of May 2018 to October 2018. SEI Tallinn organised two workshops (22 May 2018 and 20 September 2018) and participated in a workshop jointly organised by Norden, SEI Tallinn and Estonian Chamber of Trade and Commerce on 13 June 2018. The participants of the 22 May 2018 workshop, representing national authorities, businesses and their associations, experts and academia, recognised the need for a national level strategy on bioeconomy that would bring different bioeconomy-related sectors under one umbrella.

The participants favoured a national rather than a regional approach on bioeconomy. After national vision, regional visions and action plans may follow. Since bioeconomy as a term and sector has not been widely understood, a wide scale communication and awareness raising is needed. This opinion was reiterated on the second workshop held on 20 September 2018. On the 13 June 2018 workshop participants also recognised the need for disseminating good foreign practices and examples of bioeconomy to Estonia. An idea of organising a bioeconomy conference was proposed. Such a conference would serve many purposes, such as increasing awareness about sustainable bioeconomy, bringing together different actors of bioeconomy sectors (businesses, experts, authorities and academia) for networking and joint action, and increasing the potential of integrating bioeconomy into other areas of policies and governance (such a circular economy).

1. SWOT analysis of the bioeconomy cluster or innovation ecosystem of Estonia

The SWOT analysis was conducted during a stakeholder meeting in May 2018 to identify the strengths, weaknesses, opportunities and threats to the Estonian bioeconomy outlook. The SWOT analysis ensures a background information for the country in order to identify weaknesses and next steps forward for establishing a bioeconomy in Estonia. The following table describes the outcome of the discussion.

<p>S</p> <ul style="list-style-type: none"> ➤ Good biomass resource base ➤ Biomass resources equally distributed across the country ➤ Qualified workers 	<p>W</p> <ul style="list-style-type: none"> ➤ No political commitment ➤ No bioeconomy strategy ➤ No horizontal view ➤ No coherent understanding of the term 'bioeconomy' ➤ Low demographic rates in rural areas ➤ Unequal distribution of workforce ➤ Low cooperation between sectors
<p>O</p> <ul style="list-style-type: none"> ➤ Politicians to be provided good practices/examples to inspire and initiate cooperation ➤ Linking rural job creation with bioeconomy ➤ Potential of bioeconomy related services, not only biomass production ➤ Greening the North-East Estonia region ➤ Added value to local biomass resources 	<p>T</p> <ul style="list-style-type: none"> ➤ Sustainability of biomass ➤ Not developing the strategy = lost opportunities

2. OBJECTIVES AND POLICIES ADDRESSED

Objective No.1:	Framework for a national vision for a sustainable bioeconomy in Estonia
National policies and/or strategies addressed	<p>In the hierarchy of policies, the Estonian National Strategy on Sustainable Development “Sustainable Estonia 21” is the umbrella strategy for all national policies.</p> <p>The Principles of Climate Policy until 2050 sets out the goal to reduce GHG emissions by 80% by 2050 compared to 1990. Nature Conservation Development Plan 2020 provides objectives and measure for maintaining the biodiversity. Forestry Development Plan until 2020 is currently been updated to 2021-2030 (Terms of Reference has been published). The current Rural Development Plan and Fisheries Strategy 2020 will be replaced by Agriculture and Fisheries Development Plan 2030 (1st draft has been published). Circular Economy Strategy is under development. Research and Development and Innovation Strategy 2020 “Knowledge-based Estonia” stresses among three goals to increase the efficiency of use of natural resources as one of the primary goals.</p> <p>There are also related policy-areas, such as competitiveness strategy “Estonia 2020” that provides policy goals for increasing competitiveness of Estonian economy and businesses.</p> <p>Other strategies considered: Estonian Entrepreneurship Growth Strategy 2014-2020, Estonian Development Plan for Energy Sector until 2030, Estonian National Development Plan for the use of Oil Shale 2016-2030, Estonian National Waste Management Plan 2014-2020.</p> <p>According to the Estonian RIS3 Strategy, there are three priority areas: 1) ICT horizontally through the economy, 2) health technologies, 3) Enhancement of resources (biomass, oil shale, material technologies and biotechnology), with a special focus on materials science, chemical industry, innovative construction and food that supports health.</p>
Sub-objectives of EUBSR Strategy policy area “Bio-economics” addressed https://www.balticsea-region-strategy.eu/action-plan	<p>Realizing the bioeconomy in the Baltic Sea region: development of a sustainable bioeconomy in the Baltic Sea region.</p> <p>Contributions to the development of the European Bioeconomy: Baltic Sea region participation in wider EU efforts and projects to realise the bioeconomy.</p>
EUBSR sustainability principles addressed:	<ol style="list-style-type: none"> 1. Sustainable bio-resource management and circular bio-economy 2. Healthy, nutritious locally-produced food and food security 3. Resilient and diverse ecosystems (climate proofing, biodiversity...) 4. Inclusive rural economic development 5. Sustainable consumption

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Objective No.2:	Increase the awareness among businesses and the society about the concept of a sustainable bioeconomy
National policies and/or strategies addressed	<p>RDI strategy ‘Knowledge based Estonia’ 2014 - 2020 Estonian Entrepreneurship Growth Strategy 2014-2020, <i>National Development Plans for Forestry (until 2030) and Agriculture and Fisheries (until 2030) are under development.</i></p>

Sub-objectives of EUBSR Strategy policy area “Bio-economics” addressed https://www.balticsea-region-strategy.eu/action-plan	<ul style="list-style-type: none"> • Added value through cooperation within Baltic fisheries and aquaculture. • Involvement of the business community, increase knowledge on sustainable forest management. • Cooperation: increased coordination and synergy in the Baltic Sea region among public sector and NGO cooperation initiatives, projects and stakeholders dealing with bioeconomy. • Realizing the bioeconomy in the Baltic Sea region: development of a sustainable bioeconomy in the Baltic Sea region. • Contributions to the development of the European Bioeconomy: Baltic Sea region participation in wider EU efforts and projects to realise the bioeconomy.
EUBSR sustainability principles addressed:	<ul style="list-style-type: none"> • Sustainable bio-resource management and circular bio-economy • Healthy, nutritious locally-produced food and food security • Inclusive rural economic development

Objective No.3:	Promote innovation for added value from local biomass resources
National policies and/or strategies addressed	<p>Estonian National Strategy on Sustainable Development “Sustainable Estonia 21” Estonian National Reform Programme ‘Estonia 2020’ Estonian RIS3 Strategy, priority area 3: Enhancement of resources (biomass, oil shale, material technologies and biotechnology), with a special focus on materials science, chemical industry, innovative construction and food that supports health. <i>National Development Plans for Forestry (until 2030) and Agriculture and Fisheries (until 2030) are under development.</i></p>
Sub-objectives of EUBSR Strategy policy area “Bio-economics” addressed https://www.balticsea-region-strategy.eu/action-plan	<ul style="list-style-type: none"> • Added value through cooperation within Baltic fisheries and aquaculture. • Involvement of the business community, increase knowledge on sustainable forest management. • Realizing the bioeconomy in the Baltic Sea region: development of a sustainable bioeconomy in the Baltic Sea region. • Contributions to the development of the European Bioeconomy: Baltic Sea region participation in wider EU efforts and projects to realise the bioeconomy.
EUBSR sustainability principles addressed:	<ul style="list-style-type: none"> • Sustainable bio-resource management and circular bio-economy • Healthy, nutritious locally-produced food and food security • Inclusive rural economic development

Objective No.4:	Advancing rural livelihoods through the promotion of a sustainable bioeconomy
National policies and/or strategies addressed	<p>Estonian National Strategy on Sustainable Development “Sustainable Estonia 21” RDI strategy ‘Knowledge based Estonia’ 2014 - 2020 Estonian competitiveness strategy “Estonia 2020” Rural Development Plan 2020 <i>National Development Plans for Forestry (until 2030) and Agriculture and Fisheries (until 2030) are under development.</i></p>
Sub-objectives of EUBSR Strategy policy area “Bio-economics” addressed https://www.balticsea-region-strategy.eu/action-plan	<ul style="list-style-type: none"> • Added value through cooperation within Baltic fisheries and aquaculture. • Realizing the bioeconomy in the Baltic Sea region: development of a sustainable bioeconomy in the Baltic Sea region. • Contributions to the development of the European Bioeconomy: Baltic Sea region participation in wider EU efforts and projects to realise the bioeconomy.

EUSBSR sustainability principles addressed:	<ul style="list-style-type: none"> • Sustainable bio-resource management and circular bio-economy • Inclusive rural economic development
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3. IDENTIFIED ACTIONS THAT CAN SUPPORT THE DEVELOPMENT OF THE BIOECONOMY CLUSTER OR INNOVATION ECOSYSTEM IN ESTONIA

Action No.1:	Creation of framework for a national bioeconomy vision; integrating bioeconomy into sectoral development plans <ul style="list-style-type: none"> • review of existing policies • developing a draft framework • identification of stakeholders • consulting with stakeholders • meetings with Estonian ministries
<i>Type per implementation period</i>	Short term: for 3 years (immediate actions, implemented during the project)
<i>Results to be achieved</i>	Long term vision for sustainable bioeconomy has been developed and consulted
<i>Indicators for measuring achievements</i>	Draft framework completed, feedback received, stakeholder meetings held
<i>Mechanisms, tools to be used for measuring achievements</i>	Stakeholder consultations
<i>Stakeholders to be involved and their roles and benefits</i>	Regional and public authorities/policy makers and legislative stakeholders: communication and awareness raising; businesses: networking, contacts academia: research and development, input for the draft document experts: research and development, input for the draft document
<i>Potential partners/partnerships (if already identified)</i>	Estonian Ministry of Rural Affairs, TalTech, University of Life Sciences (Bioeconomy Centre), Nordic Council of Ministers,
<i>Potential funding instruments and mechanisms to be used for implementation</i>	Partly funded by INTERREG RDI2Club project
<i>Priority bio-economy areas relevant to the Action</i>	PA No 1 Agriculture, forestry and fisheries; PA No 2 Food and feed production; PA No 3 Bio-based construction and building materials; PA No 4 Bio-based textile and clothing; PA No 5 Pulp and paper ; PA No 6 Bio-based chemical industry ; PA No 7 Bio-based energy, incl. transport; PA No 8 R&D services in biomass; PA No9 Bio-based services (for example, green-care, eco-tourism etc)
<i>Cross sectoral priorities addressed</i>	Sustainable development

Action No.2:	Promote co-operation and bioeconomy development among businesses <ul style="list-style-type: none"> • stakeholder meetings • Identification of stakeholders for the bio-business innovation hub • Bioeconomy Conference in Tallinn
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<i>Type per implementation period</i>	Medium: 3-5 years
<i>Results to be achieved</i>	
<i>Indicators for measuring achievements</i>	Number of meetings held; motivation and involvement of relevant stakeholders, participation in the bioeconomy conference
<i>Mechanisms, tools to be used for measuring achievements</i>	Stakeholders' consultations, promotion of the innovation hub and the bioeconomy conference
<i>Stakeholders to be involved and their roles and benefits</i>	Businesses in the bioeconomy subsectors in Estonia
<i>Potential partners/partnerships (if already identified)</i>	Rural Network Department of the Agricultural Research Centre Foundation Private Forest Centre Estonian Chamber of Commerce and Industry Estonian Chamber of Agriculture and Commerce
<i>Potential funding instruments and mechanisms to be used for implementation</i>	Not identified at this stage
<i>Priority bio-economy areas relevant to the Action</i>	PA No 1 Agriculture, forestry and fisheries; PA No 2 Food and feed production; PA No 3 Bio-based construction and building materials; PA No 4 Bio-based textile and clothing; PA No 5 Pulp and paper ; PA No 6 Bio-based chemical industry ; PA No 7 Bio-based energy, incl. transport; PA No 8 R&D services in biomass; PA No9 Bio-based services (for example, green-care, eco-tourism etc)
<i>Cross sectoral priorities addressed</i>	Sustainable development

Action No.3:	Organizing an international bioeconomy conference in Tallinn <ul style="list-style-type: none"> • involvement of Estonian politicians to facilitate discussion on a political level • best practices from Nordic- and Baltic regions for inspiration for businesses • exhibition of innovative bio-based products
<i>Type per implementation period</i>	Short term: up to 3 years
<i>Results to be achieved</i>	Awareness among the society and businesses has increased
<i>Indicators for measuring achievements</i>	Feedback from participants
<i>Mechanisms, tools to be used for measuring achievements</i>	Prominent key-note speakers, best practices exhibition
<i>Stakeholders to be involved and their roles and benefits</i>	Regional and public authorities/policy makers and legislative stakeholders, businesses in the bioeconomy sector, academia, experts

<i>Potential partners/partnerships (if already identified)</i>	Nordic Council of Ministers Ministry of Rural Affairs
<i>Potential funding instruments and mechanisms to be used for implementation</i>	Partly financed by INTERREG RD12Club project
<i>Priority bio-economy areas relevant to the Action</i>	PA No 1 Agriculture, forestry and fisheries; PA No 2 Food and feed production; PA No 3 Bio-based construction and building materials; PA No 4 Bio-based textile and clothing; PA No 5 Pulp and paper ; PA No 6 Bio-based chemical industry ; PA No 7 Bio-based energy, incl. transport; PA No 8 R&D services in biomass; PA No9 Bio-based services (for example, green-care, eco-tourism etc)
<i>Cross sectoral priorities addressed</i>	Education, communication, business development, sustainable development

Action No.4:	Awareness raising among agricultural and forestry biomass producers in rural areas <ul style="list-style-type: none"> introducing principles of sustainable biomass use at local level information days organized by business unions identification of potential participants in the Biobusiness hub
<i>Type per implementation period</i>	Medium term: 3- 5 years
<i>Results to be achieved</i>	Increased awareness of sustainable practices among businesses in the rural areas
<i>Indicators for measuring achievements</i>	Increased number of agricultural and forestry businesses applying sustainability principles
<i>Mechanisms, tools to be used for measuring achievements</i>	Stakeholder meetings, participation in info days or training courses organized by local producers' unions
<i>Stakeholders to be involved and their roles and benefits</i>	Businesses: attend the info days, Producers unions: inviting businesses to attend the info days,
<i>Potential partners/partnerships (if already identified)</i>	Estonian producers of biomass (agricultural and forestry), producers unions, Ministry of Rural Affairs, Local development centres and enterprise consultants
<i>Potential funding instruments and mechanisms to be used for implementation</i>	Producers unions funding
<i>Priority bio-economy areas relevant to the Action</i>	PA No 2 Food and feed production; PA No 9 Bio-based services (for example, green-care, eco-tourism etc)
<i>Cross sectoral priorities addressed</i>	Sustainable development, communication and branding, business development

4. LINKAGES BETWEEN THE PROPOSED OBJECTIVES AND ACTIONS

Objective	Actions	Description
Objective 1: Creation of a sustainable bioeconomy framework	Action 1: Creation of framework for a national bioeconomy vision and principles ensuring its sustainability	Estonia is lacking a national bioeconomy vision, which would set sustainable bioeconomy as a long-term goal. The framework for a sustainable bioeconomy in Estonia will encompass current situation of bioeconomy in Estonia, and its sustainability assurance options.
Objective 2: Increase the awareness among businesses and the society about the concept of bioeconomy	Action 2: Promote co-operation and bioeconomy development among businesses Action 3: Organizing an international bioeconomy conference in Tallinn	Awareness rising should happen among all the levels of society. It is equally as important to engage the private sector, the politicians and the consumers, in order to create the necessary demand with which bioeconomy can thrive. The bioeconomy conference in will bring together examples of best practices across the BSR and initiate an important discussion of the necessity and the sustainability of developing a bio-based economy in Estonia. The Conference will include representatives from academia, policy-making and businesses.
Objective 3: Promote innovation for added value from local biomass resources	Action 2: Promote co-operation and bioeconomy development among businesses Action 3: Organizing a bioeconomy conference in Tallinn. Action 4: Awareness raising among agricultural and forestry biomass producers in rural areas	The swot analysis shows, that Estonia is quite rich in terms of biomass resources. Nevertheless, most of those resources are sold as primary products whereas there is a large potential for adding more value to local biomass. The entrepreneurs are not aware of the new and innovative business opportunities, which advanced bio-economies in Europe are already exploiting. Communication is especially needed for establishment of a new mindset which shifts the traditional sense of competition to collaboration. The Bioeconomy Conference in Tallinn would bring together innovative ideas from all over the BSR and from Estonia, to introduce the concept of Bioeconomy and its opportunities for companies.
Objective 4: Advancing rural livelihoods through the promotion of a sustainable bioeconomy	Action 2: Promote co-operation and bioeconomy development among businesses Action 4: Awareness raising among agricultural and forestry biomass producers in rural areas	The rural areas in Estonia are suffering due to the loss of inhabitants since more and more people move to urbanized areas. Awareness raising among the businesses would help to boost the rural job creation in areas where the bioeconomy resources are available but not used in a value added manner. With the right education, tools, technology and cooperation, business growth and demographics in those areas, could be well improved. Action 4 is specifically aiming at increasing awareness about the sustainability of bioeconomy among businesses in rural areas in Estonia.

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