

## Supporting sustainable rural bioeconomy value chains

### Briefing for the second meeting of ENRD Thematic Group on the Bioeconomy

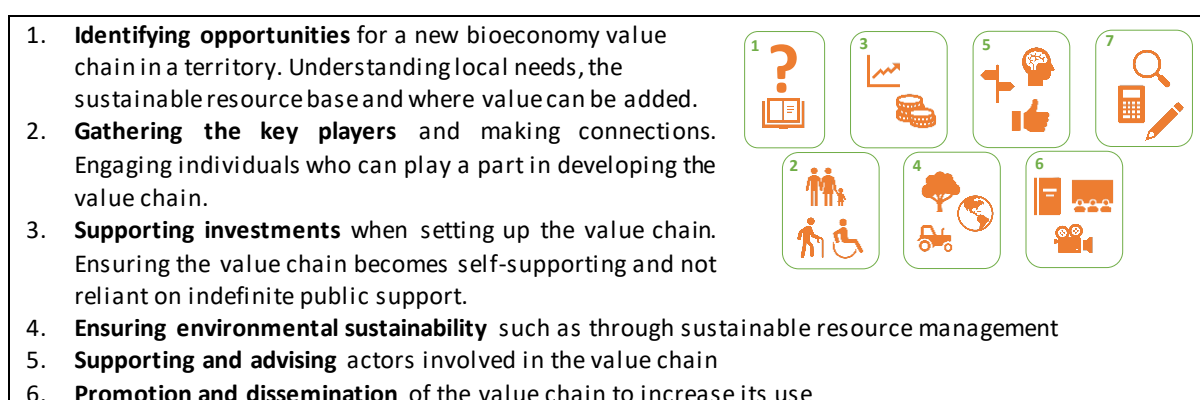
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This briefing explores how the development of sustainable rural bioeconomy value chains with the involvement of local stakeholders within well-defined small-scale territorial boundaries can be supported through Rural Development Programmes. It builds on the Thematic Group's [scoping paper](#) which set out some of the potential RDP measures that could support the bioeconomy, and looks further at what they can do in a territorial context and where there are gaps.

Sustainable rural bioeconomy value chains can take many forms, from the more traditional product-based bioeconomy models, where biomass is used to create a product or substitute an existing product base, through to service-based bioeconomy models, where income is generated through activities such as rural tourism, linked to well-managed rural areas or parks. Sometimes there may be a combination of approaches, for example the marketing of products from a local area or linked to certain conservation activities.

Some of these bioeconomy value chains may already exist but lack promotion or optimisation, others may need to be developed from scratch or involve change from existing approaches. The measures made available by Member States to rural actors through the RDPs can help address a wide variety of actions to help promote sustainable rural bioeconomy value chains. It is important to note that there are only two RDP measures that Member States are required to make available through RDPs: the AECM measure (M10) and Leader. Therefore, although RDPs have the potential to support sustainable rural bioeconomy value chains, they can only do so if made available by the Member State and designed so as to benefit recipients in this way. The remainder of this briefing looks at the different stages of developing a bioeconomy from inception to adding value to existing bioeconomies (Figure 1) and where RDPs can support this process.

**Figure 1: Developing a sustainable rural bioeconomy value chain – example (schematic view)**



**7. Monitoring and improving** the value chain. Learning from existing initiatives, monitoring results, and disseminating good practice.

**Identifying opportunities**



The first stage of developing a sustainable rural bioeconomy value chain is in understanding what the opportunities are at the territorial level. Often these start with a review of the resource base, such as the wastes or residues generated in an existing value chains or the tourism opportunities in the area. So far RDP measures have not been widely used for such activities, despite their potential, although the RDP needs assessment does set out the priorities for interventions in a given area. One example of where RDP support has been used in this way is in the previous programming period using LEADER: *The area covered by the Local Action Group Pays des Condruzes has a developed cattle breeding sector. Since 2009 the LAG supported a series of studies related to biogas production, including mapping the distribution of farms in the area and their capacity to produce biogas, identifying the areas of higher consumption of energy for heating, examining the possibility and options for setting up cooperatives that would handle the digesters and methods for compensating their members (e.g. via dividends), how to implement dry digestion, etc. The studies were accompanied by seminars and internet publications for informing farmers and citizens, study trips and production of guidelines on how to apply the dry digestion technique. Using the LAG support analysis it was estimated that if all the animal waste of the area were used for the production of biogas it would cover the annual consumption of electricity of the 7 towns in the LAG area.*

The future CAP could help identify the opportunities for sustainable value chain development, but plans or a review of needs would need to be developed at the right scale to address territorial needs, rather than solely at the Member State or regional level. It may also be appropriate to use other EU mechanisms, such as research and innovation support (such as under H2020 or Life+) to explore the opportunities and potentials in a given territory. An example of an attempt to facilitate territorial bioeconomy development is the BERST bioeconomy online toolkit - <https://berst.databank.nl/dashboard/Dashboard/Biomass-availability-and-Land-use/> funded by the EU Strategy for the Baltic Sea Region, Interreg, and ERDF.

Examples of RDP Measures with potential to support the identification of bioeconomy opportunities			Potential
<b>M19</b>	Support for LEADER local development – Community led local development	Local Action Groups can select projects to be implemented under their Local Development Strategy (LDS)	Identifying economic and collective initiatives corresponding to local needs and resources
<b>M16</b>	Co-operation	M16.1 Support for the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability	Testing new ideas, approaches and initiatives linked to agriculture and forestry
		M16.2 Support for pilot projects and for the development of new products, practices, processes and technologies	Testing new ideas, approaches and initiatives
<b>M7</b>	Basic services and village renewal in rural areas	M7.1 Support for drawing up and updating of plans for the development of municipalities and villages in rural areas and their basic services and of protection and management plans relating to Natura 2000 sites and other areas of high nature value	Planning and integrating bioeconomy value chains at the territorial level
<b>Gaps in current EAFRD support for the identification of bioeconomy opportunities at the territorial level</b>			
<ul style="list-style-type: none"> <li>Identifying resource surpluses, including wastes and residue generation.</li> <li>Understanding the potential of these resources for bioeconomy initiatives and how value can be added.</li> <li>Identifying and developing business models on bioeconomy beyond primary production.</li> <li>Supporting new models of primary production that do not necessarily require a farm or field area – such as insect production, or vertical farming, etc; how to support such activities with RDPs?</li> </ul>			

## Gathering the key players



Bioeconomy value chains require multiple actors to work together. These can be multiple farmers or land managers or producer groups, innovative rural SMEs, or it can be multiple different actors in a value chain, including researchers, producers, manufacturers and marketers. The cooperation measure is one of the more flexible tools available in RDPs to enable such connections to be made.

*In Westland, an area of the Netherlands known for greenhouse horticulture, Solidus Solutions has developed a new packaging material based on tomato fibres<sup>1</sup>. The leaf and stems from the tomato plant, which are leftovers from the harvest, are crushed and mixed with fibres of recycled paper, producing a type of cardboard for use as packaging. Together with waste paper, the plant residue can now be used to produce high grade, recyclable solid board. A unique cooperation, called Bio Base Westland, involving growers, green waste processors, board mills, research institutions, universities, consultants and councils, led to a win-win situation. Growers may now buy the solid board packing, which has been enriched by their own plants, 'back' to pack their own tomatoes. No RDP support was used in this example, but the initiative could have benefited from a range of RDP measures, such as M16.1 and M16.4 to bring individuals together, M6.2 and M6.4 developing farm businesses or non-farm businesses or investment support through M4.2.*

Making connections between different actors in the value chain is equally as important as developing new approaches.

*In Finnish Lapland, the Arctic Smart Rural Communities cluster is helping this remote area of Europe to recognise the potential of its local natural resources to supply bio-based energy, food and materials. Part of the mission of Arctic Smart Rural Community is to avoid capital outflow from rural Lapland and create new innovative enterprises based on circular economy principles with a goal to transfer the added value of local natural resources for the benefit of local communities<sup>2</sup>. Support comes from a variety of sources, and involves the Regional Council of Lapland, and the agricultural advisory organisation.*

Examples of RDP measures with potential to support the gathering of key actors and stakeholders in the development of bioeconomy value chains			Potential
<b>M9</b>	Setting up of producer groups	Setting up of producer groups and organisations in the agriculture and forestry sectors	Bringing together different bioeconomy producers to market products or develop economies of scale
<b>M16</b>	Co-operation	16.1 Support for the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability	Bringing together different stakeholders within an operational group around practical innovation
		16.4 horizontal and vertical cooperation among supply chain actors for the establishment and development of short supply chains and local markets and promotion activities in a local context relating to this development	Encouraging cooperation across the supply and value chain
		16.5 Support for joint action undertaken with a view to mitigating or adapting to climate change and for joint approaches to environmental projects and ongoing environmental practices	Encouraging joint actions that could be developed around sustainable bioeconomy value chains

<sup>1</sup> **Source:** EEA (2017) *The circular economy and the bioeconomy*; <https://www.emmagazine.co.za/solid-board-made-of-tomato-plants-wins-packaging-europe-sustainability-awards-2016/>

<sup>2</sup> [https://www.clustercollaboration.eu/sites/default/files/profile-article/arctic\\_smart\\_rural\\_community\\_esite\\_en\\_final.pdf](https://www.clustercollaboration.eu/sites/default/files/profile-article/arctic_smart_rural_community_esite_en_final.pdf)

		16.6 cooperation among supply chain actors for sustainable provision of biomass for food and energy production and industrial processes	Encouraging cooperation across the supply and value chain
<b>M19</b>	Support for LEADER local development – Community led local development	Includes integrated approaches, making links between stakeholders and start up initiatives dependent on Local Development Strategy objectives	Supporting territorial approaches between value chain actors
<b>Gaps in current EAFRD support for bringing together key players</b>			
<ul style="list-style-type: none"> <li>Support to bioeconomy innovation (beyond primary production) in a scale that is accessible for small- and medium-size rural enterprises.</li> </ul>			

### Supporting investments



Developing new bioeconomy value chains can require large up-front investments, whether this is for infrastructure to collect and process biomass, tourism infrastructure, such as signposts and access facilities, business start-up funding or development of an existing business, or support for the establishment of new production systems. RDPs provide a range of supporting measures to enable such investments. These can also catalyse funding from other sources, making the value chains more self-sustaining than when they are based solely on public support.

*In a feasibility study to upscale a biocomposite production line, the farm and business development measures (M6) and LEADER have been used to upscale a demonstration facility in Sastamala, Finland, to a modern production line, creating 20 new jobs. The support enabled the company owners to plan carefully the investments, including funding visits to potential suppliers abroad to develop the bioeconomy value chains.*

Examples of RDP measures with the potential to support investments in the bioeconomy			Potential
<b>M3</b>	Quality schemes for agricultural products and foodstuffs	3.1 new participation in quality schemes	Support for new entrants to Union, national and voluntary quality schemes – which may have links to bioeconomy initiatives
<b>M4</b>	Investments in physical assets	4.1 investments in agricultural holdings	Support for new machinery or infrastructure to enable the use of biomass streams for bioeconomy initiatives
		4.2 investments in processing/marketing and/or development of agricultural products	
		4.3 investments in infrastructure related to development, modernisation or adaptation of agriculture and forestry	
<b>M6</b>	Farm and business development	6.2 business start-up aid for non-agricultural activities in rural areas	Support for diversification of activities into new bioeconomy initiatives
		6.4 investments in creation and development of non-agricultural activities	
<b>M7</b>	Basic services and village renewal in rural areas	7.2 investments in creation, improvement or expansion of all types of small scale infrastructure, including investments in renewable energy and energy saving and ICT	Supplementary support ensuring infrastructure to support sustainable rural bioeconomy value chains
		7.4 Support for investments in the setting-up, improvement or expansion of local basic services for the rural population including leisure and culture, and the related infrastructure	
<b>M8</b>	Investments in forest area development and improvement of the viability of forests	8.1. Support for afforestation/creation of woodland	Support for new production systems and diversification of biomass streams
		8.2. Support for establishment and maintenance of agroforestry systems	
		8.6. Support for investments in forestry technologies and in processing, mobilising and marketing of forest products	Support for the utilisation of different biomass streams
<b>Gaps in existing RDPs for supporting investments in the bioeconomy</b>			
<ul style="list-style-type: none"> <li>Support for the development of services and products of existing rural enterprises and for scale-up.</li> <li>More flexible opportunities for cross-sector support with combined instruments (RDP and others, such as structural funds).</li> </ul>			

### Ensuring sustainability



Bioeconomy value chains rely on the sustainable production or management of natural resources. RDPs can help improve the sustainability of production and the management of land through diversification of farming activities, such as into organic farming, or through more targeted interventions such as those provided through the AEC and FEC Measures. Support through these measures can be combined with other RDP support promoting the development of rural

bioeconomy value chains to increase the benefit to land managers or even create areas that may attract tourism, such as habitats for rare birds. However, RDP measures do not necessarily limit or restrict the production or harvesting of biomass for use in the bioeconomy, which if overexploited, can undermine the bioeconomy initiative and lead to the deterioration of the environment or impact on climate objectives. Here RDPs can be used to explore sustainable biomass harvesting.

*In the previous programming period, Measure 323 (Conservation and upgrading of the rural heritage) was used in Thuringia and Brandenburg to support a pilot initiative to identify technical, financial and locally appropriate ways to recover wood fuel through landscape maintenance in the most ecologically and economically advantageous manner. On about 300 ha of non-agricultural land, the wood was harvested from a variety of habitats including sandy dry grasslands, hedge complexes, sand heaths and inland dunes, generating energy for the region. This is to protect the habitat against succession of shrubs and preserve a rich variety of flora and fauna.*

Examples of RPD measures with potential to support the sustainability of rural bioeconomy value chains			Potential
<b>M4</b>	Investments in physical assets	4.4 Support for non-productive investments linked to the achievement of agri-environment-climate objectives	Support enabling the achievement of sustainable land management through M10
<b>M10</b>	Agri-environment-climate	10.1 Payment for agri-environment-climate commitments	Support for sustainable land management practices that may complement bioeconomy initiatives
<b>M11</b>	Organic farming	11.1 Payment to convert to organic farming practices and methods	Conversion to and maintenance of organic farming practices which can be used to support specific bioeconomy initiatives
		11.2 Payment to maintain organic farming practices and methods	
<b>M15</b>	Forest-environmental and climate services and forest conservation	15.1 Payment for forest-environmental and climate commitments	Support for sustainable land management practices that may complement bioeconomy initiatives in forests
		15.2. Support for the conservation and promotion of forest genetic resources	
<b>Gaps in RDP measures for supporting sustainability</b>			
<ul style="list-style-type: none"> <li>There are different perceptions and definitions of sustainability in different MS and between regions.</li> </ul>			

### Supporting and advising



Whilst some bioeconomies are well established (such as the production of food or timber), other more novel approaches to the utilisation of different biomass streams, or development of service-bioeconomies can be less well understood by those in a position to develop them. Here RDPs can provide both support to beneficiaries and to advisors.

*For example, Leader can be used as a flexible measure to support information exchange and visits, such as in the 'Academy on Tour' initiative in Belgium to support (potential) agri-food entrepreneurs to develop their business ideas into concrete plans and then implement them. It involves an all-day tour to a foreign country on a VIP- bus with appropriate facilities for work.*

Providing support and advice in remote areas can be challenging, particularly with specialist expertise.

*In Scotland, the GrowBiz initiative (supported through Measure 413) aimed to implement the Sirolli method of supporting businesses, an approach that is entirely community-led. Activities included establishing a volunteer board of up to 10 people from the community and appointing a locally based Enterprise Coordinator. This helped these remote rural areas establish their own advice and support network and removed the barrier of having to travel to the city to get such advice.*

Examples of RDP measures with potential to provide support and advice to actors in sustainable rural bioeconomy value chains			Potential
M1	Knowledge transfer and information actions	1.1. Support for vocational training and skills acquisition actions	Support for a variety of training approaches, such as workshops or forums to deal with a specific issue, personalised coaching for specific needs, etc.
		1.2. Support for demonstration activities and information actions	Support to provide practical session to illustrate a technology, the use of new or significantly improved machinery. Providing knowledge to SMEs supporting the development of bioeconomy value chains
		1.3. Support for short-term farm and forest management exchange as well as farm and forest visits	Support to share best practice and help connect rural actors in value chains
M2	Advisory services, farm management and farm relief services	2.1. Support to help benefit from the use of advisory services	Support to help MS and authorities to provide the right sort of advice in the right areas that will enable sustainable rural bioeconomy value chains
		2.2. Support for the setting up of farm management, farm relief and farm advisory services as well as forestry advisory services	Support to enable the provision of advisory services, which could include a focus on value chains
		2.3. Support for training of advisors	Support for training advisors on sustainable rural bioeconomy value chain development
M19	LEADER		Wide ranging support including for example use of IT, knowledge exchanges and visits, etc.
<b>Gaps in RDP measures for supporting and advising bioeconomy value chain actors</b>			
<ul style="list-style-type: none"> <li>M1 and M2 do not include compulsory topics on which support should be given. Whilst this enables flexibility to adapt to different contexts, Member States are not required to use these measures to support bioeconomy developments.</li> <li>The opportunity to use public support for ongoing business advice is limited.</li> </ul>			

### Promotion and dissemination



Building sustainable rural bioeconomy value chains and making them self-financing in the long-term requires a market for the goods and services provided. Promotion and dissemination is therefore important. RDPs do have some measures to support the promotion of new products, linked to new quality schemes. It may be possible to develop schemes to support bioeconomy initiatives for new or existing bio-based products or services.

*The Leader-funded project “Promoting the natural resources of western Weinviertel” aimed to raise awareness about the extraordinary fauna and flora of the region and disseminate information to the region in Lower Austria, Vienna and the Czech Republic. As a first step, educational activities targeted the local population of Schmidatal and Retzerland. The second main step of the project was to develop a touristic offer based on the natural resources of the area with the contribution of the local communities – establishing a service-based bioeconomy value chain. Elsewhere in Austria, the basic services and village renewal measure has been used in the “Nature Connects” campaign to raise and generate awareness on the importance of biodiversity in rural landscapes by bringing together landowners, experts and the broader public.*

Examples of RDP measures with the potential to increase the promotion and dissemination of sustainable rural bioeconomy value chains			Potential
M3	Quality schemes for agricultural products and foodstuffs	3.1 new participation in quality schemes	Support covering costs arising from information and promotion activities in order to improve consumers' awareness of the existence and specifications of products produced under these Union and national quality schemes
M3	Quality schemes for agricultural products and foodstuffs	3.2 information and promotion activities implemented by groups of producers in the internal market	Support for promoting sustainable rural bioeconomy products and services in the EU to help build markets and new value chains
M19	LEADER		Wide ranging support involving local communities and dissemination actions
<b>Gaps in RDP measures for promotion and dissemination</b>			
<ul style="list-style-type: none"> <li>Quality schemes do not require sustainability as a core component of the promotion of new products.</li> <li>Support is only provided for promotion and participation in recognised quality schemes (excluding voluntary schemes), therefore bioeconomy quality schemes or standards would need to be developed.</li> </ul>			

### Monitoring and improving



Ensuring that sustainable rural bioeconomy value chains are delivering added value to the local economy, meeting territorial needs and promoting environmental sustainability requires ongoing monitoring and review. Typically, RDP measures do not support monitoring of measure implementation or the delivery of environmental, social or economic benefits arising from those measures. However, the technical assistance measure<sup>3</sup> can support a range of activities by the managing authority, the paying agency, the intermediate bodies fulfilling delegated functions and Monitoring Committees. In some cases, such functions can be fulfilled by other bodies (responsible for preparation/programming or coordination of the implementation of programmes). They can also be used to reduce the administrative burden of beneficiaries and to build the capacity of MS and beneficiaries to implement EAFRD support (and other European Structural and Investment Funds).

Whilst not a core RDP measure, the monitoring of bioresource use in the development of a rural value chain is crucial to ensure that the value chain remains sustainable and works within natural limits. This may require additional data collection, baseline exercises (establishing sustainable supply levels) within a given area, and ongoing monitoring beyond that required through the current CAP. This could be explored further through the Thematic Group.

<sup>3</sup> Article 59 of Regulation (EU) 1303/2013 [CPR] and Article 51 of Regulation (EU) 1305/2013 [EAFRD]