



# Exploring the role of awareness-raising and communication in promoting the development of sustainable bioeconomy value chains

Conclusions from the ENRD Thematic Group on 'Mainstreaming the bioeconomy' – Part 3

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The content of this document is based on the work of the ENRD Thematic Group on Bioeconomy, and does not represent the views of the European Commission.

## 1 INTRODUCTION

Starting in July 2018, the ENRD animated a Thematic Group (TG) on '[Mainstreaming the bioeconomy](#)' with the overarching objective to "encourage the development of sustainable bioeconomy value chains in rural areas in order to promote employment, economic growth, and social inclusion, while preserving eco-systems." The TG was structured as an open group of interested stakeholders across Europe and involved among others Managing Authorities, researchers, farmers and representatives of environmental NGOs.

The TG's work was rooted in the use of EU Common Agricultural Policy (CAP), and particularly Rural Development Programmes (RDPs), in support of its stated objectives. The TG identified the different element of rural value chains that can benefit from the development of the bioeconomy, how these benefits can be delivered in rural areas and how they can be made sustainable and self-supporting, particularly through the use of the European Agricultural Fund for Rural Development (EAFRD).

The TG has drawn recommendations for better targeting RDP support in the current programming period (2014-2020) to promote the bioeconomy and recommendations for the future operation and the design of successor programmes in the CAP beyond 2020.

This document is based on outcomes of the TG meetings, over 30 interviews with managing and regional authorities, civil interest groups, support services and farmers, desk-based research on literature, policy and strategy documents and direct input from selected experts involved with the TG work.

The TG also produced the following documents:

- 'European rural bioeconomy: policy and tools' (briefing)
- 'Recommendations on the use of RDPs to mainstream the bioeconomy' (briefing)
- 'How to mainstream the bioeconomy in rural areas?' (handout)
- 'How to use RDPs to support rural bioeconomy?' (handout)

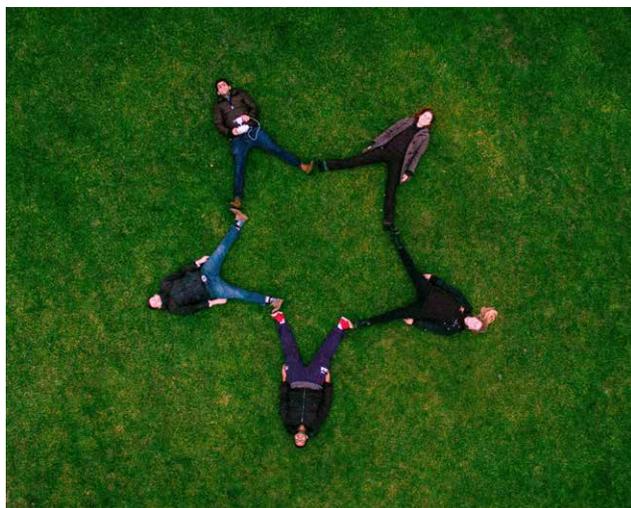
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## 2. EXPLORING THE ROLE OF AWARENESS-RAISING AND COMMUNICATION IN PROMOTING THE DEVELOPMENT OF SUSTAINABLE BIOECONOMY VALUE CHAINS

Awareness and understanding of the different actors engaged in bioeconomy value chains (including producers, consumers, project developers, local, regional and national decision-makers) influences the barriers to change, the ability to change and the opportunities that emerge. As noted in outcomes of the Horizon2020 project [Pegasus](#)<sup>(1)</sup>, lack of awareness can inhibit the understanding of the need for action, the choices available and the ability to collaborate with other stakeholders in the value chain. It, therefore, influences the choices made and the success of outcomes. In contrast, improved public/stakeholder awareness can trigger the uptake of initiatives and products and the support for collaborative action. Finally, increased awareness can be both a tool and an end-point in and of itself: achieving and maintaining a good level of awareness-raising and demonstration activities in relation to farming and forestry is an environmentally and socially beneficial outcome in its own right. One of the key elements in awareness-raising is the role of networks, engaging different actors in rural bioeconomy value chains to connect and develop together.

Awareness-raising should be a horizontal priority in all measures used to promote rural bioeconomy. The conception of the bioeconomy focuses on added value, innovation and sustainable development; hence drivers of demand are often knowledge-based, i.e. to demonstrate added value and benefits to society to access new markets, including through green public procurement and financial support. Societal appreciation of certain benefits is a driver of action. Growing societal awareness and appreciation can drive the protection or enhancement of socio-cultural and/or environmental values in a rural area or in bio-based products and can also be reflected in market prices.



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(1) Pegasus examined awareness raising and collective approaches in the context of delivering public goods in agriculture and forestry.



### Example 1: promoting the natural resources of Western Weinviertel – Austria

This LEADER project promoted the use of the local natural heritage as a lever for sustainable local development. The overarching objective of the project was to raise awareness among the population in the area of the natural resources and biodiversity in the Western Weinviertel. Activities supported by the project included: developing a marketing plan to promote the natural resources of the area; preparing an inventory of materials and developing of a detailed educational concept for the local communities including awareness raising events; and developing materials and resources to support local tourism in the area based around the biodiversity resource.

 Source: ENRD Projects Database, [https://enrd.ec.europa.eu/projects-practice/promoting-natural-resources-western-weinviertel\\_en](https://enrd.ec.europa.eu/projects-practice/promoting-natural-resources-western-weinviertel_en)



### Example 2: action plan for development of a knowledge-driven bioeconomy innovation ecosystem in Vidzeme region in Latvia

Summary – In the Vidzeme Region of Latvia they are proactively promoting efforts towards the bioeconomy and specifically awareness raising and knowledge sharing. An Action Plan was recently elaborated which included an emphasis on the delivery of awareness raising events and promotional materials, providing consultancy and best practice study trips to entrepreneurs and different actors related to the bioeconomy. The project takes into consideration the Latvian Bioeconomy Strategy and the smart specialization areas of Vidzeme region.

Collaborative and coordinated action along value chains and at the regional or territorial level is crucial for the delivery of sustainable rural bioeconomy value chains. This requires an increased emphasis on communication and networking, and a clear awareness base to facilitate joint endeavours. Bottom-up coordination to support sustainable supply chains will become more important if biomass potential, for example from current agricultural



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residues or wastes, is to be realised. Such resources are heterogeneous in terms of material produced and its qualities; they are also spatially distributed across rural

areas. Tools like Rural Development Funding can be used in an innovative way to better support and demonstrate residue management.



### **Example 3: Using EU rural development funding to promote hedgerow management and use of residues – developing a certification scheme for hedgerow biomass (France)**

The hedgerow certification scheme aims to address two sets of concerns: the need for the sustainable management of hedgerows; and the lack of valorisation of hedge wood for farmers. The scheme is intended to be participative and to lead to multi-actor governance. A digital cartography tool will ensure traceability of the hedge wood and assist land owners in the sustainable management of the hedgerows. The scheme is supported by private, national and European funding (EAFRD). It should lead to increased availability of sustainable biomass resources from agricultural land management for use in both the bioenergy and materials sectors.

The scheme is intended to be national but was initiated in three regions: Normandy, Brittany and Pays de la Loire. It originated as a contribution to the national agroforestry development plan which was launched in December 2015 by the French Ministry of Agriculture. The project will be officially introduced to the Ministries of Ecology and Agriculture in June 2019 and the first certified wood is expected in December 2019. Four 'pilot' organisations operate at regional level (one from Normandy, two from Brittany and one from Pays de la Loire). Their role is to identify and bring together interested stakeholders and farmers willing to participate in the project. They play a key role as they make the link between farmers and operators further along the value chain.

This project demonstrates a possible approach to deliver a consistent standard for residual products that simultaneously protects hedgerow biodiversity and valorises biomass material.

 Source: ENRD Project Database, [https://enrd.ec.europa.eu/projects-practice/en?f%5B0%5D=sm\\_enrd\\_eu\\_countries%3AFrance](https://enrd.ec.europa.eu/projects-practice/en?f%5B0%5D=sm_enrd_eu_countries%3AFrance)

### 3. ESTABLISHING A BASELINE FOR COMMUNICATION

The analytical work carried out for the ENRD Thematic Group (TG) on 'Mainstreaming the Bioeconomy' showed a general agreement on the need to clarify the concept of the bioeconomy – not the high-level definition per se, but what it means in the local or regional context it is being applied to and how it can be operationalised to deliver local level, sustainable development.

- ▶ Read more in the briefing '[European rural bioeconomy: policy and tools](#)'

The work of the ENRD TG builds on the assumption that the development of bioeconomy value chains in rural areas can promote employment and economic growth, while preserving eco-systems. In this optic, the key opportunities for the bioeconomy are being explored from the point of view of rural actors – farmers, rural entrepreneurs, rural service providers and workers, other citizens in rural areas – and of rural communities. The key dimensions of possible rural bioeconomies are then those related to (new) rural employment and livelihoods, to increased income and added-value generated and retained in the rural economy, and to healthy environments and ensured sustainable use of rural natural resources. The transition to bioeconomy is understood as a shift to production and consumption patterns that are based on biological and renewable natural resources, and that simultaneously guarantee environmental sustainability and generate new economic opportunities in rural areas.

However, the concept of the bioeconomy is not commonly associated with these aspects nor with the objectives of the EU's and its Member States' Rural Development Policy. The concept seems to be vague, poorly understood, not formally defined in national legislation in some Member States and often confused with other concepts, including organic production or waste management. The awareness-raising task at hand seems to be two-fold: first of all, the concrete opportunities and multiple benefits in shifting to bioeconomy in each specific rural context need to be understood; secondly, the differentiation of bio-based activities and products from 'traditional' ones needs to be clarified using specific tools and approaches.



#### Example 4: public perception of bio-based products

BIOWAYS was a Horizon2020 project supported by the Bio-Based Industries Joint Undertaking that ran from 2016 to 2018. The project focused on raising awareness about the potential for bio-based products and included an online survey around public perceptions of bio-based products (2017). Answers from more than 450 respondents across Europe revealed that consumers generally have a positive impression of bio-based products, but they are often confused as to exactly what being bio-based means. For example, 67 % of respondents expressed a preference for bio-based products and 60 % were aware of potential environmental benefits of using bio-based products. In contrast, however, 51 % considered that information about the benefits of bio-based products is not readily available and 60 % stated that they had never been engaged in information actions relevant to bio-based products and the bioeconomy. Moreover, 40 % were not confident that the use of bio-based products contributes to sustainable economic growth and the creation of new jobs.

 Source: <http://www.bioways.eu>

Understanding the bioeconomy and then communicating and educating about the bioeconomy needs to happen stepwise. Following on from the conception of a circular, sustainable bioeconomy, criteria for support can be defined and tools built to define the environmental, social and economic outcomes desired. Several projects have a permit to operate but this is not a 'bioeconomy qualification', the creation and use of which would be important for wider communication and awareness raising. It was noted that defining the baselines and standards should provide a common basis for both those preparing projects and those making decisions in terms of project support. This would allow Member State Managing Authorities to integrate definitions into programming and provide clear and efficient information for rural stakeholders.



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**Example 5: Slovakia – criteria for the sustainable use of biomass in the regions of Slovakia for programs co-funded by the European Structural and Investment Funds (ESIF) in 2014-2020**

In 2017, Slovakia adopted pilot sustainability criteria for the use of forest and non-forest biomass resources in all projects and programmes co-funded by the European Structural and Investment Funds (ESIF) over 2014-2020. These include projects or programmes enacted in the context of the Operational Program Quality of the Environment (OP KŽP) and the Rural Development Programme of the Slovak Republic (RDP). The Ministry of Environment is in charge of monitoring the fulfilment of such criteria.

The sustainability framework concerns the origin of the biomass feedstocks used, their transportation and distribution and the efficiency of wood biomass energy conversion. Failure to meet one of the criteria is considered a reason for the refusal of the project at stake or the request to return the financial support received in the inception phase. Based on the results of the pilot phase, the criteria will be confirmed or discontinued in the following programming period.

Identifying, rewarding and communicating good and best practices is important to both promote the transition towards a circular, sustainable bioeconomy and raise awareness of the opportunities and products that emerge. Having a set of benchmarks and criteria that determine good practice approaches across the bioeconomy links closely to the need for a baseline ‘bioeconomy qualification’. It is also important in developing and communicating demonstration projects and in differentiating support for ‘good’ bioeconomy projects within project assessment criteria. These are two important tools through which RDPs might support the bioeconomy.

## 4. TOOLS TO SUPPORT AWARENESS-RAISING AND COMMUNICATION

Tools to support awareness-raising and communication about the bioeconomy exist within RDPs and beyond, including in regional development funds. RDP support to build knowledge base and transfer expertise includes support to EIP-AGRI groups, advisory services and LEADER initiatives, including specifically Local Action Groups. Following on from a clear definition of the bioeconomy and associated principles for assessment of good practice and projects, awareness-raising and communication tools can be used to promote the dissemination of best practices across different aspects of the bioeconomy, promote understanding in rural communities of relevant opportunities (based on local resources) and establish consumer understanding of the benefits. Definitions and principles should be built into education at all levels, not simply focusing on knowledge but on skill transfer through vocational training and improving networks, such as through clusters and inter-regional exchanges.



### Example 6: Estonian forest campsites and study trails developed by the Estonian State Forest Management Centre

The Estonian State Forest Management Centre is a profit-making state agency, mostly linked to income from timber sales. It also invests significantly in facilities to support the public function of the state forests in the form of hiking and study trails, camping facilities and forest huts. These investments are intended to provide social benefits in the form of added value from tourism and increased understanding and access to the forest environment. This is intended to increase awareness of forest management and environmental benefits (such as biodiversity) but also promote health (mental and physical) benefits and social inclusion. The investments are supported in part by European Regional Development funding.

 Source: <https://www.rmk.ee/en>

The use of demonstration project examples, that fulfil good practice criteria, is critical in promoting the uptake of novel approaches or solutions in rural areas. For such demonstration projects to provide usable advice, however, they should explain any cultural, environmental or climatic preconditions for success, identify transferable elements of the work, demonstrate how practices could be adapted to differing local conditions, recognise the added value environmental, social and economic associated with successful delivery and place outcomes within the context of wider society goals (e.g. improved waste management). Examples should be tiered to be relevant to different types of farmers reflecting differences in size, expertise and extent of

existing adoption of practices. A common, Europe-wide network of good practices might help those organising demonstrations to tailor the sites visited to farmers needs and local opportunities.

In addition to defining best practice examples, there should be common understanding of best practice tools for assessment. There are established tools including Life Cycle Assessment (LCA), forest-based sustainability tools, emerging Artificial Intelligence (AI)-based assessments and environmental impact assessment approaches required by legislation. However, information is often lacking on the best tools available, when they should be used, how to implement them at best and which are the most appropriate data sources. This can lead to misunderstanding, and a perception that such assessments are overly complex and challenging. Such tools are key to decision support, assessment and ultimately communication of decisions and impacts; hence commonality of understanding is important.

Finally, whatever the tools for communication and awareness-raising used (leaflets, social media, guidance, workshops and lectures), information should be locally relevant and appeal to consumers, decision-makers and rural actors. It should make links between technology, the sustainable resource base and the market to demonstrate opportunity along the value chain.



### Example 7: Facilitating multi-stakeholder dialogue to manage natural resources for biomass cultivation – Wendland-Elbetal bioenergy region

The Wendland-Elbetal pilot bioenergy region (Germany) facilitated the dialogue among different stakeholders along the value chain through soft policy tools such as mapping of species and habitats of conservation interest, advice and communication with farmers and joint selection of objectives (e.g. bees, grassland birds). Farmers and biogas operators played a proactive role in implementing measures to promote wild plants for biogas use by setting aside land and received positive publicity from awareness raising activities. Outcomes were realised by improving the cooperation of the various interest and network groups in the region. Interventions included, for example, wild plant seed mixtures being provided to seed six areas of 1 – 1.5 hectares as an alternative to maize and other crops suitable for biogas generation. The seeds were developed specifically for the project by the state agency for horticulture and vineyards and was funded by the project. The flower strips find enthusiastic supporters, both among biogas plant operators and farmers, as well as citizens.

## 5. NETWORKING TO CONNECT ACTORS AND SHARE KNOWLEDGE

Beyond approaches that look to build specific knowledge and understanding around the bioeconomy or bioeconomy value chains, there is a demonstrated need to increase the role of networks, such as producer associations and federations, networks of specialized regions and innovation actors, or through bioeconomy clusters or the connection of different actors that could play a role in supply chains. Networks can take a variety of forms and can benefit from different supporting tools at the EU level. For example, Horizon2020 research and innovation funding has been used to support a range of different networking initiatives that aim to develop new bioeconomy value chains.



### Example 8: Agro-Cycle – Horizon2020 initiative valorising waste from the agri-food sector.

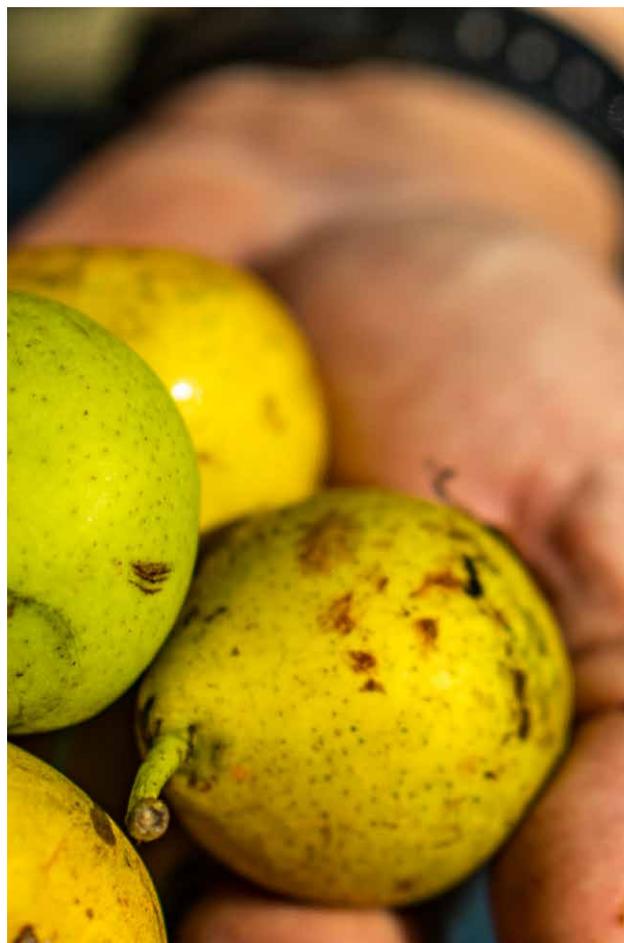
AgroCycle is a Horizon2020 research and innovation project addressing the recycling and valorisation of waste from the agri-food sector. It has a budget of around €8 million (ca. €7 million from the European Commission, ca. €1 million from the Government of The People's Republic of China). Led by the School of Biosystems and Food Engineering at University College Dublin, the consortium of 26 partners comprises partners from eight EU countries, two partners from mainland China and one from Hong Kong. The project takes a holistic approach to understanding and addressing how to make best use of the full range of waste streams associated with the agri-food industry.

The project will deliver the AgroCycle Protocol, a blueprint for achieving sustainable agri-food waste valorisation pathways. The Protocol will address the European policy target of reducing food waste by 50% by 2030 as well as contributing to the wave of change that is occurring in China in relation to sustainability.

 Source: <http://www.agrocycle.eu>

Also noteworthy is the possible role of National Rural Networks in building bridges between national authorities and higher-level bioeconomy strategies and action plans, on the one hand, and local needs, opportunities and initiatives, on the other, to ensure that they are aware of and supportive of each other.

Cross-border networking to upscale and connect bioeconomy initiatives across the EU (and globally) is also important, particularly to address the challenges of dispersed resource availabilities and markets that will enable the bioeconomy to develop sustainably.



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### Example 9: bio-based clustering across EU Member States

3BI (Brokering Bio-Based Innovation) is a strategic European partnership that builds on the complementary strengths of four regional innovation clusters: Biobased Delta, the BioEconomy Cluster (Germany), BioVale and Industries & Agro Resources (IAR). All four clusters use biorefining to convert biological resources into materials, chemicals, fuels, food and feed. They intend to work together in the research, development and deployment of novel high-tech approaches to the conversion of biomass and waste streams into value-added products and applications.

 Source: <http://www.3bi-intercluster.org/home/>



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Other clusters and networks have been operationalised through EIP AGRI initiatives, national and regional funds, through ERDF and Interreg support, as well as private initiatives. Capitalising on these synergies between funds will be important to ensure the long-term economic sustainability of bioeconomy value chains, enabling greater networking and bringing together actors who may otherwise not normally meet.

Whereas several EU-funded platforms and networks develop and coordinate awareness raising approaches towards

different bioeconomy stakeholders, including those in rural areas, the ENRD Thematic Group seems to be currently the only initiative actively highlighting the synergy between the Rural Development Policy and its instruments and the transition to the bioeconomy. This perspective is timely as EU Member States design their Strategic Plans for the Common Agricultural Policy for the post-2020 programming period. The networks involved in the ENRD thematic work are in a key position to disseminate the strategic opportunity of using CAP tools to promote bioeconomy value chains that benefit the development of rural areas.

### FOR FURTHER INFORMATION

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