

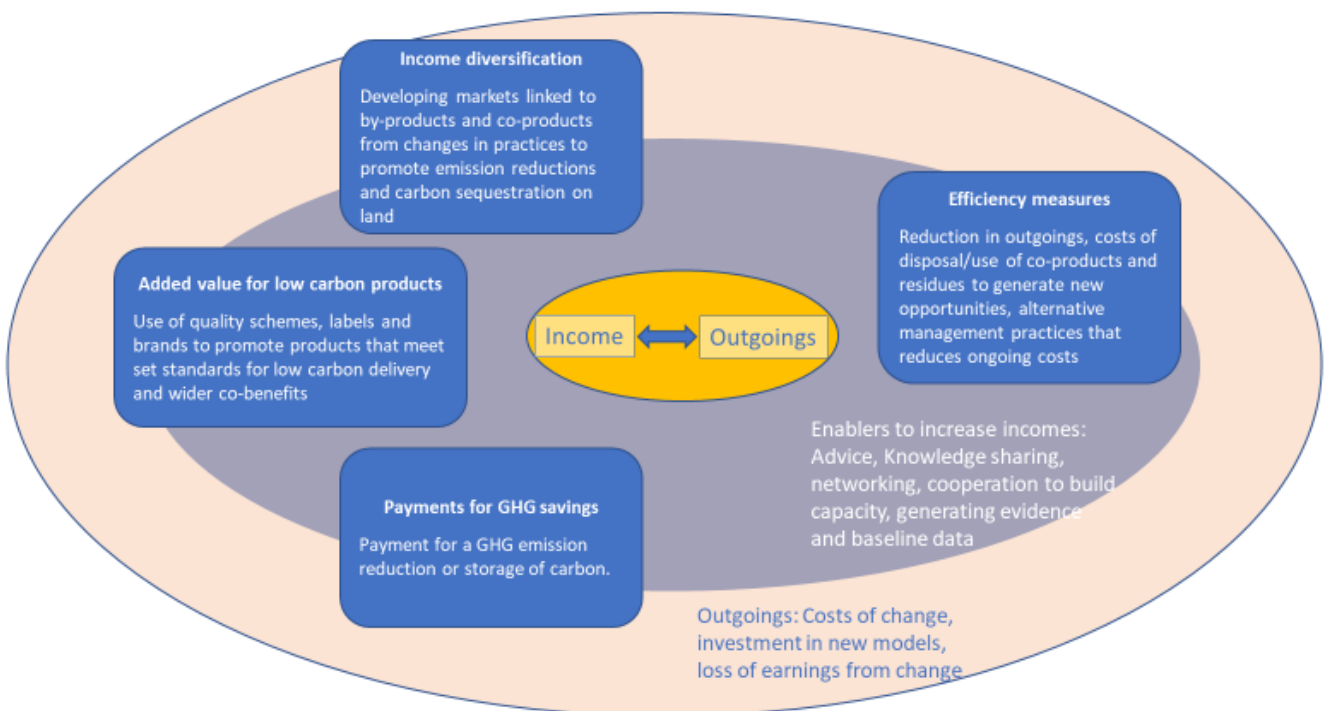
ENRD – Thematic Group on Bioeconomy and Climate Action in rural areas
Factsheet 3 –The Economic Value of Climate Action within the Rural Bioeconomy

Draft working document

A sustainable, circular bioeconomy that promotes climate action has an important role in supporting the development of green jobs in rural areas, stimulating innovation and a just transition away from a fossil based society. To achieve this, it must be possible for rural actors in the bioeconomy to add value, grow businesses and benefit from this change. This factsheet explores the types of opportunities for delivering economic value through a bioeconomy that contributes to climate change mitigation. It reflects on experiences of the Rural Development Programmes in supporting these opportunities.

The bioeconomy has the potential to mitigate climate change through emission reductions and the capturing of carbon in soils, biomass and, ultimately, in bio-based products. The development of value chains that promote greater resource efficiency, circular use of materials and storage of carbon also offer rural areas new opportunities to generate economic value. Recognition of the economic benefits is a key incentive to upscale sustainable and climate friendly practices that are necessary to achieve the objectives set out in the European Green Deal¹.

Economic opportunities resulting from pursuing climate action within the rural bioeconomy



¹ https://ec.europa.eu/info/files/communication-european-green-deal_en

Economic benefits linked to climate mitigating activities within the rural bioeconomy

| Economic benefits | Description | Example | Links with Rural Development interventions |
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| <p>Cost efficiency linked to improved resource efficiency (farms, rural enterprises)</p> | <p>Producing biomass with less farming inputs, increasing the energy efficiency in all the steps of the bioeconomy value chains, the cascading use and re-use of by-products and minimising wastes, all contribute to reducing greenhouse gas emissions as well as cost savings, resulting in increased profitability.</p> | <p>A rural enterprise producing wooden furniture in Poland, INWEST-CAD, used RDP support to invest in solar panels, in a modern wood milling machine, and in equipment to produce energy pellets from sawdust and wood waste. The savings resulting from increased resource efficiency and reduced electricity and heating costs, resulting in increased profitability. Currently, the company is self-sufficient in energy, and the excess electricity it produces can be resold. It has been able to recruit two new employees.</p> <p>An EIP-Agri Operational Group in Lithuania² tested the use of micro-organisms to improve soil structure and its quality and to reduce nitrogen compounds emissions, while maintaining the productivity of plants. The project showed that changes in farming practices could lead to important profitability increases on farms. Conventional cereal farms that applied the soil improvement techniques tested by the project while reducing nitrogen fertilizers by 50% saw their profit margin increase from 9 Eur/ha to 180 Eur/ha. Also other types of farms involved in the project demonstrated significant increases in both soil fertility and profitability.</p> | <p>Advice, knowledge sharing and cooperation are key to upscale the use of resource efficient practices in the agricultural sector in particular. RDP investment support for resource efficient machinery and equipment can have long-lasting effects on rural enterprises' profitability. Investments in energy efficiency and renewable energy production on-farm, by rural enterprises or rural communities, help reduce energy costs, keep money in the local economy, reduce vulnerability to changes in prices of energy and, in some cases, offer an additional income source.</p> |
| <p>Supporting climate responsible land management by maximising the value of co-products and residues</p> | <p>A set of specific actions and priorities can be developed based on local and regional opportunities to reduce emissions and capture more carbon. This might include alternative land management or landscape management practices that result in new material sources or sustainable sources of materials.</p> | <p>The Consorzio Italiano Biogas (CIB) developed a concept coined "BiogasDoneRight"³ that can result in economic and environmental added value in multiple ways, beyond biogas production. It includes a change in land management to promote crop rotation combined with year round soil cover, a transition to minimum tillage, the use of digestate in place of chemical fertilisers, precision farming to increase the efficiency of digestate use, and the introduction of leguminous plants to complement digestate fertilisation. The economic benefits are</p> | <p>Exploiting all opportunities for climate change mitigation and economic benefits requires tailoring the actions to local conditions and to each actor's needs and resources. Hence, feasible ideas for change often originate among the practitioners themselves, which highlights the importance of networks and knowledge exchange. Upscaling of good practices can</p> |

² <https://ec.europa.eu/eip/agriculture/en/find-connect/projects/dirvos-struktūros-ir-kokybės-gerinimas-naudojant>

³ <https://www.youtube.com/watch?v=Gm-Talwi82M>

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| | | a combination of biomethane production and its co-products digestate and heat, and cuts in costs as a result of reductions in till, the need for chemical fertilisers and heat demand. In the long term, benefits include improved soil fertility and resilience, due to increased soil organic carbon content and reduction in soil erosion. The cover crops used may also offer an additional source of income. ⁴ | also be promoted using tools such as quality schemes (either creating new schemes, or adapting and recognising existing ones) to qualify for a premium for taking certain actions. The CAP offers broad opportunities to support more climate effective land and resource management practices but a coordinated strategy is necessary to optimise their adoption ⁵ . |
| Increasing added value throughout bioeconomy value chains | Supply chain routes to promote climate transition can be bottom-up or involve top-down support from actors in the chain. This could result in reducing the overall carbon footprint of the products delivered by the chain, or supporting alternative incomes within the bioeconomy that deliver additional climate benefits i.e. generating new potential chains and opportunities. | In Switzerland, the Coop supermarket has been encouraging farmers in its supply chain to plant trees on their land to deliver GHG emission reductions ⁶ . The emission reductions per tree are calculated to quantify Coop's contribution. However, while the purpose is emission reductions, the scheme specifically provides support and advice to deliver 'wild fruit trees' and timber varieties of sufficient quality to be used as material at the end of their productive life. This is intended to support the diversification of activities and income for farms, as well as promoting the landscape and other co-benefits linked to biodiversity, like water management and climate adaptation. The support from the Coop can be combined with direct payments from the government for existing trees. | CAP support can be used to complement supply chain routes by providing advice, support and knowledge sharing. It can also bring together actors in networks to cooperate and develop such approaches. These schemes may operate along a supply chain or at regional level to promote more sustainable products and supply chains. Developing quality standards and labels is also important. |
| Supporting the development of market-based schemes to pay for emission reductions | If emission reductions are achieved and can be verified, a reward proportionate to the emissions saved could be an option. Public or private actors would provide result-based payments or credits as a reward for complying with corporate social responsibility and delivering emission reductions. | In France, a scheme for certifying hedgerow management ⁷ has been developed with RDP support to promote the sustainable management of hedgerows and the sustainable use of residue wood harvested from them. The scheme was intended to support the valorisation of hedgerow management to improve local biodiversity and land management and reach climate goals. In so doing, it provided sustainably sourced material to the bioeconomy. Building on the scheme and the knowledge gained regarding the appropriate management of hedgerows in the regions involved, the approach is being transformed into a mechanism by which farms should be able to receive credits | It may be challenging to run full market-based schemes within the CAP framework, although results-based payments ⁹ are one route of support. However, beyond specific payments the CAP plays a key role in helping to set the baseline for additional efforts. It provides support, advice and knowledge sharing which are critical to delivering the changes in practice; it builds networks of actors who can work together to develop trusted relationships and |

⁴ See a biogas farmer's presentation at: https://enrd.ec.europa.eu/sites/enrd/files/tg3_bioeconomy_smartgas_borgia.pdf

⁵ See ENRD briefing on soil carbon and climate opportunities within the CAP Strategic Plans

https://enrd.ec.europa.eu/sites/enrd/files/enrd_publications/bioeconomy_briefing_soil-carbon-lessons-learnt-for-caps.pdf

⁶ <https://www.myclimate.org/information/partners-in-climate-protection/partner-detail/coop-co2-avoidance-in-the-supply-chain/>

⁷ https://enrd.ec.europa.eu/projects-practice/certification-label-sustainable-management-hedgerows_en

⁹ https://enrd.ec.europa.eu/sites/enrd/files/tg_water-soil_report-rbps.pdf

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| | | for emission reductions generated under the French Label Bas Carbone ⁸ . | schemes that reflect regional baselines and conditions; and it provides the schemes that develop the data and knowledge regarding practices, their effective monitoring and their GHG benefits. |
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The content of this document does not represent the views of the European Commission.

⁸ <https://www.ecologique-solidaire.gouv.fr/label-bas-carbone>