European Network for
Rural Development

EN

PROJECTS BROCHURE

The European Agricultural Fund for Rural Development

RURAL INSPIRATION AWARDS 2020

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European Network for
Rural Development

European Network for Rural Development

The European Network for Rural Development (ENRD) is the hub that connects rural development stakeholders throughout the European Union (EU). The ENRD contributes to the effective implementation of Member States' Rural Development Programmes (RDPs) by generating and sharing knowledge, as well as through facilitating information exchange and cooperation across rural Europe.

Each Member State has established a National Rural Network (NRN) that brings together the organisations and administrations involved in rural development. At EU level, the ENRD supports the networking of these NRNs, national administrations and European organisations.

Find out more on the *ENRD website* (https://enrd.ec.europa.eu).

The European Agricultural Fund for Rural Development (EAFRD)

The EAFRD Project Examples brochure forms part of a series of ENRD publications that help encourage information exchange. Each edition of the brochure features different types of projects that have received RDP co-finance from the EAFRD.

Past editions of the EAFRD Projects Brochure can be downloaded from the publications section of the ENRD website [1]. The ENRD collection of good projects and practices [2] contains many additional examples of EAFRD assistance to rural development initiatives.

[1] https://enrd.ec.europa.eu/publications/search

[2] https://enrd.ec.europa.eu/projects-practice_en

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Introduction

The Rural Inspiration Awards (RIA) are the ENRD's EU-wide rural development good practice competition celebrating inspiring projects that use funding from the European Agricultural Fund for Rural Development (EAFRD) to contribute to rural development policy objectives. The competition is about increasing the visibility of individual projects and of the role played by rural development policy, while also promoting knowledge transfer and networking among rural development actors.

The RIA 2020 edition celebrated EAFRD-funded initiatives that are promoting rural climate action and the bioeconomy. These topics, which have been the focus of a dedicated ENRD Thematic Group,[1] are a key part of EU rural development policy priorities and are at the forefront of the wider EU and global policy agenda.

In 2019, the European Commission launched the European Green Deal,[2] a roadmap for **making the EU economy sustainable** by turning climate and environmental challenges into opportunities across all policy areas while at the same time making the transition just and inclusive for all. Various EU policy initiatives contributing to the Green Deal, notably the Farm-to-Fork Strategy[3], the EU Biodiversity Strategy for 2030[4] and the Circular Economy Action Plan[5], are relevant for the agri-food sector and rural areas.

Climate action is also at the heart of the EU efforts to secure a 'green and digital recovery' from the COVID-19 pandemic, which acknowledges the vital role of farmers and rural areas in the green transition.[6]

In this context, the RIA 2020 were an opportunity to show how agriculture, forestry and rural communities are adopting and developing circular, low-carbon and sustainable practices, and how support from the EAFRD is helping them on this path.

In response to the call launched by the ENRD in December 2019, National Rural Networks (NRNs) from 18 EU countries submitted 71 applications across the three Award categories: Climate Change Mitigation (30 applications), Bioeconomy (23) and Climate Change Adaptation (18).

The entries were first screened by the ENRD Contact Point with external support, resulting in a shortlist of 15 finalists. These were then evaluated by an expert jury which included six experts from a mix of rural development organisations: the World Wildlife Fund (WWF), the Confederation of European Forest Owners (CEPF), Copa-Cogeca as well as the European Commission – DG Agriculture and Rural Development, and the ENRD Contact Point itself.

(1) https://enrd.ec.europa.eu/enrd-thematic-work/greening-rural-economy/bioeconomy_en

(2) https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

(3) https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/farm-fork_en

(4) https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en

(5) https://ec.europa.eu/environment/circular-economy/index_en.htm

(6) European Commission (2020) Europe's moment: Repair and Prepare for the Next Generation, COM/2020/456 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590732521013&uri=COM:2020:456:FIN

The jury selected the three winners (one per each RIA 2020 category) based on the following criteria:

- Direct benefits, i.e. the potential or actual economic, environmental/climate and societal improvements generated by the initiative;
- Networking value, i.e. the cooperation of different stakeholders and/or the creation of new networking/cooperation opportunities as a result of the initiative;
- Transferability/replicability potential, i.e. the potential or actual replication of an initiative in other European areas facing similar issues;
- Synergies with other EU policies and funding tools than the EAFRD, contribution to more than one EU Rural Development policy objective and/or to other policy objectives;
- Innovation, i.e. the use of a brand-new technology, methodology or approach created from scratch by the initiative or never applied before at EU, national, regional or local level; and
- Inspirational value, a criterion based on the experts' experience in rural development.

In parallel to the technical evaluation of the jury, between 17 and 25 June 2020 the general public had the opportunity to vote online for their favourite project among the finalists. Following a social media campaign, over 6 700 people cast their vote, to select the winner of the Popular Vote category.

On 25 June 2020 the European Commissioner for Agriculture, Janusz Wojciechowski, announced the four winners during an online ceremony.[7]

For the second year in a row, the RIA competition boosted the visibility both of the shortlisted projects and of the contribution of rural development policy, at home and internationally, while helping the Support Units of the NRNs improve their good practice collection process and their connection with the project holders. Hopefully, these positive stories can inspire other rural development actors to actively contribute to Europe's long-term sustainable development – one with 'a green heart'.

This edition of the EAFRD Projects Brochure provides additional visibility to the RIA 2020 finalists. It highlights the relevance of each project to rural development and other EU policy objectives. In addition, by highlighting the relevance of the projects to the European Green Deal goals, the publication supports the work of the current ENRD Thematic Group on the European Green Deal in rural areas.[8]

The ENRD Contact Point Team

(7) The recording of the Awards ceremony is available at https://enrd.ec.europa.eu/news-events/events/rural-inspiration-awards-2020_en

(8) https://enrd.ec.europa.eu/enrd-thematic-work/greening-rural-economy/european-green-deal-rural-areas_en

1. Bioeconomy

This RIA 2020 category recognised EAFRD-funded projects and initiatives that encompass the production of renewable biological resources and the conversion of these resources and waste streams into value-added products, including food, feed, bio-based products and bio-energy.

The bioeconomy can also contribute to climate action through the replacement of carbon intensive and fossil resources, the reduction of greenhouse gas (GHG) emissions (compared to current levels), or the sequestration and storage of carbon in soils or biomass or in products derived from them. A sustainable, circular bioeconomy can support the transition towards climate neutrality across the economy and can contribute to several of the goals set out in the European Green Deal.

The bioeconomy has a special relevance for rural areas, where biological resources such as animals, plants, micro-organisms and derived biomass, including organic waste, are abundant. Across Europe, Rural Development Programmes (RDPs) are helping set up, develop and maintain sustainable bioeconomy value chains.

RDPs offer a wealth of opportunities for land-based activities to minimise waste and optimise the use of natural resources.

On page 5 you can read how a Belgian farm developed a cultivation system which allows strawberry plants to be grown in trays above the ground, reducing the use of water for irrigation by 80%.

When a bioeconomy initiative embraces the principles of circularity, it can lead to a zero-waste project. The approach is challenging, but not impossible – and can also be economically profitable.

A family farm in Slovenia developed zero-waste processing methods that valorise all by-products of grapes in a sustainable and fully circular way (page 6).

Bioeconomy projects that turn waste into new added-value products can also generate wider benefits for the local economy and community.

A Finnish project developed a wintertime harvesting chain for the common reed, previously considered as hazardous waste. The initiative generated new products, business opportunities and benefits for the community (page 7).

Brickz is a natural fertiliser developed in the Netherlands and made from local and regional biomass materials. It combines soil improvement with important financial savings for nature protection organisations (page 9).

Societal appreciation of the benefits of the bioeconomy is a driver of action. Communication and awareness raising activities targeting the general public help ensure that sustainable practices can be developed and replicated elsewhere.

In the Vielfalter National Park (Austria), LEADER was used to encourage sustainable entrepreneurship through a business idea competition (page 10).

© Järviruoko

Elevating Belgian strawberries

A strawberry producing farm in Flanders (Belgium) used EAFRD funding to introduce elevated growing trays and recycle irrigation water and fertilisers.

Kris Deguffroy has been growing strawberries since 1995 on his farm in Oostkamp, near Bruges (Belgium). The farm is now specialised in strawberry production, with about 250 tonnes of strawberries produced each year. Half of the strawberry plants grown are subsequently planted out on the farm while the rest are sold.

The classical strawberry production system, with plant growing trays at ground level, generates challenges. Excess irrigation water is generally wasted. The risk of infestation by soil pathogens is substantially increased, requiring a much greater variety and use of fertilisers and plant protection products. Plant density is also much lower as work path spaces are needed to treat the plants.

To address these issues and increase its strawberry production, the farmer decided to install elevated growing trays, using funding from Measure 4 (Investments in physical assets) of the Flemish RDP.

The elevated tray system consists of trays with plant beds that slide over rails supported by IPN profiles (metal bars). Spray pipes for water and fertilisers are installed between the IPN profiles. A mobile platform moves above the plants and performs several automated tasks, such as moving the trays on the rails, cutting the plants, and removing branches.

Excess irrigation water is collected in a shallow pit under the trays and directed to a slow sand filter for disinfection, so it can be fully re-used for irrigation.

The project created an entirely closed system to recycle the water and fertilisers used when growing strawberry plants in trays. The overall water use has been reduced by 80%.

Thanks to the elevated trays the plants are less sensitive to diseases brought by soil pathogens. The system is more sustainable with regards to the use of external inputs, such as plant protection products and fertilisers.

Space is now used more efficiently and plant density has increased from 35 to 72 plants per m^2. This has increased both the quantity of strawberries and plants sold.

Automation of some tasks has made work less physically demanding and workers are easier to recruit and retain. The farm's competitiveness has increased.

Thanks to the closed system, polluted water containing nitrogen and phosphorus no longer ends up in surface water and less water is used. The use of plant protection products has also decreased. Thus, the project has relevance to the implementation of the Water Framework Directive as well as contributing to several targets put forward by the Farm to Fork Strategy and the EU Biodiversity Strategy for 2030.

Project Name	**Aardbeitrayveld – Elevated trays for strawberries**
Type of beneficiary	Private company
Period	2017-2018
Funding	• Total budget: € 500 000 • EAFRD contribution: € 100 000 • National/regional contribution: € 100 000 • Private contribution: € 300 000
RDP Measure	M04 – Investments in physical assets
Further information	https://enrd.ec.europa.eu/projects-practice/aardbeitrayveld-elevated-trays-strawberries_en
Contact	Kris.deguffroy@telenet.be

© Kris Deguffroy

This project introduced elevated growing trays for strawberry plants, that slide over rails. The project promotes a more efficient use of irrigation water and fertilisers.

The rebirth of Slovenian grapes

A family farm used EAFRD funding to develop zero-waste processing methods to valorise all the by-products of grapes in a sustainable and fully circular way.

Hiša vin Kokol (Kokol House of Wine) is a family farm committed to environmentally sound agriculture, aiming to strike a balance between food production and the protection of the environment.

The farm cultivates 2.7 ha of vineyards in the Podravje region of Slovenia in an environmentally sound manner and processes grapes into wine. In line with the principles of circularity and resource efficiency, the farm explored the potential of refining all the 'waste' from its wine production into new commercial products.

Funding from Measure 10 – Agri-environment-climate of the Slovenian RDP allowed the farm to identify the best way to dry, clean and sort grape seed suitable for further processing.

The pressing of grape seeds results in a high-quality oil that can be used for human nutrition and in cosmetics thanks to its powerful antioxidant properties. The residual seeds from the press are dried and then ground into a flour that is used as food supplement or as feed for livestock. Seedless grape pomace is used as a natural fertiliser for the vineyards.

The farm's vineyards are cultivated totally free of herbicides and with minimal use of insecticides. Approximately 1 000 kg of grape seeds are harvested and processed each year, a rise from 300 kg in 2017 and 500 kg in 2018. The grape seeds, grape seed oil and flour products have been sold out each year, accounting for approximately 10% of the business turnover.

The farm developed a logo, a label and other promotional materials, engaged in the marketing and promotion of the new products, set up a farm shop, a website and a Facebook page and developed an after-sales service. This boosted the sale of the new products and positioned the Kokol House of Wine as an innovative, sustainable and high-quality wine producer.

The overwhelmingly positive response from those buying the new products has boosted the further development of the farm's activities, including investing in a new store, new equipment and new business premises for organising activities such as health-related workshops.

This Slovenian family farm is committed to environmentally sound agriculture. EAFRD funding was used to develop zero-waste processing methods to valorise all the by-products of grapes in a sustainable and fully circular way.

© Hiša Vin Kokol

The farm engaged in the marketing and promotion of new products based on 'waste' from its wine production.

The farm has become a business success story which is open to collaborations with local and regional winemakers.

The project contributes to the objectives of European agricultural policy, particularly in terms of environmentally friendly farming, the circular economy and the creation of value-added products from 'waste' materials. It also contributes to the sustainable development and management of the countryside and natural landscape, as well as preserving rural jobs, encouraging local production, processing and sales and increasing the farm's income and boosting the local economy.

Project Name	**Hiša vin Kokol (Rebirth of vine / grapes)**
Type of beneficiary	Private company
Period	2015-2018
Funding	• Total budget: €6676 • EAFRD contribution: €2941 • National/regional contribution: €735 • Private contribution: €3000
RDP Measure	M10 – Agri-environment-climate
Further info	• https://enrd.ec.europa.eu/projects-practice/hisa-vin-kokol-rebirth-vine-grapes_en • http://www.hisavinkokol.com
Contact	hisavin.kokol@gmail.com

Finnish common reed: from waste to resource

EAFRD funding enabled winter harvesting of the common reed and the development of products based on this resource, previously considered as waste.

While the common reed is used in some countries for roofs and as insulation material for buildings, in Finland it has long been considered a waste problem and there has been little entrepreneurial activity around it. However, the rapid growth of reed beds in recent years as a result of the eutrophication of lakes and bays (algae overgrowth due to pollution from nutrients) has attracted the attention of environmental and bioeconomy organisations.

In 2015, farmer Matti Järvinen decided to use EAFRD support to test the winter mowing of reeds and to identify suitable uses for this material. He led a new grouping that became a cooperative with ten members. They used support from Measure 7 (Basic services and village renewal) of the Finnish Mainland RDP to develop new harvesting equipment suitable for winter mowing on ice.

The mowing was tested with local entrepreneurs on Lake Urajärvi in Litti (southern Finland), on the water area managed by the project holder.

© Järviruoko

The project raised awareness of the potential uses of the common reed, previously considered as waste.

Once harvested, the common reed is transported to a warehouse near the shore. The best reeds are sorted into bundles to be used for roofs, garden sheds, bedding for pigs and hutches, handicraft materials

© Järviruoko

This EAFRD-funded project revealed the positive effects of winter mowing on the environment. Water flow improves, methane emissions from the rotting biomass decrease and the reed bed grows less densely. This benefits underwater plants and water-insect population.

and construction products. The remainder is baled or shredded for use in drainage or water filtering, where reed filters were found to retain solids, phosphorus and nitrogen.

The project raised awareness of the potential uses of the common reed through publications, communication materials, open workshops and the exhibition of products in the nearby Kettumäki National Park in Kouvola, which is visited by some 30 000 tourists a year.

During the first winter harvest, some of the voluntary project staff involved were asylum seekers. The project helped them discover Finland's nature and population and supported their social inclusion in the community.

The project revealed the positive effects of winter mowing on the environment. Water flow improves, methane emissions from the rotting biomass decrease and the reed bed grows less densely. This lets more light filter in, for the benefit of underwater plants and water-insect population, generating more food for water birds.

The members of the cooperative established by the project have continued developing the use and commercialisation of the reed since the project ended.

The project demonstrates that EU support facilitates the development of sustainable methods for rural development and delivers environmental benefits. The involvement of several project partners made the project highly beneficial. The resulting improved habitats for birds, as well as using mown reed to retain nutrient leakages, contribute to the targets set out in the EU Biodiversity Strategy for 2030.

Project Name	**Järviruoko – Developing the harvesting and use of the common reed**
Type of beneficiary	Individual farmer
Period	2015-2019
Funding	• Total budget: € 141 391 • EAFRD contribution: € 47 365 • National/regional contribution: € 42 854 • Private contribution: € 28 617 • Other: € 22 555
RDP Measure	M07 – Basic services and village renewal
Further info	• https://enrd.ec.europa.eu/projects-practice/jarviruoko-developing-harvesting-and-use-common-reed_en • https://www.lyottila.fi/yhdistykset/lyottilan_yhteisen_kalaveden_osa/jarviruo-on-korjuuketjun-ja-hyot/
Contact	matti.a.jarvinen@hotmail.com

Brickz: natural soil improver from the Netherlands

An EIP-AGRI Operational Group used biomass residues to produce a natural fertiliser which is improving soil quality.

Sediment deposited by rivers and streams and residues from mowing in nature areas and along roadsides are discarded as waste flows, with nature conservation organisations paying to dispose of them. Using this biomass to fertilise the soil could help restore ecosystems and potentially save more than € 30 million per year in disposal costs at the national level.

Based on these considerations, an EIP-AGRI Operational Group (OG) was set up via Measure 16 – Cooperation of the Dutch RDP. The OG project aimed to launch Brickz, an innovative fertiliser, on the market and to set up a new regional chain of producers and customers.

Brickz is a fertiliser in block form, made from local and regional biomass materials (river sediment, turf and grass clippings, pruning waste), which are naturally rich in organic matter and spore elements. It is actively enriched with healthy soil fungi, mycorrhiza and nematodes which help make Brickz a sustainable alternative to artificial fertilisers. Brickz also helps store carbon for decades, because the residue material is used for new tree plantation to foster future carbon storage.

Trees felled for landscape management reasons are collected for free and used for making Brickz. Thanks to this system, nature conservation organisations have already saved approximately € 2 million in disposal costs in two years.

Brickz is also used by tree nurseries to grow young trees that in turn are bought by the nature conservation organisations to plant them in areas to be reforested, creating a closed nutrient cycle. As trees that grow on Brickz grow faster than other trees, more carbon is stored in a shorter period.

Brickz also contains added nematodes that naturally control plant pests. The use of Brickz will lead to higher yields for tree nurseries, partly because fewer trees will die due to the May-beetle grub.

The project has proved that this natural fertiliser is helping reverse the decline in soil quality across agricultural soils and forests. It is also improving the water retention capacity of soils and reducing the leaching of nitrates and the use of pesticides.

© Brickz

The natural fertiliser Brickz is also used by tree nurseries to grow young trees that in turn are bought by Dutch nature conservation organisations to plant them in areas to be reforested, creating a closed nutrient cycle.

© Brickz

Different variants of Brickz are produced to fit different agricultural and forestry needs.

Brickz are now being manufactured and sold for €200 per tonne. Different variants of Brickz are produced to fit different agricultural and forestry needs and considerable growth across the Netherlands is anticipated. The project is developing a business plan and establishing local and regional agreements for Brickz production, sale and use. The product has obtained a European patent.

The project highlights the importance of a circular economy, with mutual benefits for the main partners, namely tree nurseries and nature conservation organisations. The project contributes to EU objectives to improve soil health and biodiversity, such as those included in the EU Biodiversity Strategy for 2030.

Project Name	**Brickz – Natural Soil Improver**
Type of beneficiary	EIP-AGRI Operational Group
Period	2018-2021
Funding	• Total budget: €278456 • EAFRD contribution: €143728 • National/regional contribution: €143728
RDP Measure	M16 – Cooperation
Further info	• https://enrd.ec.europa.eu/projects-practice/brickz-natural-soil-improver_en • www.tripleee.nl/product/brickz/
Contact	tom@tripleee.nl

Kalkalpen National Park start-up challenge

In rural Austria, a LEADER-supported competition promoted sustainable entrepreneurship in a National Park.

The mountain forests between the rivers Enns and Steyr represent the largest connected forest area in central Austria. In its centre is the Kalkalpen National Park which is a UNESCO World Heritage site of beech forest. Together with the other neighbouring protected areas it is considered a hotspot of biodiversity and a central part of Austria's natural heritage. It hosts approximately 350000 visitors per year who attend recreational activities and agriculture- and forestry-related events.

The Regional Forum Steyr Kirchdorf, the LEADER Local Action Group (LAG) Nationalpark Kalkalpen and the neighbouring LAG Traunviertler Alpenvorland decided to promote sustainable entrepreneurship in the park using funding from Measure 19 – LEADER/CLLD of the Austrian RDP.

The project 'Vielfalter' sought to promote new forms of ecologically sustainable entrepreneurship in the National Park through a competition for innovative business ideas in tourism, health, agriculture and forestry.

© Sieghartsleitner

This project promoted new forms of ecologically sustainable entrepreneurship in an Austrian National Park.

The competition was designed in collaboration with local partners, the Chamber of Commerce and the 'Friends of the National Park' association. A call for

innovative business ideas across different categories (idea, start-up or consolidation) was launched and received 55 applications.

Eight winners received awards for their business ideas, which range from promoting biodiversity by restoring and conserving alpine meadows to producing CO_2 neutral kindling wood; from developing and manufacturing sustainable skis and snowboards to commercialising meat from wild game as a premium brand.

The winners received tailor-made support: prize money, mentoring, participation in an accelerator programme and/or assistance with public relations over a fixed period of time. This helped bring their ideas to business maturity and establish new, sustainable businesses in line with the National Park's philosophy: pursuing a positive impact on both biodiversity and the bioeconomy.

Public events throughout the project period increased the public's appreciation of renewable natural resources and their understanding of the importance of protecting the National Park through entrepreneurship. 'Vielfarter' is an example of how to promote economically viable ecosystem services that deliver on the objectives of the EU Biodiversity Strategy to 2030.

The project included a significant networking effort, involving important contributors to the development of the bioeconomy, including the Upper Austrian National Park Authority, the Chamber of Commerce, the Scheuch Foundation, sponsors from the regional economy, the Upper Austrian Regional Authority and the Impact Hub Vienna.

The experiences and lessons learned from the project were analysed and disseminated and are now available to inspire other regions.

The project introduced an original bottom-up approach to involve stakeholders, which the Scheuch Foundation intends to reproduce in other regions. In the Kalkalpen National Park Region, the format is to be further developed and applied again under LEADER in the next EU programming period, with an increased focus on agriculture and regional food.

Project Name	**Vielfalter (Kalkalpen National Park Start-Up Challenge)**
Type of beneficiary	Local Action Groups
Period	2019-2021
Funding	• Total budget: €85 608 • EAFRD contribution: €41 092 • National/regional contribution: €10 273 • Private contribution: €34 243
RDP Measure	M19 – LEADER/CLLD
Further info	• https://enrd.ec.europa.eu/projects-practice/vielfalter-kalkalpen-national-park-start-challenge_en • http://der-vielfalter.at • www.facebook.com/regio3.at
Contact	felix.foessleitner@leader-kalkalpen.at

© LAG Nationalpark Kalkalpen

The eight winners awarded by the project received tailor-made support to bring their ideas to business maturity. These new, sustainable businesses pursue a positive impact on both biodiversity and the bioeconomy.

2. Climate change mitigation

This RIA 2020 category recognised inspiring EAFRD-funded projects and initiatives aiming at reducing greenhouse gas emissions or removing carbon dioxide from the atmosphere.

Climate change mitigation initiatives aim to make the impacts of climate change less severe by stabilising the concentrations of greenhouse gases (GHGs) in the atmosphere. This is achieved mainly by reducing emissions and increasing removals by GHG sinks.

The agricultural sector contributes significantly to global emissions of non-CO_2 GHGs and it accounts for approximately 10% of the EU's total GHG emissions,[1] although with significant variation between Member States. Key sources include agricultural soils, linked to the mineralisation of nitrogen fertilisers and the livestock sector, related in particular to manure management.

Agriculture, forestry and rural areas, however, can also contribute to mitigating the effects of climate change through land management practices that reduce GHG emissions, increase GHG sinks and maximise energy and resource efficiency. Changes in practices and new approaches in the primary sector and rural communities in general can also make valuable contributions to mitigation efforts.

In Slovenia, EAFRD funding is helping organic and biodynamic farms adopt practices that enhance soil quality, reduce pollution and maximise their soil's capacity to act as a carbon sink (page 13).

Key elements to mainstream climate action in agriculture include raising awareness and exchanging knowledge among individual farmers.

Thanks to the Klimatkollen project (page 14), Swedish farmers can benefit from tailor-made advice on climate change mitigation actions on their farms.

The functional collaboration among all rural development stakeholders (including farmers, researchers, advisors, local authorities, policy makers, processing companies, retailers and consumers) is essential to mainstream climate smart practices at all levels. These can ultimately have positive impacts on rural areas and communities at large.

In Austria, the FUMObil project is developing a regional sustainable transport and mobility scheme through coordinated data analysis, multi-actor engagement and innovative solutions to improve inclusiveness (page 16).

Rural Development Programmes (RDPs) can contribute to scaling up awareness raising and capacity building activities, to the benefit of whole rural communities.

The LEADER-funded project ENFOCC is building the capacity of Spanish rural communities to transition towards locally-produced renewable energy (page 17).

Finnish rural communities are coming together thanks to EAFRD support to develop locally suited, innovative actions to mitigate climate change (page 18).

© Klimatkollen

(1) European Environment Agency (2020) *Annual European Union greenhouse gas inventory 1990–2018 and inventory report 2020*, https://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2020

Biodynamic agriculture in Slovenia

Organic and biodynamic farms in Slovenia used EAFRD support to jointly acquire no-till cultivation equipment and adopt agricultural practices that promote optimal soil quality.

Biodynamic farming methods[2] increase the proportion of organic matter in the soil and contribute to its ability to provide a sink for carbon. Such methods include crop rotation, fertilising with biodynamic compost made of cattle manure and sowing mixed crops, as well as no-till farming.

The Černelič biodynamic farm aims to be a role model of biodynamic and organic farming. Its owner is the former Chairman of the Society of Organic Farmers of the Dolenjska, Posavje and Bela Krajina regions (central-southern Slovenia) and has been the President of the biodynamic association Ajda Posavje since 2015. Through workshops, conferences, lectures, school visits and participation in fairs in the region and beyond, the farm has inspired an increasing number of Slovenian farmers to embrace organic and biodynamic farming methods.

In 2015 the Černelič farm, alongside three other farms practising no-till cultivation, turned to Measure 4.1 – Support for investments in agricultural holdings of the Slovenian RDP to co-finance the purchase of agricultural machinery, including rotary turners, a mulcher, a shredder and other implements for no-till systems. Their aim was to modernise their production systems and continue to produce high-quality food with the lowest environmental impact possible.

No-till farming is a technique which has appreciable advantages over ploughing. It results in aerated soil with higher microbial mass, better water infiltration and retention capacity and which can absorb more nitrogen from the air.

Together with adequate crop rotation and mixed crops that promote good humus and reduce weeds, no-till farming helps promote the soil's carbon sink capacity and is vitally important in contributing to agriculture's mitigation potential. Furthermore, no-till has proved successful in the regeneration of degraded areas, including those of former industrial plants.

Thanks to the purchase of the new machinery, the farms specialised and modernised their agricultural

(2) Biodynamics is a holistic, ecological and ethical approach to farming, gardening, food, and nutrition.

© Černelič biodynamic farm

The Černelič biodynamic farm aims to be a role model of biodynamic and organic farming. EAFRD funding allowed it to develop and promote no-till farming practices, which contribute to agriculture's mitigation potential.

© Černelič biodynamic farm

Collaboration, networking and the exchange of knowledge are a core part of this project.

production, enhancing its quality and productivity and improving working conditions on the farms.

The project showed important results in terms of climate change mitigation. It reduced GHG emissions, soil erosion and nutrient runoff from tillage. Fuel consumption was also significantly cut: the farm's yearly total mean fuel consumption is 55 litres/ha, compared to around 200 litres/ha in a farm applying conventional ploughing.

Collaboration, networking and the exchange of knowledge through conferences and workshops helped a number of local farmers to switch to organic and biodynamic farming methods. Ajda Posavje now shares its know-how of these farming techniques and their environmental benefits throughout Slovenia.

The farm's positive approach to climate change was also noticed by Umanotera, the Slovenian Foundation for Sustainable Development. Two years ago, in a project carried out in partnership with the European Commission, the European Parliament and the Slovenian Government, the Černelič farm was featured as one of the 20 best practice cases in Slovenia for reducing carbon dioxide emissions.

Project Name	**Černelič Biodynamic Farm**
Type of beneficiary	Agricultural holding
Period	2015-2021
Funding	• Total budget: € 28 947 • EAFRD contribution: € 23 158 • National/regional contribution: € 5 789
RDP Measure	M4 – Investments in physical assets
Further info	• https://enrd.ec.europa.eu/projects-practice/cernelic-biodynamic-farm-0_en • https://biodinamicnakmetija-cernelic.si/
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Tailored advice helps reduce Swedish farms' emissions

An EAFRD-funded project offers farmers targeted advice on climate change mitigation actions which enables them to effectively reduce their activities' greenhouse gas emissions.

Greppa Näringen ('Grab the nutrients') is a joint venture including the Swedish Board of Agriculture, the different Swedish county governments and various agricultural companies. The project connects over 10 000 members – farmers, consultants, businesses and state representatives – with the common goal of reducing greenhouse gas (GHG) emissions and the environmental impact of agriculture.

Since the launch of Greppa Näringen in 2001, around 50 000 consultants' visits have already been carried out around Sweden.

In 2010 Greppa Näringen, under the leadership of the Swedish Board of Agriculture, launched a new consultancy service module on climate change, Klimatkollen, thanks to support from Measure 2 – Advisory services of the Swedish RDP.

Klimatkollen offers climate mitigation training to consultants on the different ways farmers can reduce the emissions linked to their agricultural production and the various calculation methods involved. After their training and exams, the consultants tour individual farms upon request (and free of charge to the farmers) to discuss possible actions that would contribute to reducing those emissions.

A first visit allows the consultant to assess the situation of the individual farm. Between four and six follow-up visits take place in a three-year period and a final visit ends the mission.

This EAFRD-funded project offers farmers targeted advice on climate change mitigation actions, which enables them to effectively reduce their activities' greenhouse gas emissions.

Through repeated visits the consultant increases the farmer's knowledge of the climate issues connected to the farm's primary production and identifies GHG emissions along the production chain. The consultant also calculates the farm's emissions and suggests actions to reduce emissions and improve resource efficiency in both the short and long term. Common approaches include ensuring good animal health and fertility, using feed in an efficient way and reducing the use of soy and palm (that contributes to GHG emissions in other countries), using nitrogen fertiliser efficiently and instituting well-functioning crop rotations.

The visits provide on-going support in case actions need to be adapted or were not implemented effectively. The connection that builds up between farmer and consultant allows for a gradual change in the farmer's awareness and understanding and increases the chance of finding solutions that work for every individual farm.

Between 2014 and 2020, Klimatkollen consultants made over 850 private visits to farms across Sweden, fostering the adoption of tailor-made climate change mitigation strategies.

The project addresses the gap, which too often exists, between telling farmers to reduce emissions and actually equipping them with the knowledge and skills as to which actions would help them accomplish this objective. Tailoring recommendations specifically to each individual farm increases the likelihood that actions will be taken up, especially if increased efficiency leads to a win-win situation of reduction of emissions and economic benefits.

In addition to environment and climate priorities, one core objective of the Common Agriculture Policy (CAP) is to increase the competitiveness of European farms. Greppa Näringen and Klimatkollen also contribute to this objective by the myriad actions that have been promoted and taken up on Swedish farms on efficient resource management and farming practices.

Project Name	**Klimatkollen i Greppa Näringen**
Type of beneficiary	Public institution
Period	2014-2020
Funding	• Total budget: € 244 623 • EAFRD contribution: € 119 376 • National/regional contribution: € 125 247
RDP Measure	M02 – Advisory services
Further info	• https://enrd.ec.europa.eu/projects-practice/klimatkollen-i-greppa-naringen-sweden-offers-farmers-free-tailored-advice-climate_en • http://www.greppa.nu
Contact	Lis.Eriksson@jordbruksverket.se

A leap into the future of rural mobility

The LEADER method helped a rural region in Austria develop a clear vision for an integrated, inclusive and environmentally friendly mobility system for the future.

The area around the Lakes Fuschlsee and Mondsee, near Salzburg (north-west Austria), is known as the 'FUMO' region and houses approximately 40 000 inhabitants. Until the project started, the public transport offer was inadequate: work, school and leisure facilities were difficult to access by public transport due to infrequent bus stops and long waiting times. As a result, private motorised transport use was increasing thereby contributing to transport emissions and an unsustainable, non-inclusive mobility system.

To address these issues, between 2016 and 2017 the Local Action Group LEADER-Region Fuschlsee Mondseeland (FUMO) worked with its local communities to design a master plan for a sustainable mobility system that would offer efficient, sustainable and easily accessible transport options.

Networking and collaboration, intrinsic to the LEADER method, allowed the project to identify integrated solutions to local mobility challenges through the active involvement of the local communities and actors from different sectors, such as tourism, education, private business, local government, agriculture and culture. Some 20 working sessions, 60 presentations and numerous working groups were organised throughout the duration of the project to maximise multi-actor participation.

Based on geographical data collection, residents' surveys and needs assessment, the 'FUMObil' project created a regionally specific, data-informed sustainable transport plan. Particular attention was given to the needs of vulnerable populations with mobility limitations.

The project made significant and successful efforts to obtain media coverage and carried out an advertising campaign. The resulting regional master plan offers a clear vision for an attractive, integrated and environmentally friendly mobility system for the future. In addition, all 17 FUMO communities were provided with a sustainable mobility study specifically adapted to their context.

© FUMObil

An Austrian Local Action Group worked with its local communities to design a master plan for an integrated, inclusive and environmentally friendly mobility system.

Several projects have been developed in the FUMO area to start implementing the mobility plan, including the testing of Digibus, Austria's first driverless minibus; the set-up of a pilot bus stop with a more appealing and accessible design; local car-sharing schemes to facilitate elderly people's mobility and activities to encourage cycling.

Electric car, scooter and bike systems will soon be tested. Local primary and secondary schools will run year-long projects focusing on mobility. A new LEADER project on youth and mobility is also being implemented.

Following the 'FUMObil' experience, the LAG LEADER-Region Fuschlsee Mondsee joined the INTERREG project 'Shareplace', which aims to develop and implement an intuitive and easy to use online communication platform regrouping regional tourism and mobility data.

LEADER support enabled a comprehensive understanding of the region's mobility system and issues to be developed, through a comprehensive, participatory approach towards data gathering, analysis and planning for emission reduction. It laid the foundation for the region to move forward strategically with research projects that contribute to developing its vision for sustainable mobility and in accessing complementary funding, including from Interreg.

Project Name	**FUMObil – regional masterplan for the future of mobility**
Type of beneficiary	Local Action Group
Period	2016-2017
Funding	• Total budget: € 196 139 • EAFRD contribution: € 76 560 • National/regional contribution: € 95 663 • Private contribution: € 23 916
RDP Measure	M19 – LEADER/CLLD
Further info	• https://enrd.ec.europa.eu/projects-practice/fumobil-regional-masterplan-future-mobility_en • http://www.regionfumo.at/fumobil/
Contact	office@regionfumo.at

ENFOCC – Energy, Forest and Climate Change

A LEADER project in Spain fosters knowledge exchange, capacity building and training on sustainable forest management and energy transition to generate opportunities for local renewable energy.

Knowledge transfer and capacity building are essential to improve rural communities' capacity to mitigate and adapt to climate change. Based on this and convinced of the importance of improving the sustainability of Catalonia's rural areas, the LEADER Local Action Group (LAG) Ripollès Ges Bisaura launched the LEADER project 'ENFOCC' – Energy, Forest and Climate Change.

The project was designed to promote energy efficiency and renewable energy production from local sources and materials; to raise the awareness among rural residents of the need to promote climate change mitigation and adaptation; and to promote sustainable forest management.

ENFOCC developed numerous practical tools, capacity-building and awareness-raising activities tackling energy accounting, energy transition, forest management and the region's environmental footprint. The activities target the whole supply chain, including forest managers, technicians, energy producers and the general public as energy users.

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ENFOCC developed numerous practical tools, capacity-building and awareness-raising activities.

The practical tools developed by ENFOCC include a free online energy management tool (ENEGEST), which facilitates individuals' and companies' energy accounting and promotes financial savings, as well as a methodology to carry out energy transition reports for municipalities and provinces.

The project promoted the increased use of biomass boilers and local biomass sources, including through training for forest managers and technicians, and publications and feasibility studies for silvopasture on different local farms. By 2019, 75 biomass boilers had been built thanks to the project's activities, saving 15 454 tonnes of CO_2 emissions and € 125 580 in energy production costs.

ENFOCC developed a methodology to calculate the carbon footprint of local agri-food production and of events by local stakeholders (e.g. LAGs). Communication materials were produced to raise public awareness on the energy transition. A 'Mobility planning study on electric cars' was presented to local municipalities.

Awareness-raising activities promoted by the project have helped increase rural areas' commitment to climate change mitigation and adaptation actions. In 2016-2017, more municipalities joined ENFOCC and a new independent body, the Ripollès Energy Agency, was funded.

The project continues to evolve and adapt to the changes taking place in the field of energy efficiency, mitigation and prevention of climate change.

ENFOCC now involves all 11 Catalonian LAGs as well as LAGs from other Spanish regions and France. Specific activities are organised with the Catalan Energy Institute, the Climate Change Office, the Biomass Cluster and the Federation of Forest Management Associations, among others.

ENFOCC has increased the awareness of rural companies, individuals and municipalities that change is necessary and possible through individual and collective actions. Through knowledge transfer around the concepts of energy, forestry and climate, the project has contributed to sustainable forest management and improved local actors' capacities to mitigate and adapt to climate change.

By bringing different actors together and drawing on each other's strengths and expertise, ENFOCC has fostered an integrated approach towards energy efficiency, savings and opportunities for renewable energy production and use. The tools developed by the project are transferable to other areas and can be adapted to different contexts and local resources.

Project Name	**ENFOCC (Energy, Forest and Climate Change)**
Type of beneficiary	Local Action Group
Period	2012-2021
Funding	• Total budget: € 276 615 • EAFRD contribution: € 118 944 • National/regional contribution: € 157 671
RDP Measure	M19 – LEADER/CLLD
Further info	• https://enrd.ec.europa.eu/projects-practice/enfocc-energy-forest-and-climate-change_en • http://www.ripollesgesbisaura.org/qui-gestiona/1910-2/energia-forest-i-canvi-climatic-enfocc/?lang=en
Contact	angels@ripollesgesbisaura.org

Finnish villages sequestering and storing carbon

Thanks to EAFRD funding, over 30 villages in rural Finland planned and implemented their own climate actions combining their expertise and traditions.

Climate change is a global issue and all possible actions to slow it down should be taken. Daily activities have a huge potential when considered collectively and there is a need for targeted measures to promote and support efforts in rural areas.

The provincial village association, Pirkan Kylät ry decided to apply for funding under Measure 7 – Basic services and village renewal of the Finnish Mainland RDP to set up the project 'Hiiltä sitovat kylät' ('Villages sequestering carbon'). Its aim is to activate the villages in the Pirkanmaa region (southern Finland) to discover, develop and put into practice various strategies and actions to tackle climate change.

The project was open to all villages in the area with an interest in climate action. It started with 30 villages and five more joined afterwards.

Each village organised public climate events where the community could discuss climate issues, options for carbon storage in the area and possible contributions to the bioeconomy. Each community identified one or two concrete experimental activities to test in their village and set own targets.

The carbon sequestering and storing activities implemented include using wood for construction and making biochar (charcoal produced from plant matter and stored in the soil as a means of

The participants in the project planned and implemented various climate actions, including some based on local traditions. All the activities fostered a community spirit.

improving soil and removing carbon dioxide from the atmosphere). Many villages organised events on environmental themes and some engaged in setting up local food circles and community gardens, others developed recycling, composting and waste management and organised carpools. Some activities were based on local traditions and all of them fostered a community spirit.

Up to 70 actions are expected to be developed by the end of the project with continuing development likely afterwards, putting the villages on the path to a fully renewable and low-carbon transition. All actions will be evaluated and tools will be developed to promote and support low-carbon and resource-efficient social innovations that can be implemented in other rural areas.

The project established collaborations with several regional partners, including members of the Finnish Carbon Neutral Municipalities network (HINKU).

Tackling climate change mitigation from a locally and community-led approach gives new perspectives on village development and renewal. Gathering people together in support of climate actions that offer opportunities in the bioeconomy and circular economy promotes a strong sense of community and builds social capital, while enhancing the attractiveness of villages.

The collaborative and cooperative process adopted by this project is the foundation for communities to determine what strategies will work for them, contributing to ownership of the ideas and buy-in to carry the solutions forward.

Project Name	**Hiiltä sitovat kylät – Villages sequestering and storing carbon**
Type of beneficiary	Local association
Period	2019-2020
Funding	• Total budget: € 166 278 • EAFRD contribution: € 69 837 • National/regional contribution: € 96 441
RDP Measure	M07 – Basic services and village renewal
Further info	• https://enrd.ec.europa.eu/projects-practice/finnish-villages-sequestering-and-storing-carbon-hiilta-sitovat-kylat_en • http://www.pirkankylat.fi
Contact	Heidi.hallongren@pirkankylat.fi

3. Climate change adaptation

This RIA 2020 category recognised EAFRD-funded projects and actions for increasing the resilience of Europe's agriculture and forestry industries to the adverse effects of climate change.

Increasing air temperatures, changes in precipitation patterns, greater occurrence of 'extreme' weather events and sea level rise have an impact on crop yields and livestock productivity, the availability of water for irrigation and changes in local ecosystems.

Rural communities and agriculture are particularly vulnerable to the negative effects of climate change. Actions aimed at mitigating GHG emissions (like those presented on page 12 – category Climate change mitigation) can often be implemented together with – or in support of – actions aiming at increasing agriculture's resilience to the impacts of climate change.

Climate change adaptation practices can help anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage they can cause or capitalise on opportunities that may arise.

Rural Development Programmes (RDPs) are helping agriculture and forestry develop and share new approaches, practices and knowledge to better deal with the effects of climate change.

Czech Ekofarma Petra Marada is an agri-environment business focused on adapting to climate change and promoting wider uptake of similar practices throughout the farming community (page 21).

In Finland, the OSMO project is promoting collaborative learning and tools to increase farmers' understanding of climate-related problems and encouraging alternative soil management strategies (page 22).

Thanks to RDP support, climate adaptation in agriculture can go hand in hand with the protection of biodiversity and the environment.

Farmers, researchers and other rural development stakeholders in Spain are working together to establish multifunctional hedgerows that offer environmental benefits as well as support climate mitigation and adaptation (page 24).

In a wine-producing area in Italy, the BIOCONVITO project (page 25) is introducing and testing biological techniques to control pests, whose populations have increased due to climate change.

Once a climate adaptation project or initiative has proved successful, RDPs can foster the dissemination of its results, its duplication and transfer to other countries or regions. Locally developed solutions can thus contribute to dealing with global challenges.

The knowledge exchange network ECOPIONET fosters multi-actor collaboration and sharing of information and practice in Spanish organic agriculture (page 26).

© Ekofarma Petra Marada

A Czech eco-farm adapting to climate change

A Czech eco-farm is using EAFRD funding to implement sustainable practices to protect the soil, water, landscape and biodiversity and promote similar practices among the farming community.

Petr Marada set up his eco-farm in the vicinity of the village of Šardice, in south Moravia (Czechia) using RDP support (2007-2013 programming period). Years of intensive farming had depleted the soil and extreme rainfall events resulting from climate change had intensified these negative effects.

Well aware of the challenges and very sensitive to the issues of sustainable farming, in 2015 Mr Marada applied for funding under Measure 10 – Agri-environment climate of the current Czech RDP (2014-2020) to implement agri-environmental and other adaptation measures on his farm. His aim was to halt biodiversity decline, minimise the risk of soil erosion and improve the soil's water retention capacity.

One of the measures implemented on the eco-farm was the creation of bio-belts on six ha of arable land. Bio-belts (strips of land to support farmland birds and wildlife) increase soil fertility and soil quality, reduce the risks of erosion, boost biodiversity and enhance the attractiveness of agricultural landscapes.

Planting grass on arable land and concentrated buffer zones also contributed to soil fertility, reducing soil erosion and increasing biodiversity. Six ha of difficult to manage farmland were afforested, resulting in enhanced carbon sequestration as well as preventing soil erosion. Wetlands and ponds, which increase water retention in the landscape, were built on three ha of previously arable land, and 28 ha of extensively managed orchards were established.

Specific measures were implemented to provide a suitable habitat for waders and farmland birds and to provide space for pollinators and crop pest predators. Populations of wild partridge, common pheasant and hare – indicator species of the health status of the landscape – were restored.

The monitoring of key environmental indicators allows the farmer to fine-tune the activities if necessary.

© EkoFarma Petra Marada

The activities developed through this EAFRD-funded project included the creation of wetlands and ponds, which increase water retention in the landscape and favour climate adaptation.

The eco-farm also uses funding from RDP Measure 11 – Organic agriculture - to farm all its land organically, using only biological methods for integrated pest management and plant protection.

Funding from the European Commission's Operational Programme Environment 2014-2020[1] financed other agri-environmental measures on Mr Marada's land: wetlands, pools, bio-belts, the planting of regional varieties of fruit trees and green infrastructure.

The measures implemented together provide for better adaptation to climate change throughout the farm's landscape. Improvements in soil quality, such as increased organic matter content and structure, allow for adaptation to climate-induced extreme rainfall and droughts.

Training and information activities, as well as advisory services, are an important part of the eco-farm activities. Drawing on additional funding sources, Mr Marada built a multifunctional observatory for agricultural management and related education as well as a venue for workshop and training activities, which includes a large observation beehive. The Czech Ministry of Agriculture awarded the eco-farm the status of 'demonstration farm'.

The eco-farm cooperates with landowners and tenants, farmers, gamekeepers, state and local government and LEADER Local Action Groups (both national and international), as well as research centres, universities and NGOs. Hundreds of individuals, including new entrants to farming, have attended visits, events and training courses at the eco-farm on various agri-environment-climate measures. These events are gaining in popularity in the region, facilitating change in farming systems.

The farm contributes both to the objectives of the EU Common Agricultural Policy (CAP) and to national-level objectives for the protection of the environment (the Czech Nature and Landscape Policy). It also addresses climate change mitigation and adaptation, through a farming system which minimises negative environmental impacts whilst continuing to produce food and manage the landscape.

Project Name	**Ekofarma Petra Marada**
Type of beneficiary	Individual farmer
Period	2015-2020
Funding	• Total budget: € 56 311 • EAFRD contribution: € 31 100 • National/regional contribution: € 10 300 • Private contribution: € 11 811
RDP Measure	M10 – Agri-environment-climate
Further info	• https://enrd.ec.europa.eu/projects-practice/agri-environment-business-focused-adaptation-climate-change-ekofarma-petra-marada_en • http://www.proprirodu.cz
Contact	p.marada@quick.cz

(1) https://ec.europa.eu/regional_policy/en/atlas/programmes/

Improving soil management in rural Finland

An EIP-AGRI Operational Group in Finland contributed to increasing on-farm resource efficiency and delivering the most up-to-date knowledge on soil health management to farmers.

Farmers' know-how and the suitability of the soil for growing plants are two of the most important agricultural resources. Identifying and remedying soil problems offers significant potential for increasing agricultural productivity, while also reducing the potential impacts from extreme climate conditions.

Soil health can be improved by identifying, field by field, the factors reducing crop yield, determining their causes and planning for effective ways to remedy them. Additionally, soil management requires tools and methods adapted to the local conditions.

Based on these considerations, funding from Measure 16 – Cooperation of the Finnish Mainland RDP was used to set up an EIP-AGRI Operational Group, OSMO. Its main aim was to increase resource efficiency in agriculture by managing the soil and its growth potential holistically.

OSMO involved stakeholders in four regions with different agricultural soils: South Ostrobothnia, the Satakunta region, Southwest Finland and the Uusimaa region. The project team consisted of experts in agriculture, horticulture, soil management, farmers' education and rural advisory services.

Each of the eight farms participating in the project ran three trials over three years – once per growing season – in low-productivity fields. The trials allowed for

The eight farms participating in this EAFRD-funded project ran three trials over three years in low-productivity fields. They identified specific problems impacting soil health and reducing crop yields. The information and tools developed through the project were then used to address these problems effectively.

the identification of specific problems impacting soil health and reducing crop yields, such as poor drainage, compaction in the topsoil and subsoil, nutrient deficiencies (especially micronutrients), poor biological activity and low soil organic matter. The farmers used the information and tools developed through the project to address these specific problems effectively.

Five regional study groups gathered other farmers wishing to learn more about soil health management. Blended learning was applied, combining e-learning with in-person opportunities for peer-to-peer learning.

Practical tools and study materials for planning, implementing and evaluating soil health management were developed by the researchers and farmers and have now been published. The project produced 11 study reports, eight planning tools, 30 leaflets and several presentations.

Information about soil health and sustainable management methods has been widely disseminated at networking events, agricultural fairs and seminars, as well as in professional magazines and websites. In addition, the advisors participating in the project, either as project partners or event participants, disseminated the information further to other farmers they work with.

The project relied on a good collaboration amongst 26 local, regional and national projects and actors. Around 1 500 participants were actively involved in the different educational events and study groups organised by the project. Participants acquired considerable new knowledge and skills and made significant improvements in soil health management at farm level.

The project's results are applicable to and may be used by all farmers, advisors, trainers and researchers to improve soil health management. They are easily transferrable and have the potential to have a wider impact, helping farmers and producers mitigate the effects of climate change. For example, 30 advisors under the project MAANEUVO ('Soil advice')[2] have been trained on how to effectively use the methods and tools developed by the OSMO project.

Project Name	**OSMO – Sharing know-how and tools for a resource-efficient agricultural soil management**
Type of beneficiary	EIP-AGRI Operational Group
Period	2015 – 2019
Funding	• Total budget: € 700 000 • EAFRD contribution: € 235 200 • National/regional contribution: € 324 800 • Private contribution: € 140 000
RDP Measure	M16 – Cooperation
Further info	• https://enrd.ec.europa.eu/projects-practice/osmo-sharing-know-how-and-tools-resource-efficient-agricultural-soil-management_en • https://maan-kasvukunto.fi
Contact	jukka.rajala@helsinki.fi

(2) https://carbonaction.org/soiladvice-project/

Hedgerows for climate adaptation of Spanish agriculture

An EIP-AGRI Operational Group is supporting the establishment of multifunctional hedgerows along agricultural fields, a practice that improves agriculture's sustainability and resilience to climate change.

Hedgerows are an important ally for sustainable agriculture. They help improve soil quality, increase biodiversity and support natural pest management, making farming systems more climate resilient.

Aware of the multiple benefits of hedgerows, a group of agricultural stakeholders in the Murcia region (southern Spain) set up the Operational Group (OG) GO SETOS using funding from Measure 16 – Cooperation of the Spanish National RDP. Their main objective was to design, establish and monitor multifunctional hedgerows along agricultural fields to create a more sustainable agricultural system with low environmental impacts.

The project enabled the design of hedgerows for the different types of crops planted in six participating farms. The hedgerows are based on the prior assessment of the specific needs of each field in terms of pollinators, natural predators, erosion control, CO_2 capture and nitrates. The volume of soil erosion and CO_2 capture on the sites was measured before and after the planting to quantify the changes. Insect inventories were carried out and will allow data comparison with similar farms without hedges.

The hedgerows are monitored periodically to study their growth, to detect issues, and correct them when needed. By the project's end, 20 hedgerows of more than 60 native species are expected to be fully established across five ha of land, with 35 000 seedlings introduced.

The project fosters interactions amongst multiple actors and disseminates information to raise awareness of the importance of the recovery and conservation of ecosystem services in agriculture.

The hedgerows planted by GO SETOS are expected to capture 7 000 tonnes of CO_2 over 40 years. The creation of habitats suitable for natural enemies

This EIP-AGRI Operational Group supported the establishment of multifunctional hedgerows along agricultural fields, a practice that improves agriculture's sustainability and resilience to climate change.

of pest and disease carriers will reduce the use of chemical products and the related costs for farmers, estimated at €400/ha. Soil quality and crop productivity will improve, generating economic benefits for local farmers.

The design and implementation of hedgerows in farming systems will generate a new market and new job opportunities. Plant propagation for the Murcia region alone is estimated to be worth €5.2 million.

The sustainable practices promoted by GO SETOS are expected to be replicated across 26 000 ha of multifunctional hedges in the Murcia region. Similar projects are being developed across Spain, attracting ever-increasing interest and exchanges with other OGs.

GO SETOS contributes to several EU rural development policy objectives. It promotes agriculture's competitiveness by offering new measures for sustainable farming. It ensures the sustainable management of natural resources and climate action as it aims to increase the resilience of farming ecosystems and to improve the population of pollinators. In addition, it tries to achieve a balanced territorial development of rural economies and communities by aiming to create jobs and by involving many different actors within the agricultural sector.

Project Name	**GO SETOS – Multifunctional borders for sustainable landscape and agriculture**
Type of beneficiary	EIP-AGRI Operational Group
Period	2018-2020
Funding	• Total budget: €170 675 • EAFRD contribution: €107 525 • National/regional contribution: €63 150
RDP Measure	M16 – Cooperation
Further info	• https://enrd.ec.europa.eu/projects-practice/multifunctional-borders-sustainable-landscape-and-agriculture_en • http://www.setosrm.org/
Contact	paisajeyagricultura@gmail.com

Promoting biological pest control techniques in Italy

Warmer temperatures caused by climate change are among the factors boosting insect growth and reproduction. EAFRD funding is helping Tuscany's wine-producing sector introduce and test biological pest management and reduce pesticide use.

In vineyards across Italy and beyond, the overuse of chemical pesticides has led to the development of resistance in the population of targeted insect pests. It is also severely affecting non-target organisms and human health. The situation is worsened by climate change-induced global warming, as the heat boosts insect growth and reproduction and allows for winter survival, contributing to higher population densities.

Wine producers in Tuscany felt the urgent need for the adoption of eco-friendly and effective pest management tools. A group of eight producers in the area of Bolgheri (western Tuscany), one consortium of wine producers and the University of Pisa joined forces and decided to use Measure 16 – Cooperation under the RDP of Tuscany.

The project 'BIOCONVITO – Artigiani del Vino Toscano' ('Artisans of Tuscan Wine') used eco-friendly and highly effective Integrated Pest Management (IPM) techniques to target two major grapevine pests, the European grapevine moth (*Lobesia botrana*) and the vine mealybug (*Planococcus ficus*). It also tested pheromone-based mating disruption (MD) techniques.

The project combined hands-on activities in the field, carried out by university researchers during the grape growing season and interactive workshops for farmers and winemakers conducted in various locations throughout Tuscany.

The biological techniques applied by 'BIOCONVITO' proved successful in managing both *L. botrana and P. ficus.* Insecticide-based interventions have been completely eliminated on the project's participating farms. To date, IPM approaches have been adopted on about 1 200 ha of high-value Tuscan vineyards.

Over 200 farmers and winemakers participated in technology transfer workshops. At least 50 operators (four or more per farm) were trained and can continue to actively monitor vineyard pests to ensure timely and effective pest control strategies.

Lectures and presentations were delivered at more than 30 events, print and online communication materials were used to reach policy-makers, farmers and agronomists, to promote the principles of IPM and the value of biological alternatives to chemical pesticides.

© BIOCONVITO

EAFRD funding helped Tuscany's wine-producing sector introduce and test biological pest management and reduce pesticide use.

The major reduction in pesticide use resulting from the project brought direct benefits to the farmers' health and the environment and minimised chemical residues on grapes and in the wines.

The IPM approaches, promoted at the regional scale by the project, have been highlighted at EU level in the meetings of the EIP-AGRI Focus Group on diseases and pests in viticulture. The methods that form the basis of the project are transferable to other EU rural areas facing similar issues linked to climate change. The IPM approach is particularly relevant for territories with high-value vineyards but similar projects have been recently proposed for various arable crops, including wheat.[3]

Project Name	**Artigiani del Vino Toscano – BIOCONVITO**
Type of beneficiary	Agricultural holding
Period	2016 – 2018
Funding	• Total budget: € 207 589 • EAFRD contribution: € 80 337 • National/regional contribution: € 106 493 • Private contribution: € 20 759
RDP Measure	M16 – Cooperation
Further info	• https://enrd.ec.europa.eu/projects-practice/introducing-and-testing-biological-pest-control-techniques-wine-producing-sector_en • http://www.bioconvito.it/
Contact	andrea.lucchi@unipi.it

(3) https://agro.au.dk/forskning/internationale-platforme/eurowheat/

A network of organic agriculture pioneers in rural Spain

An EIP-AGRI Operational Group fosters multi-actor collaboration and knowledge sharing around organic agriculture.

The dryland cereal areas around the cities of Salamanca, Toledo and Guadalajara (central Spain) have experienced farming abandonment and the related phenomenon of depopulation. The main causes of this development are soil degradation due to the inefficient use of agricultural inputs, such as fertilisers, and the effects of climate change, such as drought conditions and increasingly frequent torrential rains.

To address such challenges, the EIP-AGRI Operational Group (OG), ECOPIONET, was set up with funding from

Measure 16 of the Spanish National RDP. Its aim is to promote organic production practices in the area, achieve greater supply chain connection in the sector and ensure farm profitability.

Organic farming systems have a greater capacity to adapt to climate change than conventional agriculture. They are also less polluting and more resource efficient and altogether better at protecting farmers from the volatility of input prices. In addition, the growing organic market provides farmers with the opportunity to achieve higher value added for their products. Increasing farming viability can also help facilitate generational renewal and combat rural depopulation.

ECOPIONET connects farmers starting off, or in the process of converting to, organic farming ('Pioneers'), with farmers already producing organically ('Tutors'), agricultural advisors and technicians with knowledge in production, management and commercialisation, and researchers.

The Pioneers test the transition to organic methods in pilot plots on their farm, benefitting from periodical training and tailor-made advice from the Tutors. This includes individual visits on farmers' pilot plots to monitor progress and collect data, which is also shared with and used by the advisors from the five professional agricultural organisations involved in ECOPIONET.

So far, 25 Pioneer farmers have successfully become organic producers. The pilot plots allow other farmers in the area ('Neighbours') to see how the transition to organic production works in practice. Thus, ECOPIONET has reduced the gap between researchers and producers and has created a dynamic flow of knowledge and information amongst all the actors involved.

Training is also offered to other farmers and stakeholders in the neighbourhood and around Spain. The project results are disseminated through a dedicated website, social networks and publications. A final conference will conclude the project.

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The project connects farmers starting off, or in the process of converting to, organic farming with farmers already producing organically, advisors and technicians.

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This project supports the development of organic farming systems, which have a greater capacity to adapt to climate change than conventional agriculture.

The adoption of organic farming in the area has resulted in environmental and climate benefits such as reduced soil erosion risk, increased biodiversity, energy efficiency, reduced groundwater pollution and the more efficient use of water resources.

The network led to the creation of a producers' organisation for organic crops and a producers' association for the marketing of the organic produce. Farmers enjoy greater collective bargaining power and the can negotiate higher prices for their products.

In the long term, the OG is expected to enable many more farms, whose current profitability is seriously compromised, to continue operating by diversifying and re-orientating their production towards high value-added products and responding to growing market demand. It is estimated that Pioneer farmers will be able to improve their net margin per ha by 20-30%.

Project Name	**ECOPIONET: Innovation and bioeconomy in the rural environment**
Type of beneficiary	EIP-AGRI Operational Group
Period	2018-2020
Funding	• Total budget: € 509 019 • EAFRD contribution: € 407 215 • National/regional contribution: € 101 804
RDP Measure	M16 – Cooperation
Further info	• https://enrd.ec.europa.eu/projects-practice/ecopionet-innovation-and-bioeconomy-rural-environment_en • https://pionerosecologicos.net
Contact	raquel.arroyo@irnasa.csic.es

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Further inspiring examples of EAFRD-supported rural development projects can be found in previous editions of the EAFRD Projects Brochure. Each edition highlights successful project examples on a particular rural development theme.

These are available on the Publications section of the ENRD website at https://enrd.ec.europa.eu

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Rural Inspiration Awards 2019

Bioeconomy

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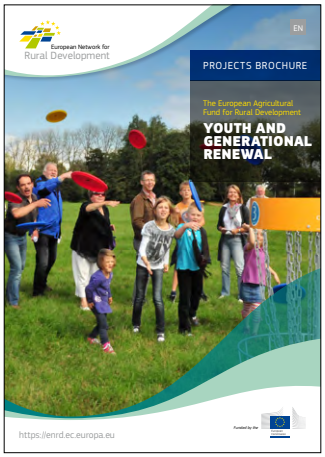

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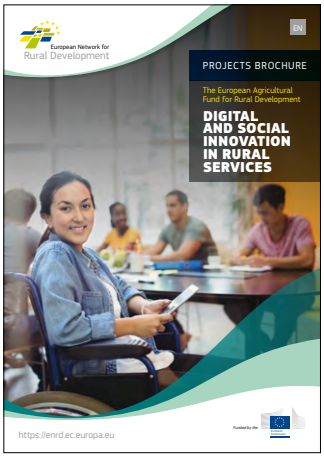

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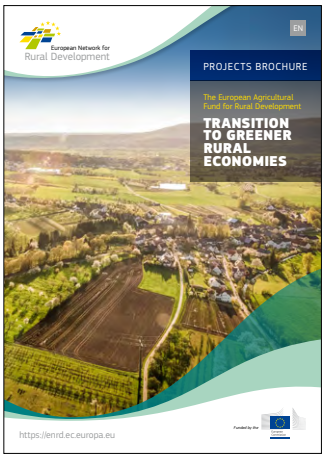
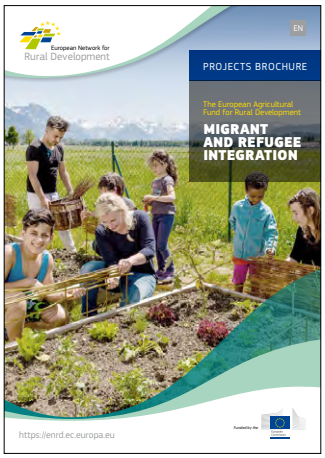


Migrants and Refugee integration



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