



European Network for
Rural Development

EN

PROJECTS BROCHURE

The European Agricultural
Fund for Rural Development

TRANSITION TO GREENER RURAL ECONOMIES

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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.

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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_en

(2) https://enrd.ec.europa.eu/projects-practice_en

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Manuscript text finalised during March 2017. Original version is the English text.

More information on the European Union is available on the internet (<http://europa.eu>).

Luxembourg: Publications Office of the European Union, 2017

ISBN 978-92-79-65520-3 - doi:10.2762/824841 (print)

ISBN 978-92-79-65526-5 - doi:10.2762/18144 (web)

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Printed in Belgium

Printed on recycled paper that has been awarded the EU Ecolabel for graphic paper (<http://ec.europa.eu/ecolabel/>)

You can also order one paper copy free-of-charge via the EU Bookshop website: <http://bookshop.europa.eu>

Acknowledgements

Key contributors: Ben Allen, Ed Bray, Ed Thorpe, Veneta Paneva, Roxana Vilcu, Anthony Fletcher

Layout: Benoit Goossens, Veneta Paneva

Thanks also to: Isabelle Raynaud, Marie-Anne Trojan

Cover photo © Pexels

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Introduction

This edition of the EAFRD Projects Brochure focuses on the topic of 'Transition to Greener Rural Economies'. This transition is about taking advantage of growth opportunities that are environmentally and socially sustainable, as well as improving environmental performance in ways that are economically and socially viable.⁽¹⁾

The transition to greener rural economies typically requires new ways of thinking and new ways of working. This can involve: developing new, sustainable, income streams; 'future proofing' rural businesses; adapting traditional approaches using modern techniques; or simply improving cooperation between stakeholders.

The projects presented in this publication aim to reflect the tremendous breadth of possible approaches that can be supported under the Rural Development Programmes (RDPs) to promote the transition to greener rural economies.

The examples highlight some of the many economic opportunities that arise from improving environmental performance in rural areas. Environmental sustainability can help to ensure the long-term future of rural economies, but it is also about short-term opportunities to add value and promote rural development.

The examples also highlight the usefulness and relevance of ongoing land-management support under RDP Measures such as Organic Farming (M11) or Agri-Environment-Climate (M10). Although these activities are not 'projects' in a traditional sense, they are included in this brochure to reflect their importance in supporting and encouraging environmentally and socially sustainable land management in Europe.

Six themes of the transition to greener rural economies

This brochure is structured into six sections reflecting some of the main areas of opportunity and action presented by the Rural Development Programmes for supporting the transition to greener rural economies.

1. Making a living from biodiversity

Managing landscapes to benefit the environment and deliver economic benefits to farmers and the rural public in a socially coherent way is at the heart of what the green economy is all about. Finding economically viable ways to support the biodiversity and ecosystems that underpin the rural economy is essential. As well as public subsidies for sustainable land management, there are many opportunities to add value to rural products based on demonstrable environmental quality.

2. Doing more with less

Green rural economies are intrinsically linked to their natural capital and resources. Using these resources for the benefit of rural economies can bring many benefits, yet these links can be fragile. Reducing the pressure on resources through more efficient

(1) For more detail, see EU Rural Review 23 'Green Economy – Opportunities for Rural Europe' available on the ENRD website.



management – such as improved irrigation in water-scarce areas – can ensure they lead to improved profitability for those managing the land and are available for future generations.

3. Promoting green tourism

Tourism represents a major potential driver of growth in rural areas. However, problems can occur with unsustainable forms of tourism that put excessive stress on the local environment and biodiversity. Sustainability is essential to ensure the long-term viability of tourism as an economic activity. At the same time, environmental credentials can be an important opportunity for marketing areas to increasingly environmentally conscious tourists.

4. Renewable energy from rural production

Producing renewable energy from farm and forestry wastes and residues can provide important sources of revenue for the productive rural sectors. Furthermore, in many cases, it can avoid previously costly processes associated with managing wastes effectively.

5. Renewable energy infrastructure

Exploiting renewable energy technologies will be a central part of the transition to a low-carbon green economy. Rural areas are often better placed than urban areas to be the location for renewable energy infrastructure. This can provide opportunities to develop rural economies and deliver environmental and social benefits.

6. Cooperating for a greener economy

Green rural economies work best where different individuals and actors come together to achieve a common goal. Collective and community approaches can ensure that efforts are pulling in the same direction, preserving natural resources and creating sustainable economic opportunities. Cooperation can take place at community level or amongst more specific experts in related fields.

Each section of this publication starts with a one-page overview of the sub-topic and possible approaches to achieving the ‘transition to greener rural economies’. This is followed by two short case studies of EAFRD-supported projects, providing both an illustration of the topic, as well as specific good practice in that area.

We hope this brochure contributes to better awareness of the fact that the ever-more-urgent need for improved environmental performance can be seen as an economic opportunity in the context of transition to greener rural economies.

We trust that the examples will inspire similar initiatives, building on some of the practices and approaches presented. The ENRD Contact Point will continue to be interested to hear about emerging and innovative approaches to be shared and discussed within the network.

The ENRD Contact Point Team

1. Making a living from biodiversity

Biodiversity and ecosystems underpin the rural economy. Managing landscapes to benefit the environment and deliver economic benefits to farmers and the rural public in a socially coherent way is at the heart of what the green economy is all about.

Biodiversity and the natural environment used to be seen as something to be tamed and controlled with little place in modern farming and production systems. However, there are many entrepreneurs now that are using biodiversity and natural areas to create a connection between consumers and the products they buy.

Biodiversity benefiting business

Consumers in the EU are increasingly interested in where the food and rural products they purchase come from. This has led to growing markets for local, sustainable, environmentally friendly and biodiversity-friendly products.

Many rural producers and entrepreneurs have recognised this and are increasingly marketing their products not only on their quality but also on the way in which the land around these products is managed. In turn, this provides an important incentive to improve environmental land management.

EAFRD funding can play a role in these sorts of initiative by helping to improve the management of biodiversity, reintroduce species and restore habitats. It can also aid in promoting new products and creating markets based on environmental performance as part of a more holistic approach to improving the sustainability of farm businesses.

The case study on the following page presents an example in Finland where EAFRD support helps biodiversity-related performance to be used in the way products are marketed from a farm estate.

Rewarding farmers for results

Integrating biodiversity into farming practices can bring mutual benefits, but it must be done right to avoid unnecessary trade-offs. Some new approaches to rewarding farmers for the results they deliver, rather than paying them for prescribed management, allows farmers more scope to develop activities that deliver the necessary results on the land which only they know best.

Results-based Agri-environment Payment Schemes (RBAPS) are a growing interest in the EU, seeing more engagement from farmers and good results on the ground. Ensuring that such approaches work well requires guidance, and clear communication of the results that are required and why they are important.

Paying for delivery of biodiversity on farms as part of more sustainable production approaches has also engendered a healthy dose of competition amongst farmers. Competitions to improve the species richness of grassland take place in France and Germany and result in real pride in the farmers, also helping them to market their produce to new, green markets.

See the following pages for details of an approach in France to using the EAFRD support to reward farmers for the results they deliver in producing species-rich flowering meadows.



© V. Ruin, Chambre Agriculture Savoie

Biodiversity creates business opportunities for the Koskis Estate, Finland

The Koskis Estate has benefited from agri-environment and organic payments under the Finnish Rural Development Programme (RDP). The example shows how EAFRD funding can help provide land management support to enhance biodiversity – both for its intrinsic value and as a means of generating new business and marketing opportunities.

Biodiversity-based business

The Koskis Estate is located around the river Kiskonjoki that runs out into the Baltic Sea in southern Finland. The estate was originally based around a now-closed ironworks that were established in 1679. Nowadays, the main business of the estate is forestry and agriculture. Other businesses on the estate include property rental, tourism and education.

The Koskis Estate has been in the same family since 1822. The current owners, Helena and Fredrik von Limburg Stirum, took over the estate in 2007. With a strong interest in the environment, they had a clear vision of developing business and commercial opportunities on the estate based on enhanced biodiversity and environmental performance.

“It is my task to develop and cherish our farm in a sustainable way.”

Fredrik von Limburg Stirum
Owner, Koskis Estate

Most rural businesses are aware of basic sustainability requirements. On the Koskis Estate, they wanted to go beyond this to set an example of how business and sustainability can co-exist and flourish. Marketing the estate’s products and services based on biodiversity protection was a key objective.

EAFRD-supported interventions

Achieving this has taken numerous interventions and a long-term land management approach geared towards achieving FSC⁽¹⁾-certified forest, certified organic beef production and habitat restoration. Several of these activities in recent years have received EAFRD support.

The von Limburg Stirums accessed agri-environment payments and aid for non-productive investment under the RDP to support habitat restoration actions. They restored semi-natural grasslands and established wetlands, protected forests and buffer zones across the estate.

This habitat restoration enabled additional efforts in support of biodiversity, including reintroducing wolves and an active programme of elk and deer management on the estate. This allowed the development of selective, small-scale wildlife tourism activities.

In a separate initiative, the estate accessed payments under the RDP for organic production. This was used to convert and then maintain beef production on the estate as certified organic beef. This provided new marketing opportunities for the produce of the estate.

“It has been important to communicate clearly with the administrative authorities to help them understand the positive long-term effects of nature management work for the environment and farm business.”

Fredrik von Limburg Stirum
Owner, Koskis estate



EAFRD funding was used to restore wetland and semi-natural grassland habitats across the Koskis estate.

© Koskis Estate - Eija Hagelberg

(1) Forest Stewardship Council

Additional activities

As part of the holistic approach to estate management adopted at Koskis, the owners implemented many ongoing land-management activities outside of RDP support.

The estate manages its grazing land through an approach where the cattle are grazed on natural pastures (meadows), which are not fertilised. As well as being biodiversity-friendly, the resulting meat can be marketed as 'meadow meat' (Luonnonlaidunliha) and sold at a higher price. Furthermore, this land-management approach reduces run-off of nutrients into rivers and, ultimately, the Baltic Sea.

The newest idea on the Koskis Estate (since 2014) is the 'adopt a cow' scheme. The scheme lets people 'adopt' a specific cow from the herd and be involved in its daily life through scheduled visits, email and Facebook updates and videos. This aims to reduce the divide between consumers and their rural produce and increase understanding of what life is like on a working farm.

Koskis provides many employment and entrepreneurial opportunities in the region. The estate also provides

visits and environmental education packages for a wide range of social groups, including families, farmers, or company retreats. There are further ideas to develop conference and other meeting facilities on the estate.

"Being responsible for the environment is my life's work and the legacy of the Koskis Estate's evolution over time."

Fredrik von Limburg Stirum
Owner, Koskis Estate

Project Name	Ongoing organic farming payments for Koskis Estate
Type of beneficiary	Farmer – Land owner
Period	2014-2020
Funding	RDP contribution: Ongoing payments (co-financed by the EAFRD) for both conversion and maintenance of semi-natural grasslands, wooded pastures and wetlands
Further info	www.koskis.fi
Contact	helena@koskis.fi

Rewarding flower conservation in French meadows

The EAFRD-supported 'Flowering Meadows' Results-based Agri-environment Payment Scheme in France rewards farmers for conserving a wide variety of flower species on their species-rich grassland meadows. The initiative provides a financial incentive for protecting local wildlife as well as improving the quality of local products.

A results-based scheme

The scheme, introduced in the 2007-2013 Rural Development Programme (RDP) for mainland France has the clear environmental objective to preserve the species richness of grasslands, meadows and pastures.

Crucially, the scheme gives farmers full autonomy as to how they manage their grasslands. They are paid on the basis of the results they achieve, not for the implementation of any specific actions.

Participating farmers are paid €89 per hectare per annum provided at least four from a list of 24 indicator species are present on each land parcel. The payment is calculated as a fixed rate on the basis of theoretical income foregone as a result of reducing use of nitrogen fertiliser and mowing the hay later.

Locally specific lists of indicator plant species are developed for each region in accordance with

guidelines from France's Agriculture Ministry. Indicator plants were selected that were easy for farmers and inspectors to identify.

"Our experience shows that whenever the [results-based] scheme has been used, it was a success with farmers and enabled them to become actively involved in biodiversity issues."

Christine De Sainte Marie
French National Institute for Agricultural Research (INRA)

The results-based support is available to all farmers working with species-rich grasslands. The scheme covers both mountainous and lowland areas, however it is primarily applied to extensive grassland in regional and national parks. The 'Massif des Bauges' Regional Natural Park pioneered its implementation. Subsequently, eight other parks and twelve LEADER projects took up the approach.

© V. Ruin, Chambre Agriculture Savoie



Through the results-based scheme, farmers were actively involved in the identification of plants on their land.

Greater farmer engagement

Entry into the scheme is voluntary and the agreements run for five years. Eligible farmers are also enrolled in a separate entry-level management scheme, allowing for total aid of up to €182/hectare.

The key success factor for the scheme is that using a results-based approach gives farmers flexibility over key issues that they want to control such as when to cut the grass. Such decisions can depend on many variables, for example the growth of the meadow, the weather and other local conditions.

Allowing this freedom has ensured greater acceptance of the scheme by farmers compared to more rigid alternatives such as the 'zero fertiliser' approach. The scheme showed a rapid increase in uptake from farmers over the course of the 2007-2013 period.

"Thanks to the flowering meadow scheme, we now have more area, and more farmers involved than in the previous zero fertiliser scheme. It was easy, acceptable and appropriate for everyone."

Cécile Bayeur
North Vosges Nature Park

Through the scheme, farmers are also actively engaged in the identification of plants on their territories. They are provided with guidance in identifying individual plant species and on-farm support from the advisory service.

Involving farmers in this way has not only helped increase farmer engagement in the scheme, but led to a healthy degree of competition between farms and a positive attitude, even pride, towards the value of biodiversity on their land.

Positive results and follow-up

Farmers report a good quality of animal feed produced from the meadows due to the diversity of plant species. This improves the taste of cheeses, yoghurts and other animal-based products and can be used as a marketing tool. The scheme can also give added value to products through marketing based on their environmental benefits.

"The result that I achieve is thanks to the diversity of leguminous and grass species. That balance in the meadow ensures a good quality of animal feed, which results in high-quality milk products."

Charles Suss
Dairy farmer, North Vosges

Several participating farmers have been recognised through an annual competition for species-rich meadows ('Concours des Prairies Fleuries') that first took place in 2007. The competition has helped further increase awareness and recognition of positive environmental results in species-rich grasslands and the link between biodiversity on farms and the quality of resulting products.

Project Name	'Flowering Meadows' Results-based Agri-Environment Payment Scheme
Type of beneficiary	Farmers – Land managers
Period	2007-2013
Funding	RDP contribution: Fixed rate payments (co-financed by the EAFRD) of €89 per hectare for qualifying parcels of species-rich meadow
Further info	http://ec.europa.eu/environment/nature/rbaps/fiche/species-rich-grassland-programme-flowering-meadows_en.htm
Contact	christine.desaintemarie@agroparistech.fr

2. Doing more with less

Rural economies are intrinsically linked to their natural capital and resources such as water, energy, soils and forests. Exploiting these resources can bring many economic benefits, yet these links can be fragile. Ensuring that these resources are used sustainably is crucial for the transition to greener rural economies.

In essence, 'doing more with less' is about reducing the pressure on existing resources and avoiding economic and environmental costs associated with excessive resource use. Avoiding over-exploitation can ensure that resources are still available to future generations. At the same time, promoting more efficient resource use can ensure that sustainable management delivers the maximum possible benefits, including increased margins for producers.

Efficient resource use

Using resources that are not needed incurs environmental and economic costs that can quickly add up to make a significant impact. With the right information and expertise, resources can often be saved without any impact on production levels, and in some cases deliver improvements through more targeted resource use. For example, using less water on a field does not equate to a smaller harvest so long as the field is watered when and where it is needed.

Improving production in a sustainable way means bringing together knowledge of production requirements with the availability of resources such as water and nutrients in a practical way, that can be used by farmers and land managers.

The use of remote sensing and computer models has helped to advance thinking. Modern technologies are revolutionising the way this sort of information can be accessed by land managers, even through text messages where internet connection is limited.

See the following page for details of an EAFRD-supported initiative used to promote irrigation efficiency in Emilia Romagna, Italy with simple and accessible tools for farmers.

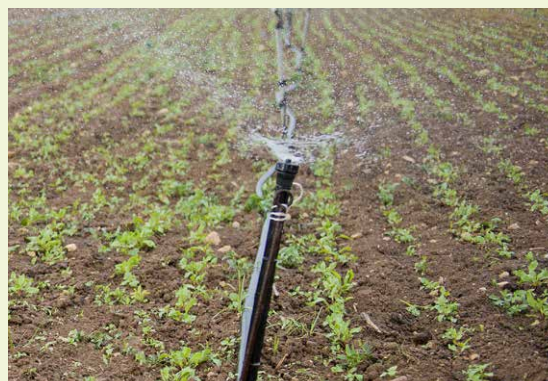
Valorising waste

Extracting value from materials and products that were previously categorised as waste and therefore discarded is another promising area for intervention that can often benefit from EAFRD support under the Rural Development Programmes (RDPs).

Using agricultural and forestry waste streams in renewable energy generation is one area of development – see Section 4 of this brochure.

However, every field of activity may have specific opportunities to valorise its own waste streams. The solutions will necessarily be specific to the materials and context involved, and the technologies available. Solutions can be based on reprocessing materials to create new products and may require or be led by emerging market developments.

See the following pages for an EAFRD-supported project that has explored commercialisation of a new gourmet tomato vinegar product from waste raw tomatoes in Malta.



'Irrinet-Irriframe' – promoting sustainable irrigation in Italy

In Italy, EAFRD support is being used to promote the use of an innovative water irrigation system. Farmers applying for support under the Agri-Environment-Climate or Organic Farming Measures are eligible for an additional support of € 15 per hectare if they use the approved 'Irrinet-Irriframe' tool.

Background

By the 1980s, the Canale Emiliano Romagnolo (CER) developed a detailed irrigation model based on understanding of the relationships between weather, rainfall patterns and crop needs in the Emilia-Romagna region, which was often affected by water shortages.

In coordination with the National Association of Reclamation and Irrigation (ANBI) they started to provide advice to farmers with positive results. In the 1990s, the two organisations jointly developed the 'Irrinet' project with the financial support of the Emilia-Romagna region. This saw the irrigation model and associated support tools made available to farmers online, significantly improving the accessibility of the information.

"The use of computer is not common for me, but the easy and user friendly interface helps me to use the IRRINET web tool."

Irrinet Farmer

In 2012, the new 'Irrinet-Irriframe' project was launched. This provides new features and utilities for farmers based on ongoing knowledge developments by a consortium of experts. The irrigation model itself has been continually refined and developed over the course of 30 years of field trials.

Real-time information and advice

The 'Irrinet-Irriframe' tool is a web-based platform that provides up-to-date and accurate information on the availability and balance of water resources across the region. It is used to help farmers and agricultural operators plan their water use and its application to crops.

The irrigation model provides up-to-date information to farmers on: the necessary irrigation volume; the best timing for irrigation; and the estimated economic advantages of more effective irrigation. The information is adapted to different crops.

"The possibility to have daily information on how much water and when it should be distributed to the fields helps me to save money and water."

Irrinet Farmer

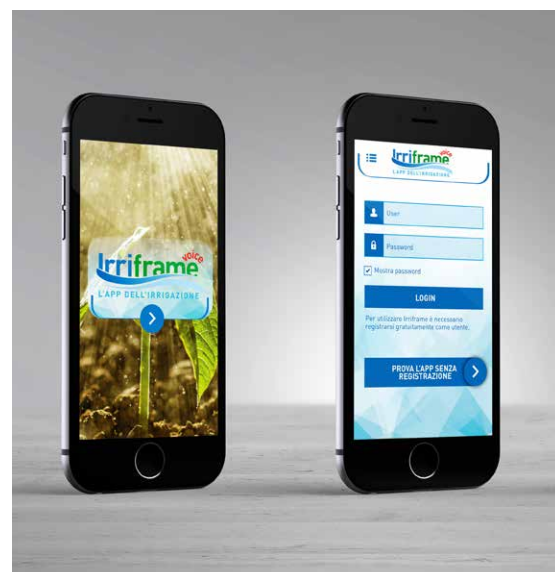
The base information used in the model is updated frequently with information on weather patterns, farm information and spatial data, as well as daily updates from metrological agencies, farm data, and agro-data networks.

One of the main success factors of 'Irrinet-Irriframe' has been providing an online visual tool that is easy to use for farmers who do not regularly use computers. The platform is also very low cost (around € 0.02/ha) across the irrigation season and the service is provided free to end users. The main functionalities of the platform can also be accessed via a smartphone app called 'Irriframe Voice'.

Efficient irrigation with EAFRD support

'Irrinet-Irriframe' is such a useful tool with such positive results for economising water use and saving energy that it has now been integrated into the allocation of funding support under the regional Rural Development Programmes in Italy.

As of the 2014-2020 period, farmers using the 'Irrinet-Irriframe' tool are entitled to an additional € 15 per hectare when applying for RDP support under the Agri-Environment-Climate or Organic Farming



The 'Irrinet-Irriframe' tool can be accessed by land managers via its own easy-to-use smartphone app.

© Irrinet Farmer

Measures. This makes efficient water use a significant motivating factor for farmers.

In this framework, use of 'Irrinet-Irriframe' continues to be rolled out to more regions. In 2015, about 60% of Italian irrigated land was managed using the 'Irrinet-Irriframe' tool, saving about 500 million m³ per year. In 2016, more than 2 700 new users registered with the system.

“Through the use of Irrinet I have improved the water and nitrogen use efficiency and in the last harvest period I obtained a slightly higher production.”

Irrinet Farmer

The CER is currently exploring opportunities under the Cooperation Measure to use RDP support (co-financed by the EAFRD) to further encourage ongoing development and implementation of the tool.

Project Name	Ongoing payments for using the 'Irrinet-Irriframe' water management tool
Type of beneficiary	Farmers and Extension Services
Period	2014-2020
Funding	RDP contribution: a supplementary € 15/ha (co-financed by the EAFRD) for farmers using the 'Irrinet-Irriframe' tool when obtaining support under Measures 10 or 11
Further info	www.irriframe.it
Contact	genovesi@consorziocer.it

Creating value from tomato waste in Malta

An EAFRD-supported project developed a new 'gourmet vinegar' product from the large amounts of tomato waste left over from this important economic sector in Malta. The project demonstrates green economy principles by extracting economic value from what was previously a waste product.

The idea of gourmet tomato vinegar

Tomato production is one of the key sectors of Maltese agri-food production. On average, around 13 000 tonnes of tomatoes are produced each year. Tomatoes represent the main income for a significant number of Maltese farmers.

Most Maltese tomatoes are sent for processing to be transformed into tomato pulp, concentrate, jams, paste and sauces for export. Thorough checks are undertaken on tomatoes at different stages of production to ensure quality and compliance with any relevant standards.

Considerable amounts of waste or damaged raw tomato produce result from these processes. As most farmers could not see an alternative value stream for this produce, it has typically just been discarded as waste.

Tomato vinegar was identified as a product that could be generated from the unused tomatoes rejected by the mainstream processing sector, whilst also representing a high-quality and potentially high value 'gourmet' product.

“Gourmet tomato vinegar is a niche product that has the potential to add significant value to the overall tomato supply chain at the same time as providing much improved resource efficiency.”

Noel Camilleri
Magro Brothers Group

A coordinated response

Both local farmers and agro-processors saw the potential value of developing a joint initiative to try to make commercial use of the large quantities of discarded tomatoes as tomato vinegar. They came together to carry out a project with RDP support to test and develop a niche tomato vinegar product.

Producers and processors jointly organised field trials to identify specific varieties of tomatoes that would be most suitable for the production of tomato vinegar. The tests focused on plant resistance to disease, drought, productivity and attributes of the fruit itself. An environmental impact report was also produced.

Laboratory testing analysed the fermentation process of crushed fresh tomatoes. Experiments were carried out to test how the fermentation process

© Magro Group



Tomato vinegar made from previously rejected raw tomatoes has been branded as a high-quality niche product.

could be maintained longer in order to avoid the tomatoes spoiling.

To complement the existing processing machinery already available, specialised equipment was purchased. This enabled trial runs and testing of various processing approaches and product quality to be carried out.

The product-focused actions were supported by market research. A feasibility study examined the potential markets and anticipated penetration of the new product. This helped inform an assessment of its economic viability. New packaging was created for the product as part of an overall marketing strategy.

“Since gourmet vinegar from Maltese tomatoes is a novel product, the right type of packaging had to be developed so that it differs from traditional vinegars. Also the right market placement and recommended distribution channels have been researched.”

Noel Camilleri
Magro Brothers Group

Lessons and results

The project demonstrated the potential market viability of a new tomato vinegar produced from waste raw tomatoes. This can offer an important source of additional income for both farmers and processors, preserving jobs in the Maltese farming and agri-food sector and maintaining land in good agricultural and environmental conditions.

Farmers also see the opening of a new niche market as an opportunity to increase their production capacities, which are currently regulated by sales contracts with the processors. The project helped consolidate the position and representation of tomato producers.

An interesting aspect of the project was the good cooperation between farmers and agri-processors to pursue this joint research and development initiative. By developing mutual trust and confidence amongst the actors in the food supply chain they have started to recognise the potential business opportunities arising from such a partnership.

“The prevalent negative perception of farmers being exploited by processors decreased. Farmers have recognised that both ends could benefit from each other’s experiences.”

Manuel Bartolo
Farmers’ Representative

Project Name	Gourmet Vinegar from Maltese Tomatoes: an innovative niche product
Type of beneficiary	Private company
Period	2015
Funding	<ul style="list-style-type: none"> • Total budget: € 164 633 • RDP contribution (including EAFRD co-finance): € 68 256 • Private funds: € 96 377
Further info	www.magro.com.mt
Contact	manbon@onvol.net

3. Promoting green tourism

Tourism represents a major potential driver of green growth in rural areas. There are opportunities to build tourism activities on the basis of natural and environmental values. At the same time, it is essential to ensure that tourism is managed sustainably.

In 2014, there were 968 million nights spent in EU-28 rural tourist accommodation.⁽¹⁾ Whilst tourism has long been an area of opportunity for many rural areas, this has not always taken adequate count of the ecological carrying capacity of the local area. Major environmental problems can occur with unsustainable forms of tourism.

RDP-supported projects show some of the ways in which the EAFRD can encourage sustainable tourism – providing a rural economic driver in harmony with the natural environment. At the same time, tourism can bring a much needed connectivity between people and rural landscapes, enabling awareness raising about natural values.

Nature-based tourism

Many rural areas are attractive tourism destinations – not least for the many people who live and work in urban areas. Environmental credentials can be an important opportunity for marketing rural areas to increasingly environmentally conscious tourists.

Such approaches can help rural areas extract greater economic benefits from their local natural environment. The other side of the coin is that they also provide important incentives for the long-term conservation of these natural values.

Many EAFRD-supported projects have developed new touristic activities or place-based marketing strategies, highlighting on local natural values.

See the following pages for an EAFRD-supported initiative in Ireland that seeks to attract tourists through a well-marked and informative bird trail.

Sustainable tourism

New ways of thinking and managing tourism can reveal opportunities to reduce the environmental impact of existing tourism as well to develop new attractions that already take into account the need to minimise their environmental impact.

Sustainable approaches that respect the ecological carrying capacity of the land are essential to ensure the long-term viability of tourism as an economic activity. This may sometimes involve a short-term sacrifice to ensure long-term sustainability. However, in many cases new approaches to tourism can deliver the same or greater economic benefits, whilst minimising the environmental impact.

Successful approaches can involve improving efficiency in the way natural resources are used by tourists or enhancing accessibility to carefully selected areas.

The LEADER project presented on the following page developed a new cycle trail in southern Spain that aims to attract visitors, whilst carefully controlling their access to a protected natural park.



(1) Eurostat, 2015 http://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_statistics_at_regional_level

‘Espubike’ – sustainable cycling in southern Spain

This LEADER project in southern Spain enabled the creation of a circular cycling route with low environmental impact in the Regional Park of Sierra Espuña. Local businesses reported a 10% increase in sales following the promotion of this sustainable tourism practice.

Sustainable tourism through cycling

The southern Spanish region of Murcia is well known for its coastal tourism. However, it also benefits from the Sierra Espuña, 25 000 hectares of forest and mountains protected as a Regional Park. Its natural value includes the presence of 120 species of birds, 38 types of mammals, more than 500 butterfly species and almost a thousand types of plants.

The ‘Espubike’ project developed a 146km cycle trail in the Sierra Espuña mountain range to complement the main existing regional tourism offer and attract visitors inland. The new trail was specifically designed by the project for visitors to enjoy Espuña’s impressive natural and cultural resources without negatively impacting them.

The design of the path required the elaboration of maps, altimetry graphics and GPS routes. Part of the project consisted in developing a website where visitors can find detailed information about the trail and can choose to follow either a free route or an ‘Espubike Challenge’.

“This weekend I completed the ‘Espubike Challenge’. What can I say... it was a challenge fulfilled, an amazing landscape, a complete trail perfectly designed and above all an incredible personal attention from the organisers.”

Guillermo Marquez Carrera
Visitor and Espubike Challenger

The trail goes mainly across the fringe area of the Regional Park in four sections. The route only gets into the core of the park through appropriate pathways and trails, avoiding areas where cycling is not advisable.

The cycling activity is low-intensity and does not degrade the natural resources – the area’s ecological cycles are respected. The practices of sustainable tourism have brought the area recognition under the European Sustainable Tourism Charter.

Promoting local business

To develop the project, a local tourism association, ‘Espuñaturística’, brought together local authorities and entrepreneurs.



© Espubike

The ‘Espubike’ trail encourages visitors to the spectacular mountainous countryside of Murcia whilst carefully controlling their access to protected areas.

The cycling trail was specifically designed to bring visitors to some of the closest villages surrounding the Regional Park. The website includes specific information for visitors on accommodation and other services provided by local businesses all along the route.

The project also engaged local rural communities to raise understanding of the added value and potential business opportunities from protection of nature and the ecosystem of the area.

“The economic profitability of my company depends on the maintenance of the ecosystem and I am convinced that tourists will only be interested in accommodation or restaurants if the area is well protected and conserved.”

Andrés García
Owner of Bajo El Cejo hotel

The project sought to increase the international visibility of the ecotourism offer by providing information in English, French and German on its website, attracting interested visitors and bike enthusiasts from all over Europe and beyond.

Many international agencies have a wide knowledge of the Spanish tourism market, but did not typically consider Spain as an ecotourism destination. The project reports increasing numbers of information requests via the website mainly in Spanish and English.

Positive impact

The success of the project has had a direct and positive impact on the local economy. Local businesses reported a 10% increase in sales during 2016.

More than 20 local businesses have developed their products and services to target users of the ‘Espubike’ cycling route. A new local company has also been set up to respond to the increasing demand for related sport services. This has boosted the availability of accommodation, restaurants and other touristic services in the area, positioning Sierra Espuña as a potential ‘ecotourism centre’ in southern Spain.

“We are here in Sierra Espuña, the green lung of the region. With the development of sustainable tourism practices, this green lung has become an economic lung for the next generations.”

Diego Conesa
Mayor of Alhama de Murcia

Project Name	‘Espubike’
Type of beneficiary	Local tourism association
Period	2012-2015
Funding	<ul style="list-style-type: none"> • Total budget: €40 480 • EAFRD contribution: €30 360 • Regional government: €5 060 • Local entities: €5 060
Further info	www.espubike.com
Contact	ruta@espubike.com

South & East Cork Bird Trail in Ireland

An EAFRD-supported project extended a popular Irish bird trail into South Cork. It installed 28 information panels in carefully selected locations, increasing the touristic appeal of the area based on its natural assets.

Extending an existing bird trail

The original ‘East Cork Bird Trail’ was developed in the 1990s inspired by a tourism-focused LEADER Transnational Cooperation project involving the East Cork Area Development (ECAD). The trail aimed to encourage ecotourism by providing extensive information on birdlife and ecology in the area.

In 2008, ECAD was expanded to become the South and East Cork Area Development (SECAD). A local not-for-profit partnership group, SECAD’s overall objective is to promote greater sustainability across the communities that live in South and East Cork.

SECAD worked with two leading environmental NGOs to help identify a possible extension of the East Cork Bird Trail and suitable locations for bird information panels. They then made a successful application for support under the Irish Rural Development Programme (RDP) to implement the plans.

“We wanted to help people connect with the environment and build on the larger work SECAD undertakes on biodiversity.”

Ellenora Lynch
Development Officer, SECAD

© Diane Cusack



The South and East Cork Bird Trail encourages visitors to respect and enjoy the natural flora and fauna of the area.

Promoting sustainable tourism

As a result of the project, the bird trail now follows a driving route over 100km stretching from East to South Cork. Ballyvergan bird hide which had been closed, was reopened as part of this and other initiatives. The trail includes picnic spots that both locals and visitors can enjoy.

At each of the 28 locations identified by the preparatory research, display boards show pictures of birds that can often be seen in the area. Quick Response (QR) Codes for smartphones are also provided for visitors to find additional information.

The project coordinator, SECAD, engaged local communities along the trail through extensive consultation. This helped gather local history and anecdotes which were included in the text of each display board.

The bird trail is free to use and can be enjoyed by young and old, from complete beginners to bird-watching enthusiasts, taking advantage of the diverse flora and fauna. Visitors can receive a map of the area with extensive information on the type of birds that can be seen at each location.

“The bird trail is a key element of our overall biodiversity plan in SECAD. It provides a real opportunity for communities and small businesses to make use of this infrastructure to deliver eco-education and ecotourism services that can create jobs in rural areas.”

Ryan Howard
Chief Executive Officer, SECAD

The project promotes sustainable tourism in encouraging visitors to enjoy, but also respect the internationally important wetland habitats and birdlife in the area. It thus hopes to ensure the preservation of the fragile natural resources for future generations.

A key aspect of the promotion of the trail lies in the ‘Ring of Cork’ website and social media platforms developed by SECAD. These also promote accommodation, restaurants and activities for visitors to the area.

These tools provide excellent opportunities not only to promote the trail to a wider audience, but also to encourage collaboration among local businesses by sharing the ownership of the project.

Next steps – ‘Cork Birdathon’

With the trail completed, SECAD and partner organisations such as BirdWatch Ireland have launched an interactive and fun event that could become an annual landmark. The first ‘Cork Birdathon’ trail took place in November 2016 aiming to attract more visitors to the area and raise awareness of its important birdlife and biodiversity.

The event gathered hundreds of visitors who were able to count birds along the entire trail. In conjunction with the National Biodiversity Data Centre, a smartphone app was made available to help track participants’ bird sightings and capture monitoring data in real time. In total, 24 teams participated, recording 688 bird sightings across the area.

“Participants in the Cork Birdathon saw over 90 different types of birds on the day. We want people to experience the region’s natural splendour and the habitat of thousands of birds.”

Paul Moore
BirdWatch Ireland, Cork Branch

Project Name	South & East Cork Bird Trail
Type of beneficiary	Local not-for-profit partnership
Period	2013-2015
Funding	<ul style="list-style-type: none"> • Total budget: €52 000 • RDP contribution (including EAFRD co-finance): €30 000 • Private funds: €22 000
Further info	www.ringofcork.ie/birdtrail
Contact	elynch@secad.ie

4. Renewable energy from rural production

Producing renewable energy from farm and forestry wastes and by-products can provide important sources of revenue for the rural productive sectors. Furthermore, in many cases, it can avoid previously costly processes associated with waste management.

The rural productive and land management sectors generate significant amounts of organic waste in forms such as wood residues (such as bark, hedge trimmings or leaves), manure, food processing waste and agricultural residues (such as straw). These 'waste' products have a significant amount of energetic value.

New technologies and greater affordability in the required equipment is making it an increasingly realistic option to extract this energetic value on farms and other rural situations. This is actively promoted through the EU's Renewable Energy Directive.

Energy from agricultural waste

Manures or other organic rural wastes, such as food processing waste and agricultural residues, can be processed in digesters to produce biogas energy. Such processes can also generate other valuable products, such as fertilisers from the digestate (the leftover solid material after the production of biogas).

With careful management and the use of modern techniques, these processes can be highly efficient at producing energy whilst minimising environmental impact from emissions and nutrient leaching.

Such processes not only generate economic value for the farm or other rural business, but can often avoid previously costly processes of waste management and removal, thus providing multiple environmental and economic advantages.

The example on the following page is an EAFRD-supported initiative from Romania that has integrated renewable energy production as a means of valorising by-product from milk processing activities.

Energy from land management

Managing landscapes, such as hedgerows, grass or reed beds, or even woodland management, can all be important to farm businesses and the environment, but can incur a significant cost in rural areas.

However, with the right collection and processing tools and practices, habitat and landscape management residues can be collected to produce energy biomass, such as wood pellets.

The rural actors involved in their collection can often receive a direct financial benefit from these 'free' resources. This can transform habitat management actions into income-generating activities, the epitome of a green economy approach.

See the following pages for an EAFRD-supported Flemish project that has encouraged land managers to turn residual wood into pellets for use in local heating systems.

Such approaches are not always high-technology energy solutions. Often they involve the adaptation of traditional techniques and practices. In this way, they can also help to preserve rural ways of life as well as deliver economic advantages.



© Samenwerking voor agrarisch landschap (SVL)

A resource-efficient and modern dairy farm in Romania

EAFRD support was used to create a modern dairy farm in Nucet, Dâmbovița County including both on-site dairy processing and biogas units to make full use of all the products and by-products generated on the farm. This green economy approach has delivered environmentally sustainable economic benefits together with local job creation.

Resource efficient infrastructure

The ambitious project started with obtaining the relevant local authority permits and purchasing land. Several procurement procedures were organised to make the necessary purchases at the best price.

The project developed the farm with a breeding capacity of 250 dairy cows housed in a well-ventilated enclosure with access to outdoor paddocks. Alongside the dairy farm, it constructed a new processing facility with automated elements to produce traditional cheeses and other dairy products.

A newly installed on-site biogas station is fed by slurry and milk-processing waste from the farm. This is done using modern evacuation and collection equipment also purchased by the project. The airtight fermentation unit is able to generate 250kW of power for the farm, with nearly zero ammonia emissions.

"I knew that the renewable energy and heating component of the project would not be easy on a farm. But with the right motivation, care and

consultation, it was possible to overcome many challenges. It has been a real opportunity to work in this new area."

Avanu Ion-Irinel
Engineer, Best Team Consulting S.R.L.

New wastewater treatment facilities avoid nutrient leaching to the environment. In addition, a local water supply system was created to provide drinking water within the farm.

New jobs for all social groups

Growth and efficiency improvements on the farm meant that 25 new jobs were created – with more planned. Furthermore, the new jobs were relatively less physically demanding than traditional farm jobs and therefore more inclusive to people of different backgrounds and social groups.

The farm has an active equal opportunities policy, targeting women and men and offering opportunities to vulnerable members of society at risk of discrimination.



© Best Team Consulting SRL

The EAFRD investment created circular economy advantages by enabling dairy farm wastes to be processed in an on-site biogas facility.

For this purpose, the modernisation included improved social areas and appropriate changing facilities.

The project took an active role in reaching out to the community to increase knowledge of the modern farm, both through recruitment campaigns and through activities such as school visits.

“This dairy farm and renewable energy project represents an interesting investment model and a successful project for the county and region in terms of projects benefiting from European funds.”

Veronica Oprea

Expert within County Office for Financing Rural Investments, Dâmbovița

High school children and university students are invited to apply for traineeships and employment on the farm following graduation. Opportunities are provided in areas such as animal husbandry or energy generation.

Success factors

Developing this ambitious project required careful planning. The beneficiary was able to ensure that the aims of the project fitted with the priorities of the Romanian Rural Development Programme (RDP) by using their existing expertise and the ‘Applicant Guide’⁽¹⁾ prepared by the Managing Authority and the Paying Agency.

“I wanted to do something different, to help develop the community. The project was a challenge, had its difficult parts but overall it has been very

rewarding. Implementing this project meant combining, in an efficient manner, economic and environmental benefits.”

Viorica Bogdan

Best Team Consulting S.R.L

Developing a clear business plan was important to secure funding from a range of sources. This included setting out the level of expected profitability (at least 10%), environmental benefits, food safety compliance and possibilities for utilising the existing agricultural potential within the area. The farm was then able to seek EAFRD support and co-funding from the banks, the European Economic Recovery Plan (EERP) and private sources.

Project Name	Resource-efficient and modern dairy farm in Nucet, Dâmbovița County
Type of beneficiary	SME
Period	2011-2015
Funding	<ul style="list-style-type: none"> • Total budget: €5 130 651 • EAFRD contribution: €892 636 • National contribution: €46 981 • Private funds: €3 702 588 • European Economic Recovery Plan: €391 370
Further info	https://enrd.ec.europa.eu/projects-practice/dairy-farm-biogas-production-unit-romania_en
Contact	best_teamconsulting@yahoo.com

Residual wood as a sustainable energy source in rural Belgium

This LEADER project in the Meetjesland region in Belgium used a purpose-built wood chipper to process residual wood into chips for fuel. It provided strong financial incentives for more active management of neglected hedgerows and woody landscapes.

Generating wood fuel from residual wood

The Cooperation for Agricultural Landscape Association (Samenwerking voor agrarisch landschap, SVAL) developed the project to contribute to the sustainable management of the agricultural landscape in East Flanders, Belgium.

Using EAFRD support, they designed a new chipper specifically for the project. This was based on

combining the most suitable wood chipper and tipper elements available on the market in the most practical way for processing landscape wood. Given the specific design purpose, an agreement was reached with the local farmers only to use the chipper for processing hedgerow or small landscape wood.

Through the project’s duration the wood chipper was made available for use at no charge. The machine could be booked online or through a telephone service. Since the end of the funding support, a minimum

(1) http://portal.apdrp.ro/informatii_generale_pndr_pndr_2007_2013_masura_121_modernizarea_exploatatiilor_agricole



The EAFRD investment led to a specially designed wood chipper and tipper for processing landscape wood.

running cost of €25 per hour of actual use (machine switched on) has to be charged to cover servicing and maintenance costs.

“Farmers are especially pleased with the machine because it is tailored to agricultural landscape management. Furthermore, the fact that the wood chips are used as local renewable fuel is an important added value.”

Cooperation for Agricultural Landscape Association (SVAL)

Engaging the rural community

Using newsletters, information sheets and demonstration days, SVAL raised the awareness of local residents about the project and its benefits. This included reminding people of the long history in the area of using wood generated from landscape management as fuel.

SVAL also provided information to local farmers about the project and guidance on the most appropriate use of hedgerow management for energy purposes. Advice covers aspects such as the harvesting cycle and encouragement to replace damaged hedgerows. More than 25 farmers took part in the programme.

An example of a heating system, based on dry wood chips, was available for viewing by appointment. A brochure on the use of woody biomass for heating and links to an information website were also made available.

“I’ve been heating my greenhouses with a special burner for wood chips for five years now. On average I need about 100 m³ of wood chips a year. Heating with wood chips is at least three times cheaper than heating with fuel oil, so the difference in cost is obvious.”

Paul Dossche
Ornamental horticulture grower

Multiple long-term benefits

The project helped to bring different actors in the rural community closer together for mutual benefit. Some farms are now using the chips generated by the landscape managers for heating and the local swimming pool has made plans to use them in a similar way.

This small-scale pilot project has helped to demonstrate the economic added value of collecting and processing residual wood from landscape management for energy purposes. Now several similar initiatives are being developed to take up the approach in other areas of East Flanders.

Providing dedicated machinery and creating a local market for energy wood in this way can help local farmers and the rural community to reduce their CO₂ emissions, generate income and provide much needed management of the area.

“A true LEADER project to be proud of: a bottom-up cooperation and an innovative idea that started as a local pilot initiative but with the potential to inspire the whole region.”

Annelies Waegeman

Coordinator, Meetjesland Local Action Group (LAG)

Project Name	Energetic use of residual wood from landscape management
Type of beneficiary	Not-for-profit association
Period	2012-2014
Funding	<ul style="list-style-type: none"> • Total budget: €69850 • EAFRD contribution: €13620 • Regional contribution: €15078 • Provincial contribution: €16703 • Private funds: €8500 • King Boudouin Foundation: €15947
Further info	http://energieklandschapshout.be
Contact	annelies.waegeman@oost-vlaanderen.be

5. Renewable energy infrastructure

Exploiting renewable energy technologies will be a central part of the transition to a low-carbon green economy. Rural areas are often better placed than urban areas to be the location for renewable energy infrastructure. This can provide opportunities to develop rural economies and deliver environmental and social benefits.

Rural areas often have one major advantage over urban areas: space. This means rural locations are often a better option for the placement of renewable energy infrastructure, such as wind farms, solar voltaic cells or hydropower stations, compared to more densely populated urban areas. However, it is crucial that such activities benefit the rural areas directly.

Applying the right solution

With the right approaches, technical solutions for efficiently and effectively generating renewable energy from the natural environment can be applied in rural areas. These can take advantage of natural assets in terms of space, but also climate, weather and features such as rivers.

However, it is essential that infrastructure is well planned and sensitively placed – both environmentally and culturally. Knowledge of the local area and consultation with local rural actors at an early stage is essential.

With the right preparation, the necessary investments can be made with confidence given the significant economic benefits of energy self-sufficiency and even the potential to sell excess energy to mains-electricity suppliers of urban areas.

See the following pages for an interterritorial LEADER cooperation project in Portugal which examined how to identify renewable technologies that will be most appropriate for a specific rural area.

Social and community benefits

For many isolated rural areas, problems with access to affordable energy are not just about cost, but availability and access to supply networks.

The high costs or limited/disrupted availability of electricity supply can mean that local energy-reliant services cannot be delivered or guaranteed. The costs of guaranteeing energy supply are often too high and come with a high environmental cost from use of unsustainable fossil fuel sources.

Installing small-scale renewable energy infrastructure can avoid the costs and practical barriers to reliable clean energy. This offers the potential to deliver additional social benefits that can improve the vitality of the rural community.

See the following page for a Bulgarian project that used EAFRD support to invest in solar power to provide guaranteed street lighting in a relatively deprived municipality.



Village renewal from green street lights in rural Bulgaria

The municipality of Kainardja used EAFRD funding to improve public services while modernising the energy infrastructure through the introduction of a solar street-lighting system. The project contributed to a broader sustainable energy strategy of the municipality.

From lagging behind to pioneering

The Kainardja municipality in north-east Bulgaria is considered a backward rural area due to its low infrastructure development, insufficient public services, high unemployment and low average income per capita.

To address the issue of inadequate and costly conventional street lighting, the municipality applied for RDP funding to invest in the building and installation of solar lighting fixtures.

The installation of solar street lighting was a new, innovative project idea back in 2009 that had never before been applied in practice in Bulgaria. It fell within a broader strategy of the municipality to invest in energy efficiency and renewable energy sources in order to deliver social and economic benefits in environmentally friendly ways.

“It took a lot of courage and determination to apply for funding and invest in such a project and follow it through. It was not easy to justify and decide on a risky investment that was almost as much as the municipality’s yearly budget.”

Ljuben Sivev
Mayor, Municipality of Kainardja

Combining social, economic and environmental benefits

The project consisted in the installation of 486 lighting fixtures – including solar panels and rechargeable batteries for each of them – in nine of the 15 villages in the municipality. The fixtures get charged through solar energy and can operate for 14 hours a day even in severe winter conditions when daylight is limited.

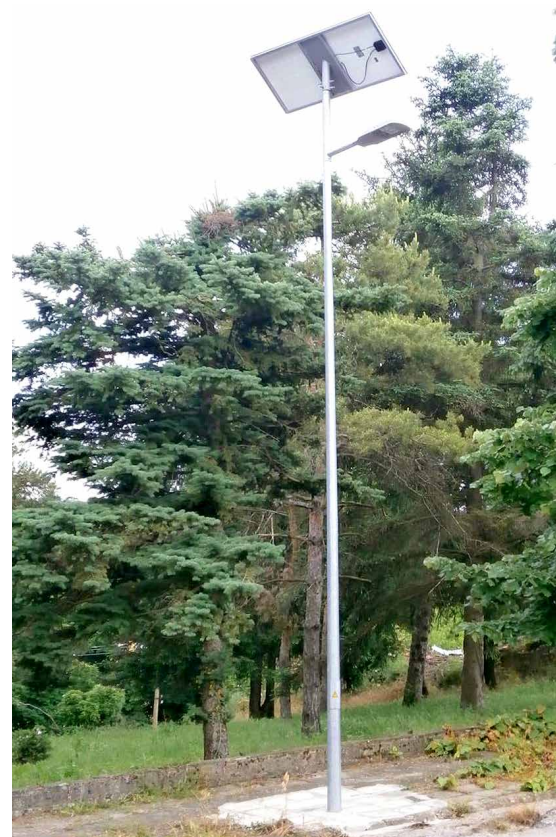
The solar street lighting installed by the project allows the lighting of 59 streets in Kainardja throughout the night. This benefits over 5 000 people from the local population.

Besides these social benefits, the project significantly reduced the municipality’s energy expenditures as the lighting system does not involve any running costs. And as they operate on a clean energy source, they do not have a harmful effect on the environment.

“The conventional street lighting was on for only two to three hours a night, it went off around 23:00 in the evening and we did not have the financial means to cover even these expenses. Thanks to the solar fixtures, the streets are lit all night long and this does not involve any running costs.”

Bonka Yordanova
Chief expert, ‘Economic development, operational programmes and cooperation’,
Municipality of Kainardja

The success of the project was recognised on a national level: it was selected in 2015 as best practice in ‘renewables’ by the Bulgarian Rural Network. The project turned into a kind of de facto pilot project that inspired several similar projects throughout the country which also benefitted from Rural Development Programme funding.



© Municipality of Kainardja

EAFRD support has enabled a disadvantaged municipality in Bulgaria to provide solar-powered street lighting with low economic and environmental impact.

© Municipality of Kainardja



The project has enabled the lighting of 59 streets in Kainardja throughout the night.

An ongoing sustainable energy priority

In addition to European objectives for energy efficiency and greenhouse gas (GHG) emissions reduction, each municipality in Bulgaria has individual sustainable energy targets. These aim to contribute to the overall national objective of investing in sustainable energy use.

In Kainardja, targets were set to be achieved in two stages: in 2013 and 2016. In addition to the solar street-lighting project, it implemented another two projects on the energy efficiency of public buildings.

Through these projects, the municipality achieved all its targets already by 2013. Nevertheless, it will continue to pursue an active policy of investing in

clean energy infrastructure and introducing alternative energy sources.

“We managed to reach all our sustainable energy targets already at the end of 2013, three years ahead of schedule. We also reduced costs by far more than initially planned.”

Bonka Yordanova
Municipality of Kainardja

The positive results of the solar street-lighting project proved the benefits of investing in environmentally friendly solutions to improve the quality of life of the local population and reduce economic costs.

Project Name	Building a Street Light System Using Solar Energy in the Municipality of Kainardja
Type of beneficiary	Municipality
Period	2010-2013
Funding	<ul style="list-style-type: none"> • Total budget: €981 322 • EAFRD contribution: €834 124 • National contribution: €147 198
Further info	http://kaynardzha.egov.bg
Contact	bonka.jordanova@abv.bg

Diverse renewable energy solutions in rural Portugal

An interterritorial LEADER cooperation project enabled five Portuguese Local Actions Groups (LAGs) to identify which renewable energy technologies best suit the specific needs of their rural area. The project successfully demonstrated how careful planning can make renewable energy solutions a secure investment.

Research-based solutions

The ‘Rural Portugal for a Sustainable Future’ project brought together LAGs from the north, centre and west of Portugal. Each of these areas contains different climatic, geologic and natural resources, and thus has different energy needs and challenges.

Research was carried out to determine which type of technology each area should adopt. New means of monitoring, testing and reporting environmental performance were developed for this purpose.

“One interesting finding was that black solar (PV) panels appear to have a significant advantage compared to poly or mono-crystal panels along the

coastline. This is due to the fact that fog is often present even in strong sunlight, whereas inland its presence is far lower.”

Jose Coutinho
Leader Oeste Local Action Group (LAG)

Following careful technical and economic analyses, tailored implementation plans for each of the five areas were drawn up. For example, in the area of the Atahca Local Action Group in north-west Portugal in-depth analysis found that the potential full energy production of a micro hydro plant was two to three times that of an equivalent solar energy (PV) system, based on similar terms of investment.

Successful local solutions

In each area, at least one fully operating renewable system – such as the micro hydro plant in Atahca – has since been installed. In addition and where necessary to achieve overall energy efficiency targets, smaller-scale infrastructure – such as water heating panels, energy regulators and LED lighting – was also installed.

The five different renewable energy systems implemented each showed that at least 50% of their area's consumption needs could be met through renewable sources.

The project team thus demonstrated that, with the right approach based on careful planning and analysis, village communities can implement locally specific renewable energy solutions that deliver long-term economic benefits.

The key lesson is that renewable energy sources must be selected to suit each specific context, which can only be achieved with knowledge and foresight.

In this respect, the project has played an important role in transforming something once regarded as innovative into something that should be considered mainstream. Instead of being perceived as an additional cost or investment risk, renewable energy should be seen as an opportunity.

“Today, nobody questions renewable energy's technical reliability. A national programme called ‘Renovaveis na hora’ has helped to standardise access to energy production for any domestic or small industrial site, and housing is nowadays planned with renewable energy in mind.”

Jose Coutinho
Leader Oeste LAG

LAG expertise

The project has also served to heighten the profile of the involved LAGs, many of which are now acknowledged to be experts in the field of renewable energy planning. This has led to inquiries from other rural LAGs who want impartial and up-to-date advice on how to switch to renewable energy.

Leader Oeste LAG, for example, advises colleagues from other regions to examine the state of the market closely, and to not simply go for the cheapest technology available. This has enabled other regions to invest in renewable energy with a sense of security.

“This project has shown that partnerships work and that risk is something that can be addressed with patience and guidance. LEADER groups can play a fundamental role in managing funds. There is a future beyond fossil fuel energy!”

Jose Coutinho
Leader Oeste LAG



© LAG LeaderOeste

The LEADER cooperation project helped demonstrate the real potential of regionally specific renewable energy solutions.

Project Name	Rural Portugal for a sustainable future
Type of beneficiary	Public/local authorities, Local Action Groups
Period	2010-2012
Funding	<ul style="list-style-type: none"> • Total budget: €549 300 • EAFRD contribution: €373 524 • National contribution: €93 381 • Private funds: €82 395
Further info	www.leaderoeste.pt
Contact	leaderoeste@netvisao.pt

6. Cooperating for a greener economy

Green rural economies work best where different individuals and actors come together to achieve a common goal. Collective and community approaches can ensure that efforts are pulling in the same direction, preserving natural resources and creating sustainable economic opportunities. EAFRD-supported cooperation can take place at community/territorial level or across sectors of expertise.

Most types of activities can benefit from cooperation at the local level, from developing new and innovative supply chains, to coordinating land management at the landscape scale, sharing good practice and marketing local products.

Cooperation across a territory

Landscape-scale management, such as improving water catchments, restoring habitats, or reducing fire risk, often require multiple land managers to work together. Sharing ideas and effort through cooperation can greatly increase the chances of success of larger projects like this, and reduce the risk and burden for individuals. Coordination of these approaches is important and can lead to long-term partnerships.

Collective approaches can also add value by creating networks of individuals or businesses across a territory working together to develop and access new markets. For example, restaurants, accommodation facilities, tour operators and guides can work together to jointly promote their area and its enjoyment through the products and services they provide.

The example on the next page is a case study from Sweden of an EAFRD-supported, community-led approach to developing a permaculture ecovillage based on shared decision-making.

Collaboration across sectors

Cooperation across sectors can be important to bring together the different skillsets, experience and understanding necessary to bring a project or idea to fruition. This is often the case in research projects or in the development of new business ideas.

Connecting different actors along new or existing supply chains is one particular area of opportunity, for example getting a baker and a café to work together. All parties in such operations stand to benefit by reducing the costs and increasing the benefits along the supply chain.

See the following pages for an EAFRD-supported initiative bringing together a range of different actors and interests to improve the efficiency of olive oil production in Tuscany, Italy.

In many cases, joint work on a specific project can build trust and enable new partnerships to flourish leading to long-term cooperation and joint activities.

Cooperation has received new attention in the form of Measure 16 in the 2014-2020 RDPs⁽¹⁾ with a particular focus on the co-creation of innovations through the establishment of Operational Groups under the EIP-AGRI.⁽²⁾

(1) Under Article 35 of the EAFRD Regulation

(2) www.eip-agri.eu



Community-led ecovillage in Sweden

The LEADER project 'Suderbyn Permaculture Ecovillage' provides a model for a sustainable rural lifestyle including environmentally friendly accommodation, wastewater treatment, food and energy production. The community aims to minimise its environmental footprint through new patterns of consumption.

Creation of an ecovillage

An initial 2009-2013 LEADER project put in place the basic infrastructure of a new ecovillage on an old farm property just outside Visby, the main town on the Swedish island of Gotland.

The site was far enough away from urban areas to experiment with alternative water management infrastructure, but close enough to benefit from public transport and waste collection.

Early work included initial landscaping of the area, involving the planting of hundreds of trees and moving 3 800 cubic metres of soil, including to create seven giant sun traps and four ponds. The site is unique in Sweden in its use of these sun traps, composed of horseshoe-formed windbreaks pointing south, designed to create a favourable microclimate.

Additional key equipment installed included a Scheffler Reflector solar cooker, which enables food to be cooked using only the power of the sun's rays. Signs and benches were also installed to make the site more accessible.

"We started with a lofty vision of an ecovillage. We wanted to reject a consumerist approach and create a place of voluntary simplicity. By the end of the project, our vision had become a lived reality."

Robert Hall

Co-founder Suderbyn Permaculture Ecovillage

A collective model of sustainable consumption

Decisions are taken in the community, which is usually made up of 15-20 people, on the basis of a communal consensus approach. This ensures participatory governance with attention paid to the long-term perspective.

The residents aim to achieve a non-materialistic lifestyle that is closer to nature and with a greater appreciation of self-sufficiency. Entrepreneurial activities aim to focus on social entrepreneurship and green businesses, rather than speculation or financial profit.

The project planted Sweden's largest permaculture forest food garden, a space-efficient perennial garden of edible plants. The ecovillage seeks to ensure

inhabitants have at least one common meal per day, waste is avoided and purchased food is bought in bulk from local farmers or wholesalers.

"Bringing people together is not always easy, but it gives you so much energy it's worth it!"

Disa Angbratt
Suderbyn resident

An inspiring model

The initial phase of the project was concluded with an exhibition in the town library of different ideas to develop the ecovillage. Ideas came from different people ranging from local school children to professional architects.

The project serves as a living demonstration model for rethinking rural development in terms of living in an environmentally friendly manner, patterns of consumption, ethical financing for developments and interactions with wider society.



© Sergey Lutchenko, Suderbyn Permaculture Ecovillage

The Ecovillage concept encourages more sustainable lifestyles more in harmony with the local environment and natural resources.

The project also demonstrates the values of communal solidarity and increased social interaction. What began as a residential development transformed into a centre for living and learning.

Ongoing plans include the development (2017-2018) of a closed-loop system prototype that recycles nutrients from food and energy production. It aims to produce renewable energy via a biogas digester and a soil-free plant cultivation system (aeroponics). Year-around operation will be enabled by a geodesic dome greenhouse.

“I think the project has been an inspiration not only for those of us closely involved, but also for people far away that heard that such an initiative was possible”.

Robert Hall

Co-founder Suderbyn Permaculture Ecovillage

The ecovillage is now planning an online manual for anyone interested in replicating the system, whilst ECOLISE – the European network for community-led initiatives on climate change and sustainability – is collating information on ecovillages and other community-led climate action initiatives across Europe.

Project Name	Suderbyn Permaculture Ecovillage
Type of beneficiary	Cooperative
Period	2009-2013
Funding	<ul style="list-style-type: none"> • Total budget: ~€ 159 000 • RDP contribution (including EAFRD co-finance): ~€ 74 000 • Private funds: ~€ 85 000
Further info	<ul style="list-style-type: none"> • www.suderbyn.se • www.ecolise.eu
Contact	Robert.hall@suderbyn.se

Improving olive oil production through joint research in Italy

‘IVO’ was a collaborative EAFRD-supported pilot project involving private companies and researchers. It demonstrated that an innovative filtering could improve oil quality, reduce oil losses and avoid some of the recurring financial and environmental costs of traditional filters.

Olive oil is an important product for the Tuscan regional economy. But small-scale producers have often faced difficult choices. Improving the quality of their oil by filtering has traditionally meant the use of paperboard olive oil filters, which absorb oil and need to be replaced frequently. Many producers have chosen not to filter at all.

Benefits of collaborative research

The private Tuscan olive oil mill Olivicoltori Colline Arno Sieve (OLCAS) participated in an initial research project with Florence University to develop a filtering prototype in 2005-2007. Using EAFRD support they were able to follow this up with a broader cooperation to test the prototype in action.

In the IVO project, the local farm Fattoria Altomena supplied the olives, while the private company Toscana Enologica Mori di Tavernelle provided the necessary machinery. Testing was carried out by University of Florence researchers at the private OLCAS mill.

“The partnership was very cooperative thanks to good planning and a clear division of roles. We could

also count on a long-established ‘friendship’ based on trust and good interpersonal relations”.

Sauro Lucarelli

Agronomist and IVO Technical Expert

OLCAS installed the new filtering system at its mill to test its impact on the quality of olive oils over two years (2012-2013). The prototype included two sets of steel filters with different levels of absorption capacity. It also included a nitrogen stripping system to eliminate dissolved oxygen from the oil in order to help avoid oxidation.



The pilot project tested a prototype steel filtering system for local olive oil production in Tuscany.

Olive oils were analysed through four types of production: not filtered; filtered with conventional filters; filtered only with the IVO steel filters; and filtered with both the steel filters and the nitrogen stripping system.

An improved product

The testing found all the oil samples had similar water contents and chemical compositions (such as acidity). However, there were important differences in the flavour and longevity of the oils.

Filtered oils are higher quality and those filtered using the new steel prototype kept their flavour profile for longer. Oils filtered with both IVO filters avoided oxidation for longer, allowing prolonged storage and a longer shelf life of the oils compared to those filtered using conventional techniques.

“The biggest success of the project was the higher quality of oil that we achieved. It contains double or triple the level of polyphenols per litre compared with ‘classic’ olive oils. The fact that such a small producer is able to produce oil of such high quality without extra costs is a particular success”.

Sauro Lucarelli
Agronomist and IVO Technical Expert

Ongoing added value

The positive results of the project have led directly to added value along the supply chain in harmony with environmental sustainability.

The filters last longer and do not absorb oil during the filtering process, thus reducing waste and minimising their environmental impact. Meanwhile, given the quality improvements achieved, producers have been able to increase the price of their oils from around €10 per litre to €17 per litre.

More olive producers than ever before now bring their olives for processing at the OLCAS mill as word has spread of the quality benefits achieved.

“The long-term success of the mill has been even better than we hoped. People keep coming back to use the mill even though the project is over. This is largely thanks to word of mouth in the area”.

Sauro Lucarelli
Agronomist and IVO Technical Expert

The project has also created interest along the supply chain for further joint efforts. OLCAS and at least three olive farmers have applied for further RDP support to develop the supply chain in the 2014-2020 period.



© Florence's Chamber of Commerce

As a result of the project, more and more local olive producers are bringing their olives to the beneficiary mill for filtering.

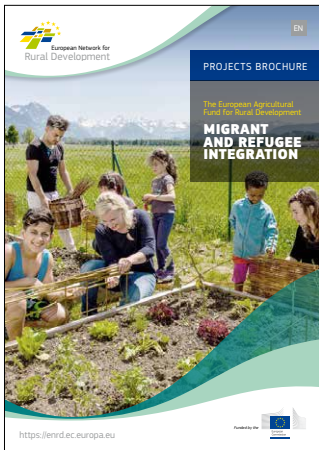
Project Name	IVO – improving olive oil quality
Type of beneficiary	Private company
Period	2012-2014
Funding	<ul style="list-style-type: none"> • Total budget: €167 083 • EAFRD contribution: €66 356 • National/regional contribution: €84 454 • Private funds: €16 273
Further info	www.olioolcastoscana.it
Contact	posta@gal-start.it

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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.

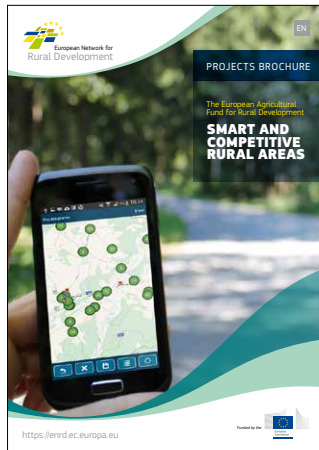
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KF-01-16-688-EN-C

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KF-04-16-359-EN-C

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KF-02-15-287-EN-C

EAFRD Project Examples 2007-2013



KF-AK-14-001-EN-C

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K3-AK-13-001-EN-C

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K3-AK-12-003-EN-C

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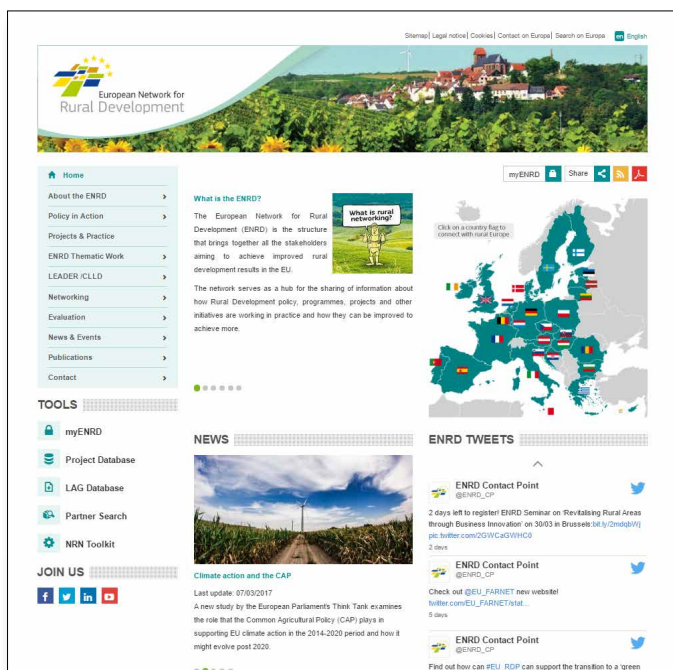
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