

SPAIN

Climate change mitigation

Location
Catalonia

Programming period
2014 – 2020

Priority
P6 – Social inclusion & local development

Measure
M19: LEADER/CLLD

Funding (EUR)*
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National/Reg. 157 6710.60

Project duration
2012-2021

Project promoter
ASSOCIACIÓ LEADER
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* Annuities 2017-2018-2019

Local renewable energy opportunities generated through knowledge exchange, capacity building and training on sustainable forest management and energy transition.

Summary

The ENFOCC project, which started in 2010, aims to foster a new energy and forestry culture amongst local authorities, various economic sectors and the general population. Its aim is to generate a significant impact in Catalonia's rural areas.



Through knowledge transfer around the concepts of energy, forestry and climate, the project has contributed to sustainable forest management and improved the on-the-ground stakeholders' capacities to mitigate and adapt to climate change. Various targeted activities were undertaken to improve and promote rural sustainability, including energy accounting for energy and efficiency savings linked to a change in the energy model. Renewable energies based on local sources, such as biomass, were also promoted, as well as other actions, like electric mobility, to combat climate change.

Results

The project has increased alternative energy production and consumption through the construction of almost 80 biomass boilers that promote the use of local resources from sustainably managed forests. Capacity building and awareness-raising activities have played a central role in the project's coordinated approach towards increasing rural areas' commitment to climate mitigation and adaptation actions.

With regards to energy accounting and energy transition, the project has also developed and applied different tools which provide users with an overview of their consumption, the opportunities for consumption reductions and use of renewable energy and the cost savings potential.

Lessons and recommendations:

- ❑ Coordinate increased renewable energy opportunities with capacity building across the supply chain, including with forest managers, technicians, energy producers, and the general public.
- ❑ Broad stakeholder collaboration to produce energy management tools allows for an integrated approach towards improving efficiency and reducing emissions.

Context

The project grew in 2010 out of the need for public forest management. There was little awareness at the time of the benefits, both economic and environmental, of renewable energy production from biomass boilers, which the project aimed to demonstrate. Based on this demonstration, municipalities started the construction of boilers in rural areas. Awareness about the importance of energy efficiency increased, and the first energy information point was created in July 2011. It allowed for knowledge transfer to all audiences (both private and public). The results were really good, interest grew and people started to collaborate with the project.

Between 2011 and 2015, the energy information point had one employee and was dependent on LEADER funding (Eureners). In 2016-2017, more municipalities joined the project, work increased and an independent body was created – the Ripollès Energy Agency (Agència de l'Energia del Ripollès). The agency now employs two people and no longer depends on LEADER funding. It does however, closely collaborate with a Local Action Group (LAG) on the ENFOCC project, helping with energy efficiency and innovative methodologies.

In 2012, the region also decided to take part in the Clima Programme (an initiative promoted by the Ministry of Agriculture and Fisheries, Food and Environment) to contribute to reducing Spain's CO₂ emissions in compliance with international agreements on climate change. Therefore, the project continues to evolve and adapt to the changes taking place in the field of energy efficiency, mitigation and prevention of climate change.

Objectives

The project was designed to improve the sustainability of Catalonia's rural areas by aiming to accomplish the following objectives:

- Promote energy and efficiency savings by changing the energy model.
- Promote renewable energy production from local sources and materials.
- Increase awareness of rural residents about the need to promote actions to mitigate and adapt to climate change.
- Promote sustainable forest management.

Activities

All 11 Catalonian LAGs are collaborating in the project. Three LAGs from other regions in Spain and one from France have also collaborated in carrying out the following activities:

ENERGY ACCOUNTING

ENEGEST (<https://enegest.energiaibosc.com>) is a free online energy management tool developed for companies and individuals. It integrates all energy consumption into a single platform: electricity, gas, butane, LPG, diesel, biomass, and so on. As an energy accounting tool, it promotes financial savings by allowing users to calculate consumption and cost ratios as well as their carbon footprint. Additionally, it calculates the viability and amortisation of installing photovoltaic panels for energy users. Currently, there are 620 registered users of the tool, but the number of annual active users in 2017 was 188, 184 in 2018 and 122 in 2019.

The project has collaborated with various entities from Catalonia's energy agencies including the Catalan Energy Institute (ICAEN) and the Climate Change Office. Additionally, the project carried out different initiatives around energy accounting:

Two courses on software for municipal energy management.

The management of 47 municipalities and four county councils, totalling 1 024 energy accounts (contracts).

The energy management of 10 public schools.

ENERGY TRANSITION IN THE 21ST CENTURY (TE21)

The project has been working on energy transition with Ramon Sans Rovira, an industrial engineer and author of the TE21 calculation model, to calculate and develop energy transition reports for different municipalities and provinces in Catalonia. The reports show the financial costs and savings possible from an energy transition, replacing fossil fuels with local, renewable sources (<http://transicio.energiaibosc.com/>). Following on from this, the project is developing an interactive model in different languages so that anyone might enter energy data and receive accurate, realistic information.

To raise public awareness about the importance of energy transition, the project produced short videos and presentations for social media, which had 9 500 views in 2019. The project also developed an educational game for secondary school pupils called the "Energy Transition Game", which allows younger generations to engage with this topic. Finally, the project designed and presented a "Mobility Planning Study on Electric Cars" to the regional municipalities.

FOREST MANAGEMENT AND BIOMASS

The project has actively promoted the increased use of biomass boilers, local sources of biomass and reductions in CO₂ emissions to contribute to the national compliance with international agreements on climate change.

In collaboration with various entities from Catalonia (the Biomass Cluster, ICAEN, BOSCAT (Federation of Forest Management Associations), and the Climate Change Office), the project has carried out different initiatives and actions:

- Completion of three courses for biomass boiler installers.
- Drafting of two technical guides with Biomass Cluster and ELFOCAT (association of Catalonian municipalities owning and managing forest land).
- Guide about emissions in biomass installations.
- Guide for other uses of wood.
- Execution of three feasibility studies for silvopasture on different farms in a local territory.
- Elaboration of a course aimed at forestry engineers and interested technicians on the application of the remote sensing LiDAR methodology.
- Elaboration of a course aimed at forestry engineers and technicians on the use of drones in forestry management.
- Organisation of a conference on technical fire as a new prevention tool.
- Conducting 20 surveys on shepherds.

In 2017, the project also began collaborating with a European Cooperation Group (led by the French Cévennes LAG) on a silvopastoral cooperation project. Its purpose is to revalue pasturage in forest areas to provide opportunities for value added (local food products, fire prevention), to repopulate rural areas and combat climate change.

ENVIRONMENTAL FOOTPRINT

- Implementation of a methodology to calculate the carbon footprint of events, for example events organised by LAGs.
- Calculation of the carbon footprint for scopes 1, 2 and 3 for direct and indirect upstream and downstream emissions and six agri-food products from different rural territories.
- Calculation of the environmental footprint of dairy products in collaboration with BETA Tech. Centre at the University of Vic-Central University of Catalonia.
- Awareness raising about mobility transitions and emissions reductions with electric cars.

Main results

ENFOCC has contributed in significant ways to sustainable



forest management, renewable energy generation and emissions reductions in the Catalonia region.

One of the main improvements brought about by the project has been the increased awareness in rural areas (companies, individuals and municipalities) that change is possible and necessary through individual and collective action..

The creation of the ENEGEST energy management tool offers users an accounting of their energy consumption and options for reducing it. In managing over a thousand energy accounts, energy efficiency improvements have led to energy savings and emissions reductions. Guidance, social media outreach, education and training has featured prominently in the project's results as well, leading to changes in consumption patterns, equipment switches, more renewable energy and groundwork to move towards systems transitions, like electric cars for example.

Specifically regarding biomass energy, in 2019 the project had achieved the following results:

Number of biomass boilers constructed: 75 units

Amount of CO₂ reduced: 15 454 tonnes

Costs of emissions avoided: 125 580 euros

Key lessons

The project exemplifies the strong collaboration and knowledge exchange which exists between entities throughout the region and local areas, from different sectors ranging from academia, research, government agencies, companies, associations, municipalities, etc. All have a commitment to actions aimed at minimising and curbing climate change.

By bringing different actors together and drawing on each other's strengths and expertise, the tools that have been created through the project (ENEGEST, TE21 model) provide an integrated approach towards energy efficiency, savings and opportunities for renewable energy. These tools are transferrable to other areas, with recommendations taking into account the different contexts and local resources.

Additional sources of information

n/a

*This project has been categorised under 'Climate change mitigation' by the nominating National Rural Network