

## GREECE

# Local development

**Location**  
Grevena

**Programming period**  
2014 – 2020

**Priority**  
P6 – Social inclusion & local development

**Measure**  
M19 – LEADER/CLLD

**Funding (EUR)**  
Total budget 461 627.24  
EAFRD 219 272.94  
National/Regional 11 540.68  
Private 230 813.62

**Project duration**  
2015 – 2018

**Project promoter**  
EYXYLON General partnership

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**Website**  
n/a

In response to increasing demand for wood fuel, a wood processing company in Greece, used support from the LEADER measure to set up a new pellet production line.

## Summary

The company EYXYLON was established in 2003 and focuses on wood processing. It is based in a mountainous settlement located in Grevena in the Region of Western Macedonia (Northern Greece). For many years, the company was mainly focused on processing Pinus Negra wood to produce timber to be used in building elements, furniture, floors etc.



In recent years, wood pellets have become a niche-market in Greece as people are turning to more affordable fuels for domestic use, and wood pellets are very much in demand due to their cost efficiency. In order respond to this market need, the company set up a pellet production facility using support from the LEADER measure to purchase and install the necessary equipment.

## Results

The project was completed in 2018 and the production plant is in its third year of operation. The manufactured product which amounts between 2 to 2.5 thousand tonnes per year is marketed in the Region of Western Macedonia.

The product is appreciated by customers because of its high calorific value, the low moisture and low ash residues, and it is gaining an increasing market share compared to imported pellets.

## Lessons & Recommendations

- ☐ The company's owners participated in several machinery and equipment exhibitions held locally and abroad, as well as in learning programmes related to the company's core business. In this way, they managed to improve their knowledge and create a pellet production line that covers the company's production needs in accordance with the quantity of raw material that are available in the region.

## Context

The company EYXYLON was established in 2003 and focuses on wood processing. It is based in a mountainous settlement located in Grevena in the Region of Western Macedonia (Northern Greece). The company uses Pinus Negra wood which grows in almost every forest of the region. For many years, the company was mainly focused on the processing of this type of wood to produce timber to be used in building elements, furniture, floors etc.

Over the years, the company realised that there is significant market potential in processing wood residues (such as sawdust) due to their high calorific value. Selling wood pellets has become a niche-market in Greece. Pellets are biofuels that mainly meet domestic needs. In the era of economic crisis in Greece, people turned to more affordable fuels for domestic use, and pellets are now very much in demand as they are highly cost efficient.

## Objectives

This investment aimed to diversify the company's production and improve its competitiveness, through the production of renewable energy (producing pellets from wood by-products).

The project also boosts the local economy since it covers part of the energy needs of houses and local businesses, thus reducing the need for imports.

## Activities

The company used support from the LEADER measure to establish a particularly low-cost production line. It is worth mentioning that the machinery (with the exemption of only one machine) was designed and manufactured by Greek companies based on the knowhow of the company's owners. The financed activities undertaken included:

- Placing silos at the pellet manufacturing building;
- Construction of a flat surface where raw material is gathered;
- Construction of a 48 m<sup>2</sup> shed under which the pellet crumbler machine is placed.
- Construction of a 192.14 m<sup>2</sup> building where the machinery for the pellet production line is set up.

Through pellet production, the company fully vertically integrated its production process according to its initial business plan.

Certain processes and operations, such as initial selection and classification of trunks according to their quality, had to be corrected and are now improving. In this way, the process of separating the processed wood based on its quality during sawing and the removal of residues, which are now the raw materials for pellet production, has become more efficient.

Furthermore, the new production line was designed in such a way that allows the existing production capacity to be doubled, if needed, (from 800 kg of wood pellets/hour to 1.600 kg/hour) by simply adding a new pellet press (pellet mill) and without constructing any new facilities.

Machines that do not require high-tech know-how were chosen based on their costs (belt conveyors for pellets, silos and pellet augers). Whilst those demanding both high-tech and high-quality know-how, were chosen with a view to produce highly compressed pellets of excellent quality according to all relevant international and European standards (pellet crumbler machine, pellet mill, pellet mixer, pellet press, wood pellet cooler). In order to support the Greek market, the company's owners purchased almost all parts of the machinery needed (silos, absorption systems, packing machines, switchboards, automation machinery etc.) from Greek companies.

The Local Action Group of Grevena contributed greatly to the company's investment in the new pellet production facility and they had included the project for financing under LEADER in the 2007-2013 rural development programme. However, due to the economic crisis, the project was financed and finally completed by the Local Action Group of Kozani within the framework of the Rural Development Programme 2014-2020.

## Main Results

The project was completed in 2018 and the production plant is in its third year of operation. The manufactured product which amounts between 2 to 2.5 thousand tonnes per year, is marketed in the Region of Western Macedonia.

The product is appreciated by customers because of its high calorific value, the low moisture and low ash residues, and it is gaining an increasing market share compared to imported pellets.

In detail, the manufactured product has several environmental/ ecological benefits including:

- Reduction of exhaust fumes during combustion;
- Low emissions due to their easily controlled combustion and their low moisture content;
- By using pellets as fuel there has been a reduction in emission of 1.12 kilograms of CO<sub>2</sub> per kilowatt per hour of energy produced;
- Fewer emissions of other hazardous pollutants (such as suspended microparticles, nitrogen oxides, sulphur compounds, etc.); and
- Reduction in heating costs for household customers.

### Key lessons

The company considers that it is important to be open to new ideas and cooperation. During the design of the pellet production line, and in order to acquire more knowledge on the subject, the company participated in:

- The 'BIOCLUS' European Biomass Management Programme, in which the Region of Western Macedonia, the University of Western Macedonia as well as universities, institutions and companies from eight regions of the European Union took part.
- The 'Model Forest' Mediterranean Programme organised for Forest Services, institutions and companies from Mediterranean Countries.
- A research project which is being conducted by the Department of Wood Technology and Furniture of the Technological Educational Institute of Karditsa. This project focuses on the implementation of EUROCODE 5 for calibrating timber according to its qualitative characteristics and categorising it for similar construction uses. Upon completion of the research project, the company intends to install a special calibration machine for sawn wood. This process is indirectly linked to pellet production because by selecting higher quality sawn wood, more raw material will be left for pellet production.
- The 'CLUBE' Bioeconomy and Environment cluster in Western Macedonia (<https://clube.gr/>), which is a platform for cooperation of the three pillars of regional economy: the public sector, research and entrepreneurship. The Cluster seeks to develop synergies among local and regional institutions and companies in the sectors of bioenergy and the environment, aiming at introducing and developing innovation in the field and increasing its added value.



### Additional sources of information

n/a