

PORTUGAL

Farm performance, restructuring & modernisation

Location

Odemira

Programming period

2014 – 2020

Priority

P2 – Competitiveness

Measure

M4 – Investments in physical assets

Funding (EUR)

Total budget 599 259

EAFRD 250 759

National/Regional 44 252

Private 304 248

Project duration

2016 – 2017

Project promoter

VOF FRESCATLANTIC

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www.atlanticgrowers.pt/about.html

A major exporting agricultural company in Portugal, used EAFRD support to develop a state-of-the-art innovative, greenhouse production unit.

Summary

The company Atlantic Growers was established in Odemira, Portugal, in 2001. The company grows tomatoes and peppers according to very high-quality standards in state-of-the-art, equipped greenhouses applying organic crop protection. Innovation and precision agriculture are key factors that help the company to position itself as one of the main players in the European market.



The company's strategy is to gradually construct a 6.4 hectare glass eco-greenhouse for its production needs. The first phase included the construction of 2.02 hectares of the greenhouse and was completed at the end of 2014 using support from the 2007-2013 RDP. The current investment corresponds to the second phase of company's plan to construct another 0.73 ha.

Results

Around 150 tonnes of baby plum tomatoes are produced each year in the 0.7 ha area with a turnover of about EUR 490 000.

The cogeneration plant, has a capacity of 3 350 kW which allows to sell energy to the public grid. The energy produced reduces the project's CO₂ emission by about 0.2 kg for each kW of energy produced.

No greenhouse gas emissions are released into the environment. The CO₂ released from the cogeneration, is fully consumed in plant fertilisation

Created eight permanent jobs.

Lessons & Recommendations

- ❑ Investors should anticipate delays in obtaining all permits and the project approval before they can start implementing their project.
- ❑ It is necessary to plan as carefully as possible in order to avoid difficulties and delays in the implementation (for example, additional authorisations that may be required).
- ❑ Outsourcing should be done using highly specialised companies and teams, with know-how and experience, and which are able to meet the investor's specific needs in a professional and efficient manner.

Context

Atlantic Growers has been cultivating crops in Odemira, Portugal, since 2001. In Odemira, the company grows tomatoes and peppers according to very high-quality standards in state-of-the-art, well-equipped greenhouses, using organic crop protection. Controlled cultivation and favourable climate conditions enable the company to ensure year-round quality.

The project was in line with the company's strategy for sustainable growth, based on innovation and precision agriculture while ensuring the protection of the environment using a tri-generation energy system. These factors constitute the company's competitive advantage for differentiation and added value generation, which enable the company to position itself as one of the main players in the European market.

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Objectives

The main objectives of this investment include:

- securing the company's competitive positioning by expanding and diversifying its production.
- increasing the investment in R&D and innovation in order to guarantee the highest quality of final products.
- ensuring high standards of environmental sustainability, energy efficiency and food safety.
- using the endogenous resources of the region where the project was implemented.
- contributing to the creation of jobs, wealth and social cohesion in the region, as well as to the increase in exports.

Activities

1. **Studies** – The project holder conducted a study to analyse the economic and financial viability of the project. The company that prepared the application was also responsible for monitoring the execution of the investment. The application to the RDP was submitted in June 2014 and the project approval was in December of the same year. It should be noted

that this project was carried over from the 2007-2013 programming period.

2. **Public consultation on the intervention plan** (August – September 2014) - An intervention plan for the area concerned was prepared. This was a joint initiative between the Municipality of Odemira and the agricultural company. The purpose of this plan was to ensure that the investment was fully aligned with the current legislation and the instruments for territorial management with direct impact on the area of the project implementation (e.g. the National Plan for Climate Change, National Strategy for Energy, Sectorial Plan for Natura 2000 Network, Plan for River Basins Management). After being submitted for public consultation, the plan was approved in October 2014, resulting in a regulation establishing the rules for the occupation, use and transformation of the land in the area covered by the project.
3. **Land preparation** - Execution of earthmoving and levelling works that allowed for the installation of the glass eco-greenhouse support structures.
4. **Eco-greenhouse construction** - The built greenhouse was constructed as a technologically advanced structure, with a maximum height of 7m. The main production factors (ventilation, temperature, humidity, shading and nutrient supply to plant roots) are completely automated to create the best trade-off between the plants' growth rate and energy and water consumption.
5. **Equipment installed:**
 - Automated thermal blankets which ensure that a constant temperature is maintained inside the greenhouse. The equipment consists of an automatic mechanism for the opening/closing of windows, according to detected thermal needs.
 - Set up a system along the greenhouse distributing hot water and CO₂ for the fertilisation of the plants. Both the hot water and CO₂ come from a co-generation plant.
 - An electrical system that ensures the automation process of the greenhouse. Sulfate/sulfur fans and burners. The fans ensure air circulation inside the greenhouse and of sulfate/sulfur burners, release this natural product through the fans, to prevent the emergence of fungi.

- Closed drip irrigation system which detects (automatically through sensors) the amount of water needed for each plant and ensures the supply. Since it is a closed irrigation system, all unabsorbed water is reused. Irrigation water is collected by a reservoir and stored in a pond, and specific equipment is used to mix nutrients in fertigation tanks.
- 6. Commenced the production of baby plum tomatoes using hydroponics** - The plants are grown inside the greenhouse in a hydroponic production system, i.e. without land use and using rock wool plates.
 - 7. Commercialisation (domestic and foreign market)** - The focus on exclusive, quality and differentiated products (e.g. the variety produced contains high levels of lycopene, a substance that prevents certain types of cancer), is intended to satisfy specific market niches (especially export markets). This strategy has allowed the company to achieve important competitive advantages.

The production is distributed to major exporting countries (e.g. the United Kingdom and Germany). In addition to these strategic markets, the company explores new market opportunities where there is a growing interest in high value-added vegetables, notably the Eastern European markets (Russia, Poland and Romania).

Atlantic Growers collects, selects and packs Frescatlantic tomatoes, sending them to export customers with whom Harvest House has supply contracts (Atlantic Growers is a member of this organisation, which is one of the largest producers worldwide).

Main Results

- 147 tonnes of baby plum tomatoes are produced per year in a 0.7 ha area with a turnover of about EUR 490 000.
- The cogeneration applied reduces the CO₂ emission by about 0.2 kg for each kW of energy produced;
- Greenhouse gas emissions are not released in the environment. The CO₂ released from the cogeneration system is fully consumed in plants' fertilisation;
- The cogeneration plant, has a capacity of 3,350 kW which allows to sell energy to the public grid.
- The energy efficiency of the cogeneration system is estimated at over 90%, while the levels of utilisation of conventional transformation processes fossil-energy are around 50%;
- Created eight permanent jobs;

- The technological innovation in agriculture in this area, will attract highly specialised companies to the same geographical area, creating business opportunities for local agents;
- It is expected that the company will not only contribute to economic development, but also that as a socially responsible company it will promote positive change in the rural community where it operates;
- The company aims to minimise its environmental impact and in addition to the progressive technology used, 12 of the of the 32 ha it owns will be used for environmental recovery, rather than production.



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Current features of the company

- In total, the company owns 12.4 hectares of glass greenhouses (6.4 with the RDP2020 support), in a region with great production potential (ideal climate to produce all year round).
- The equipment used represents the most advanced production technology in Europe.
- There are two cogeneration plants in operation.
- The company as an annual production of 300 tons per hectare, which is four to five times higher than that of the traditional 'plastic' greenhouses more commonly used in Portugal.
- There are about 80 permanent employees.
- The project has the PIN status - Potential National Interest.
- So far 100% of the production is exported.

Initial concept - Vision for the future

The company aims to establish a 'cooperative' for 20-30 companies in the area covering 180 hectares that will build greenhouses and share investments and technologies. Even with different productions (tomatoes, flowers, peppers), the aim would be that companies work in close collaboration. This concept foresees an investment of around EUR 200 million that could create up to 900 jobs.

Key lessons

The inclusion of relevant institutional actors is key in the area where the project is implemented. In this case, and given the dimension of the project, it was necessary to create a platform to promote understanding of land management. In this context, in September 2012, the company signed a contract with the Odemira City Council for the planning and execution of the overall project (in the near future, the company plans to have 19 ha of production in glass eco-greenhouses).

Investors should anticipate delays before obtaining all permits to start implementing their project. Indeed, one of the major difficulties experienced in the execution of the project was obtaining the licenses/authorisations. Despite the contract with the City Council, the agreed intervention plan, and having been considered as a project of potential national interest, the company experienced difficulties in accessing the required licenses (long waiting periods and interaction with several entities).

Anticipate a waiting period to get project approval. In fact, the period leading up to the decision may exceed one year.

Plan as carefully as possible in order to avoid difficulties and delays in the implementation (e.g. if additional authorisations are required).

Outsourcing should be done using highly specialised companies and teams, with know-how and experience, who are able to meet the investor's specific needs in a professional and efficient manner.

Regarding the materials and technologies used, the type of greenhouse selected for this project incorporates a set of elements that make a significant difference from traditional plastic greenhouses:

- higher production efficiency, namely provided by the greater light transmission and the isolation allowed by glass, enabling a production of about four times more than conventional greenhouses;
- longer life duration of around 20 years compared to 15 years for traditional greenhouses, which also require more maintenance;
- greater success in the adoption of integrated production and organic control techniques;
- allows the use of heat from cogeneration systems.



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Additional sources of information

www.zuidgeestgrowers.com/en/our-company/atlantic-growers

www.facebook.com/atlanticgrowers/