

GREECE

Bioeconomy

Location
Kalamata

Funding (EUR)

- Operational Programme Competitiveness 2000-2006 EUR 163 350
- Regional Operational Programme 2007-2013 EUR 181 455

Duration
1968 – on going

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A family-owned business created multiple revenue streams by creating a new product from an olive stone by-product, demonstrating sustainable economic development and environmental protection.

Summary

As demand for energy increases across the world, climate change simultaneously has begun to visibly impact all countries. To mitigate climate change, it is necessary to ensure that economic development will prioritise carbon-neutral bioenergy fuels, especially those that harness energy from agricultural residues.



The family-owned business 'Klimis' produces lime putty and quicklime. In the process they use olive stones as a source of heat energy. The olive stones are a waste product from the olive oil production in the region. As the olive pips do not completely combust in this process, a black powder is created as a bioproduct. Reusing this residue offers an opportunity to create an additional source of income and protect the environment from the discarded residue. The business owners experimented for 15 years before developing and finally placing their own olive barbecue briquettes in the Greek market in 1992. They designed and assembled their own machinery from scratch which included mixers, press machines and dryers and then tested if they could produce this new by-product effectively.

Results

The family business created a new technique to generate a 'green' product from waste. This protects the environment by reducing waste disposal and is financially beneficial.

Thanks to this new environmentally-friendly product the business increased its income by 50%.

The upcycling of combustion products ensures the efficient use of natural resources without interfering with the life-cycle of olive trees.

This type of barbecue briquette is very advantageous as they emit 30% less carbon monoxide than wood charcoal.

Lessons & Recommendations

- Such initiatives can be constrained by the limited opportunities and complicated access to financing.
- There are insufficient legal regulations for wood charcoal, the main competitor to this kind of product. With Europe importing around 70% of the wood charcoal used annually this is something that needs to change.
- There is limited recognition and awareness of by-products.
- There is a lack of an EU Ecolabel certification for these kind of products as they have no category.

Context

As demand for energy increases across the world, at the same time climate change has begun to visibly impact all countries. To mitigate climate change, it is necessary to ensure that economic development will prioritise carbon-neutral bioenergy fuels, especially those that harness energy from agricultural residues.

The Kalamata region, in Southern Peloponnese on mainland Greece, is well known for its production of high-quality olives and olive oil. This is where, back in 1968, the Grandfather Klimis set up his own business to produce lime putty, used in house construction, and quicklime which is used as a natural fertilizer. As a source of energy, he used olive stones as a heating fuel, a waste product of the olive oil production in the region. However, this process creates waste in the form of a black powder, due to the incomplete combustion of the olive pips. To avoid discarding this residue into the environment the family business found an innovative way to use it.

Objectives

The objective of this initiative was to create multiple revenue streams from reusing the by-products from olive stones which are burnt for heating. In general, recovering energy from by-products of locally grown food crops offers a carbon-neutral fuel alternative, as well as, a way for citizens to access energy without contributing to deforestation either in their area, or in other areas in the world.

Activities

The family-owned business experimented for 15 years (from 1977 till 1992) to develop their own olive stone barbecue briquettes which were finally placed in the Greek market in 1992. The business designed and assembled their own machinery from scratch including mixers, press machines and dryers and then tested if they could effectively produce this new by-product.

Back in 1977 there was no internet to access information or find these machines through the global market. Without any financial or institutional support up until now, the third generation of Klimis family is trying to promote bioeconomy and circular economy in Greece.

The family business participated in the [Eco-](#)

[Management and Audit Scheme \(EMAS\)](#) and won the European EMAS Awards twice (in 2009 and in 2014). They also participated in the European Business Awards for the Environment 2018-2019 in the category 'The Management Award for Micro and Small Companies'. This helped them to gain recognition and promote their by-product in the European market.

Main results

- The family business created a new technique to generate a 'green' product from waste. This protects the environment by reducing waste disposal and is financially beneficial.
- Thanks to this new environmentally-friendly product the business has increased its income by 50%.
- The upcycling of combustion products ensures the efficient use of natural resources without interfering with the life-cycle of olive trees.
- This new type of barbecue briquette is very advantageous as they emit 30% less carbon monoxide than wood charcoal.
- The business was a runner up in the European Business Awards for the Environment 2018-2019.
- Klimis won the EU EMAS Awards 2014 and 2009 and was a nominee of EU EMAS Awards 2010.

Key lessons

Now that there are more opportunities to access technology and financial tools it is easier to expand the production of this eco-friendly solution and ensure wider usage of biomass from industries. The problems that the business confronted and still persist are:

- Limited opportunities and complicated access to financing in Greece.
- There are insufficient legal regulations for wood charcoal, the main competitor to this kind of product. With Europe importing around 70% of the wood charcoal used annually this is something that needs to change.
- There is limited recognition and awareness of by-products.
- There is a lack of an EU Ecolabel certification for these kind of products as they have no category.

Additional information

<https://circulareconomy.europa.eu/platform/en/good-practices/production-agricultural-lime-summer-barbecues-olive-pits-make-perfect-circular-fuel>

https://ec.europa.eu/environment/emas/emas_for_you/news/news3_en.htm