**Success story of Community-based Action for a GREEN transition (CO-GREEN)**

**Introduction and summary**

Write a short, half-page “story” of the case study, making sure to include the following information in the story:

* The local community characteristics, e.g. size, rural or mixed, agricultural of commuter-village etc
* The main issues faced by the community, e.g. depopulation, migration of young people, lack of community spirit, reluctance to face green challenges etc
* The initiative on which the success story is based, and the issue it tried to solve.
* Who took the initiative
* How public participatory helped
* Lessons learnt

**Meet the community**

Energy Community of Karditsa (ESEK) is citizen energy cooperative, established in 2010 to fulfil the vision and reward the efforts the members. The main purpose was to foster renewable energy in the region. In 2019, according to the provisions of the law 4513/2018 and following the unanimous decision of the General Assembly, the Energy Cooperative was converted into an Energy Community. Nowadays more than 400 people are members of the community (an estimated 10% rate is comprised by municipalities, SMEs, associations etc.) ESEK operates in Thessaly, an area with strong agricultural production. The continuous expansion of the local fossil fuel network threatens the uptake of RE heating solutions such as biomass boilers. At the same time, the region has a great biomass supply chain potential through agricultural, forestry and wood processing industries that can easily support the uptake of bioenergy technologies. The main activity of the Energy Community is related to the management of a biomass plant for the production of solid biofuels to generate energy for heating (or cooling) purposes. The first phase of the investment project has accomplished, an Energy Community with a solid biofuel plant which can set up the value chain for the local community.

**How did it all start**

The Energy Service Cooperative of Karditsa (ESEK) was set up as an energy cooperative in the prefecture of Karditsa (Greece) in 2010. The group’s objective was to promote the development of renewable energy sources in the region to the benefit of their wider community, building on the resources locally available. ESEK’s thinking went beyond mere energy production – what the community wanted was to create a local value chain, from the people who produce the biomass to the people who consume the energy, to strengthen the local economy.

**The project**

Solar PV was a consideration for the community’s first project, however with the objective to create a local value chain, the community in 2013 decided to opt for residual biomass in the form of wood pellets. The prefecture of Karditsa is characterized by its mountains and significant agricultural activity. Both these elements provide residual biomass from agriculture and the forest. The region further had good processing industries in place. ESEK started to engage with biomass owners in the region, to help them understand that they had a product at hand that could provide them with additional income.

The total cost of the facility was €500 000. At the time, the energy community had around 300 members, and was able to collect a significant amount of funds from them – about half of the budget needed for the plant. In order to close the financing gap, ESEK applied to the [EU’s LEADER programme](https://ec.europa.eu/enrd/leader-clld_en.html), which financed the missing half of the facility. The fundraising process started in 2015, the biomass plant was built in 2017.

Today, the biomass plant produces 1 200 tonnes of pellets per year using agricultural, forest, wood processing and city pruning materials. If all of these pellets were used by households, this would cover the heating needs of about 250 households per year. In Karditsa, the pellets are used by households, farmers (i.e. to dry tobacco), municipal buildings, industries.

In addition to their biomass activities, ESEK submitted two applications for solar photovoltaic (PV) parks, one PV of 1MW and the second PV at the rooftop of the facilities about 100 KW in early 2023, aiming to establish several parks to address their electricity needs through collective self-consumption (CSC) via virtual net-metering. However, they currently face grid capacity limitations. The Distribution System Operator (DSO) has indicated that they must wait for grid expansion, which is currently paused due to financial constraints. In Greece, consumers can connect to the same CSC plant within the region irrespective of the distance in km.

**Business model**

At the beginning, ESEK had nearly 300 members who had to pay a one-off member fee of €1 000, as mandated by Greek cooperative laws of the time. This allowed the cooperative to raise significant capital from the beginning.

The biofuel produced by the cooperative is made available to both its members and the wider community. Members enjoy a preferential pricing structure; the extent of the discount depends on factors like contribution and their specific needs. This difference in pricing can range from 15% to 20% among members, aligning with the cooperative's aim of promoting member benefits while supporting the community at large.

In principle, members receive annual returns on their investments. Up until the time of writing however, the community has been reinvesting returns into the expansion of its activities.

The biomass plant, a key aspect of their operations, relies on the dedication of 4 employees. Each shift comprises two individuals, with two shifts running each day, totalling four employees for the facility. In addition to this, the cooperative employs one individual for administrative duties (this person was paid by ESEK at the start, and decided to provide the services voluntarily once they became a member) and collaborates with various service providers, including truck drivers for biomass transportation, plant owners, partners, electricians, plumbers, and others who contribute to their daily operations.

The financial sustainability of the community has been improving over the years; the biomass plant however still requires investments to expand the facilities, as well as for maintenance and to maintain employment. A partnership with the local cooperative bank (which is also a member of the energy community and has the same voting rights as every other member) makes it comparatively easy for the community to receive loans to help advance and sustain the project.

**Key words:** energy community, tackle energy poverty, biomass valorisation, vulnerable households, value chain, social cohesion

In every case: get the agreement of the stakeholders to be placed on the website of co-Green, and present it as a success-story. Without agreement, they cannot be shared. **Keywords**: add here a couple (3-4 keywords) that can be used as a “search-term” for the library. **Please select from the followings the most suitable:** public participation, green deal, community engagement, green activators, green motivators, participatory processes, community activators, green transition, rural communities.

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**Name of Community Energy Community of Karditsa**

**General information**



| Community Information | Write here |
| --- | --- |
| Population | Number of members:  400  Citizens/Individual:  364  SMEs:  20  Municipalities:  6  Associations:  10 |
| Main occupation of inhabitants (e.g. agriculture, services, industry, mixed) | Biofuels, direct heat |
| What is the main comparative advantage/strength of the community? | Social cohesion, creation of local jobs, valorisation of residual biomass, engagement of the local population, participation of local authorities, democratized membership control, local value chain |
| What is the main disadvantage/weakness of the community | Fast decision making |
| Has the community a history of public participation and engagement? | The cooperative's journey began with a concerted effort to engage its members through numerous meetings, fostering awareness around the topic of community energy. These gatherings served as platforms for exchanging ideas and thoughts.  ESEK has cultivated a strong relationship with the local municipality from the beginning and maintains ongoing communication with the grid operator regarding new solar projects. Key milestones in the community’s development and member engagement efforts included the joining of the local cooperative bank and the Chamber of Commerce. These two actors helped build confidence among other stakeholders, such as SMEs, local authorities and non-governmental organizations to join the energy community. This in turn helped encourage local citizens trust in the undertaking. |

**initiative**

| Description of initiative | Write here |
| --- | --- |
| Objectives – main issue addressed | Tackle energy poverty, social cohesion, creation of a value chain, environmental benefits, reduce GHG |
| Achievements- related to green transition | Replacement of fossil fuels boilers to biomass boilers, PV parks for virtual net metering |
| Achievements- related to community participation and engagement | Raising awareness campaigns, mini eco festival, workshops, info days |
| Who were the actors involved in implementing or animating the initiative? E.g. Local NGO, group of citizens, members of the local a local municipality, other | Natural persons / citizens, Local authorities, Government agencies, Schools and universities, NGOs and associations, SMEs, Private energy companies or utilities, Public energy companies or utilities, Institutional investors, Commercial banks, State banks, Other large companies, Other energy communities, (Social) housing companies, Other |
| How was the community motivated and inspired to take part? What methods were used? | ESEK has cultivated a strong relationship with the local municipality from the beginning and maintains ongoing communication with the grid operator regarding new solar projects. Key milestones in the community’s development and member engagement efforts included the joining of the local cooperative bank and the Chamber of Commerce. These two actors helped build confidence among other stakeholders, such as SMEs, local authorities and non-governmental organizations to join the energy community. This in turn helped encourage local citizens trust in the undertaking. |
| What kind of resources were used? E.g. expert knowledge, financial support etc | The total cost of the facility was €500 000. At the time, the energy community had around 300 members, and was able to collect a significant amount of funds from them – about half of the budget needed for the plant. In order to close the financing gap, ESEK applied to the [EU’s LEADER programme](https://ec.europa.eu/enrd/leader-clld_en.html), which financed the missing half of the facility. The fundraising process started in 2015, the biomass plant was built in 2017. |
| Has the initiative been sustained? How? | From 2010 until today almost 14 years. Participation of the members |
| Any other information you consider important for the successful completion of the initiative |  |

**OBSTACLES AND CHALLENGES FOR Community ENGAGEMENT**

| **Description of challenge** | **Write here** |
| --- | --- |
| What were the main challenges/obstacles for the successful conduct of this initiative? | bureaucracy issues, scepticism to cooperative schemes, lack of environmental awareness of local population |
| How were they overcome? All or some of them? | Collaboration, constant engagement |
| Who had a prime role in helping overcome the obstacles/challenges? | the management board of the community and volunteering participation of the members |
| Any other information you consider important regarding the local community’s attitude towards the initiative |  |