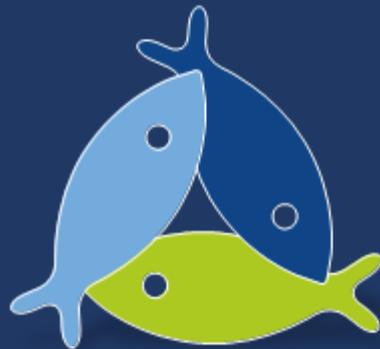




# ***Resilient Coastal Communities***

*Sixteen CLLD project examples*



**FARNET Support Unit**

November 2021



# Resilient Coastal Communities

## Project Exhibition Report

Saturday 20<sup>th</sup> November

Via della Fiera, 11 – 44124 Ferrara – Italy

After almost two years of suspended events due to COVID-19 restrictions, the FARNET Support Unit organised a LIVE project exhibition to showcase some of the hard work that has continued on the ground as local communities have adapted to life shaped by the health pandemic.

This was the final FARNET event of the 2014-2020 period and offered an opportunity for Fisheries Local Action Groups ([FLAGs](#)) and other stakeholders involved in implementing community-led local development ([CLLD](#)) in coastal communities to network and exchange around different local responses to pressing social, economic and environmental challenges.

Sixteen projects were selected to be presented within the [Sealogy Blue Economy Fair](#) and organised into three clusters:

### Social resilience

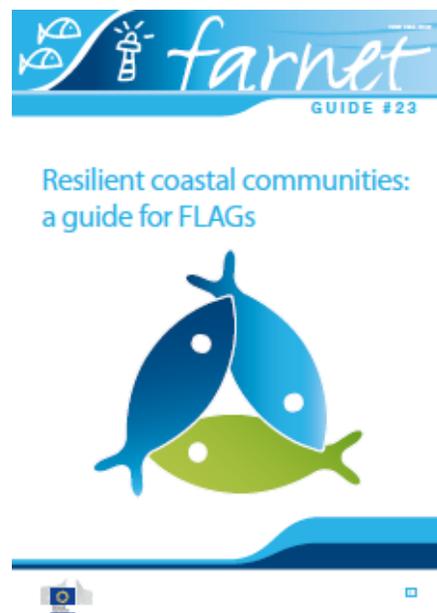
1. *Social cohesion and sustainable consumer habits, Finland*
2. *Participative resource management, Italy*
3. *Preparing the young to fish in the future, Germany*
4. *Mobilising & training volunteers, Bulgaria*
5. *Social inclusion and circular economy, Spain*

### Economic resilience

6. *Local economic ecosystem, Estonia*
7. *New aquaculture to meet market demand, Portugal*
8. *Diversifying the shellfish species commercialised, Italy*
9. *Turning waste into revenue: producing fish and algae, Denmark*
10. *Cooperation and circular thinking on seaweed, Spain*
11. *Servicing the offshore wind sector, Denmark*

### Environmental resilience

12. *Fishing gear that respects a balanced ecosystem, Poland-Finland*
13. *Combating illegal fishing in MPAs, Spain*
14. *Shellfish processing with reduced pressure on natural resources, Ireland*
15. *Decarbonizing aquaculture, Portugal*
16. *From shellfish waste to electricity, France*



Around 100 participants attended the event, allowing them to glean new ideas for their local areas and to discuss the practicalities of the different projects. The event was organised with the support of DG MARE (European Commission), the Emilia-Romagna FLAG, Sealogy/Ferrara Fiere and the regional administration.

The discussions and inspiration generated are expected to feed into the local development strategies that FLAGs prepare for the 2021-2027 period. The following publication was also produced and distributed at the event: [Resilient coastal communities: a guide for FLAGs](#). It is available in EN, FR, DE, ES, IT, PL and PT.

## Social cohesion and sustainable consumer habits

### *Ostrobothnia FLAG, Finland*

Excessive pressure on particularly popular fish species can make consumption habits unsustainable. By shifting consumer demand towards abundant yet underexploited species, the fisheries industry can strengthen its resilience by ensuring the continued health of popular fish stocks while securing a market for a more diverse range of local species. The Smartfish project takes up that challenge in parallel to that of strengthening social cohesion in fishing communities.



After an influx of migrants in 2015, there was a growing need to build ties between the newcomers and the established local communities. The project aimed to improve the knowledge and consumption of local fish species such as bream, roach, ide and smelt, as well as integrate migrants from different cultures into local communities through cooking events and exchanging recipes and experiences.

Thirteen events were organised in three municipalities (Petalax, Kristinestad, and Jakobstad). Besides the migrants, various

guest lecturers, commercial and recreational fishers, industry representatives, seafood processors and restaurant owners participated in the courses. The involvement of professional fishers in the training was useful for the participants, as they had no previous experience in catching or preparing fish.

The project also tried to change restaurants and consumers' minds about less used fish species by highlighting tasty recipes and the low environmental footprint of eating local fish. For example, the Finnish fisheries contribute to a phosphorus reduction of 700 tonnes annually from the Baltic Sea, which is twice as much as the targets for land-based reduction.

The project was implemented by the [Martha Organisation](#), which carries out cultural and civic education and does advocacy work in Finland to promote wellbeing and quality of life.

TOTAL PROJECT COST: €40 782

FLAG GRANT: €32 626

EU CONTRIBUTION (EMFF) €15 272

NATIONAL CONTRIBUTION €14 091

LOCAL CONTRIBUTION €3 262

BENEFICIARY CONTRIBUTION: €8 156

PROJECT DURATION: FROM AUGUST 2017 TO JUNE 2019

## Participative resource management

### *Emilia-Romagna Coast FLAG, Italy*



At the start of its activities during the EMFF period, Emilia Romagna FLAG organised a public consultation to identify the community’s needs and create the Local Development Strategy. One issue that came up was the lack of coordination in stock management at the nine ports along the coastline. Effective stock management was considered vital for the future of shellfish activities in the area.

The FLAG set up a working group made up of people from the fisheries and aquaculture sector and local experts, to develop a common management plan for the region. It focuses on three species – *nassarius mutabilis* (sea snail), *sepia officinalis* (cuttlefish) and *squilla mantis* (mantis shrimp).

The FLAG ran 10 workshops involving 120 locals from the fisheries and aquaculture sector, such as fishers, fish farmers and owners of local vessels. It also mobilised experts such as marine biologists working on developing fisheries and aquaculture technology (M.A.R.E. Scarl); a company specialised in mapping and database services for sustainable fisheries management (Kosmoambiente); and Bologna

University. The experts collected and analysed data before jointly creating a socio-economic assessment, to provide optimal guidelines for the management plan.

Awareness activities supported the launch of the management plan, including open workshops, distribution of leaflets around the ports, press releases to local media and a social media campaign.

This single management plan is the first stock management plan in the region and the participative nature of its development has been a key success factor. The plan includes new measures, such as establishing the minimum size of catches, the locations and maximum daily quotas and the fishing gears and methods allowed. It is reviewed yearly and updated, when necessary, to take into account environmental and economic changes.

TOTAL PROJECT COST:	€20 000
FLAG GRANT:	€20 000
EU CONTRIBUTION (EMFF)	€ 10 000
NATIONAL CONTRIBUTION	€ 7 000
REGIONAL CONTRIBUTION	€ 3 000

PROJECT DURATION: FROM SEPTEMBER 2018 TO JUNE 2020

## Preparing the young to fish in the future *Lower Saxon North Sea Coast FLAG, Germany*

Not many young people in the German North Sea region know about the important role that fisheries play in the regional economy along the coast. They also lack knowledge about job opportunities and careers in the industry. The Lower Saxon North Sea Coast FLAG wanted to make a difference in this area, helping young people to find out more about small-scale coastal fisheries and aiming to attract young talent to the sector to ensure its future.



While education and information on fishing for adults was available, primarily in National Park houses, museums or tourist offices, there were very few examples of cooperation with schools in the area and barely any teaching materials on the subject.

Working with the University of Vechta's Competence Centre for Regional Learning, the FLAG helped to create a fisheries educational package called "Lernorte in der Fischereiwirtschaft".

There are three learning modules for 10-15-year-olds, which local schools can access. Teaching takes place across

three different venues to make the learning experience more fun, varied and interactive: a fishing boat in a small harbour, a fisheries museum and the Wadden Sea National Park House. Each module includes in-school preparation, an interactive visit to one of the venues and a follow-up to this visit in school. The students receive valuable information on the history of fishing, current fish stocks in the fishing area, the marine environment, fishing techniques and training as fishers.

TOTAL PROJECT COST: € 138 147

FLAG GRANT: € 128 424

EU CONTRIBUTION (EMFF) € 110 010

REGIONAL CONTRIBUTION € 18 414

PRIVATE CONTRIBUTION: € 9 723

PROJECT DURATION: FROM OCTOBER 2017 TO SEPTEMBER 2018

## Mobilising and training volunteers

### *High Western Rhodopes FLAG, Bulgaria*

High Western Rhodopes is a popular fishing destination. Although this has economic and social benefits for the local community, fishing tourism in the area does raise a number of environmental concerns. Pollution of coastal areas caused by tourism is a common phenomenon, causing a significant negative impact on the environment and the image of the area. The rich fish resources attract not only legal recreational fishing, but unfortunately many poachers too. Their illegal and unregulated fishing practices lead to biodiversity loss and environmental degradation, and the state agency in charge of preventing poaching does not have enough staff to deal with the problem.



This project demonstrates the importance of social capital for making local communities more resilient to pressing challenges. Working with the local association of hunters and fishers in the "Hunting and Fishing Society" of Devin, the initiative aimed to reduce the number of poaching incidents and build an informed and active group of local volunteer.

Thirty volunteers were trained to use appropriate technical equipment to conduct preventive activities related to reducing pollution and preventing poaching. The equipment funded by the FLAG included a drone with two cameras for real-time monitoring of poaching hotspots; thermo-vision monoculars to look out for anyone fishing in the dark, which is illegal in Bulgaria; binoculars and a speedboat.

Thirty volunteers were trained to use appropriate technical equipment to conduct preventive activities related to reducing pollution and preventing

Two two-day training sessions were held for the volunteers. Training them was a way of involving the local community in environmental protection activities. Volunteers were also issued special identity cards by the state agency responsible for poaching prevention. In addition, 1 000 leaflets were produced and handed out to local hoteliers and at fishing shops to improve information on prohibition periods and areas in reservoirs where recreational fishing is permitted.

TOTAL PROJECT COST: €21 305

FLAG GRANT: €21 305

PUBLIC CONTRIBUTION: €21 305

EU CONTRIBUTION (EMFF) € 18 109

NATIONAL CONTRIBUTION € 3 195

PROJECT DURATION: FROM JANUARY 2021 TO SEPTEMBER 2021

## Social inclusion and circular economy

### *Costa Sostible FLAG, Spain*

Marine litter and plastic pollution pose a problem in many coastal areas. At the same time, a circular economy is accepted to be a vital part of a more resilient society that makes better use of its finite natural resources. The Costa Sostible FLAG is supporting a project that promotes the circular economy by giving a second life to waste materials, while at the same time bringing an economic benefit to groups at risk of social exclusion.



The project brings together shellfish gatherers, three associations for people with disabilities and a town council, which has offered the free use of an abandoned school building for a new marine litter transformation centre.

The centre will be a large facility for storing, sorting and processing plastic marine litter. It will allow the three associations to train their members, including on the use of the new machinery.

Marine litter will be recycled into new items that will be used by the fishing sector and in particular shellfish gatherers. They will then be marketed to and purchased by the fisheries organisations, providing revenue for the three associations and their members. Also included is training (and study visits) for the associations' members about the shellfish gathering sector, marine conservation, and the collection and processing of waste.

The project aims to create synergies between the different agents in the community, promoting environmental sustainability, economic prosperity and social inclusion in the local area.

TOTAL PROJECT COST: €90 297

FLAG GRANT: €90 297

EU CONTRIBUTION (EMFF): € 75 985

REGIONAL CONTRIBUTION: € 13 409

PROJECT DURATION: FROM APRIL 2021 TO OCTOBER 2022

## Strengthening the local economic ecosystem

### *Hiiukala FLAG, Estonia*

The Estonian island of Hiiumaa has a strong tradition of fishing. However, in recent years as choice has increased, customers' tastes have changed and most now prefer processed fish over fresh fish. Unfortunately, the island's fish market was too small and lacked the facilities for producing processed fish. This meant that all processed fish on the island had to be imported from the mainland or abroad, making the community dependent on long supply chains for access to many products.



Local fisher Imre Kivi saw an opportunity. The owner of a company called Stonefish, he had had a small fish shop in the Kärđla fish market for 17 years. It was Imre's idea to open a new facility for processing fish (including smoking) and selling fish fillets as well as more innovative fish products, for example chocolate with fish chunks.

When he needed advice on how to move forward, Hiiukala FLAG was there to give him information on loan options and EMFF funding. With a grant from the FLAG, Imre opened new premises located in a strategic position – the island's main entry road, which

is easily accessed by tourists.

The four-stage project included creating a café that sells fish soup and smoked salmon in a corner of the new building. Five members of staff work there year-round and extra staff are hired during the holiday season. In addition, study tours for Scandinavian fishermen in the new facilities introduce them to the local practices in fish processing, while a gillnet making workshop is allowing local fishermen and their relatives to diversify their activities while securing the supply of vital materials for the local fishing sector.

TOTAL PROJECT COST: €358 000

FLAG GRANT: €227 000

EU CONTRIBUTION (EMFF): €170 250

NATIONAL CONTRIBUTION: € 56 750

PRIVATE CONTRIBUTION: €131 000

PROJECT DURATION: FROM MAY 2015 TO DECEMBER 2017

## New aquaculture to meet market demand

### *Mondego Mar FLAG, Portugal*

In high demand, expensive and coveted by many restaurants, it's unsurprising that sea urchins are also known as "Portuguese caviar". However, sea urchin production is quite limited due to low levels of productivity, reproduction and growth of this species. Sea urchins are, therefore, mainly caught in their natural habitat, resulting in a negative impact on their environment and putting pressure on the wild population stock. To guarantee the resilience of this species and consequently the product, what was missing was a profitable way of producing sea urchins, while minimising impacts on wild stocks and their natural environment.



The Mondego Mar FLAG supported the OtimO project which aims to address this need, optimising sea urchin production processes by developing, testing and disseminating an innovative production model. The Marine and Environmental Science Centre of the University of Coimbra set up the MAREFOZ Laboratory in Mondego Mar FLAG's area. The lab is an integrated multitrophic aquaculture (IMTA) pilot system with water recirculation (RAS) under regulated conditions of temperature, lighting and ventilation. In these systems, the waste derived from production is used as a resource for other organisms, which reduces the environmental impacts and increases economic returns.

The project is also committed to ensuring knowledge transfer to related businesses, through innovative production models which promote economic development and environmental sustainability. The final goal of the project is to use R&D and innovation to diversify the local economy, making it more competitive and resilient. Following the project, the knowledge created will be used by a start-up company – Vértice Cristalino, for the production and commercialisation of sea urchins. Capital costs are low, as the project and the new business can share the same facilities.

TOTAL PROJECT COST: €202 942

FLAG GRANT: € 172 501

EU CONTRIBUTION (EMFF): € 172 501

NATIONAL CONTRIBUTION: € 30 441

PROJECT DURATION: FROM OCTOBER 2018 TO DECEMBER 2021

## Diversifying shellfish species commercialised

### *Venetian - VeGAL FLAG, Italy*

From the late 1990s and for almost all the 2000s, the production of clams (*Tapes philippinarum*) in the Venetian lagoons was one of the main revenue sources for local fishermen. However, the lack of youth recruitment, coupled with a general depreciation of the product, has led to a crisis in the sector. The warty venus clam (*Venus verrucosa*), also known as a “sea truffle” for its high economic value, has also been present in the area and sometimes caught as by-catch though never commercialized because of the scarce capture volumes.



A local fisheries cooperative, in partnership with a research institute (Agri.Te.Co) and the Venetian FLAG, decided to experiment with breeding and cultivating these warty venus clams to diversify the area’s aquaculture production and increase the market supply of local fisheries products.

As these bivalve molluscs are traditionally consumed raw, the product quality required close monitoring and the project aimed to test whether it was feasible to cultivate sea truffles to food safety standards and whether the activity could be economically viable. It was hoped that by moving the clams to designated areas of the lagoon, they could be grown to

commercial size while assuring the necessary quantity.

Five breeding areas were identified and tested, and two (a total of 15 hectares) were discovered to be suitable for breeding warty venus clams. For the first time, these clams, which are typically a marine species, were successfully farmed in a lagoon environment, demonstrating that commercial quality and quantity are possible.

Although the quantities of the clams produced are small compared to well-known commercial species such as sea clams or mussels, the value can reach up to €10/kg for the fisherman (first sale price) and €25-35 for the end consumer. This has sparked interest among a dozen local fishermen to diversify their activities, thus strengthening the local aquaculture sector.

TOTAL PROJECT COST: €50 000

FLAG GRANT: €50 000

EU CONTRIBUTION (EMFF) : € 25 000

NATIONAL CONTRIBUTION : € 17 500

REGIONAL CONTRIBUTION : € 7 500

PROJECT DURATION: FROM APRIL 2014 TO MAY 2015

## Turning waste into revenue *Djursland FLAG, Denmark*

Improving waste treatment and the management of fresh water supplies and are key to a sustainable future. The recirculated aquaculture system (RAS) industry is part of efforts to reduce resource use and the impact that waste from land-based fish production has on the environment.



The Djursland FLAG has supported a project to scale up an initiative to introduce vertical Ulva cultivation to a land-based recirculated aquaculture system (RAS) that produces finfish. Ulva is an opportunistic green macroalgae. The selection of this species was based on the explosive growth under favourable conditions and the potential to generate food and animal feeding products from it.

This land-based fish production unit allows CO<sub>2</sub> emissions and nutrients (nitrogen and phosphorus) produced from its aquaculture activities to be captured and used to grow the macroalgae through Integrated Multitrophic RAS (IMRAS). This way, the waste waters from aquaculture, which can otherwise harm the environment, are prevented from leaking and instead turned into valuable revenue streams. The [Pure Algae](#) project is led by a young entrepreneur engaged in the circular bioeconomy.

TOTAL PROJECT COST: €200 000

FLAG GRANT : €100 000

EU CONTRIBUTION (EMFF): €55 000

NATIONAL CONTRIBUTION: €45 000

PRIVATE CONTRIBUTION: €100 000

PROJECT DURATION: FROM MARCH 2019 TO MARCH 2022

## Cooperation and circular thinking

### *Vigo-A Guarda FLAG, Spain*

Cooperation among different sectors can strengthen the resilience of a local economy and optimise the use of natural resources. In the Vigo-A Guarda FLAG area, shellfish gatherers are working with local wine producers and a forestry association in order to turn seaweed - once a nuisance to their activity - into a valuable and sustainable resource: quality compost.



Building on a previous project to remove seaweed from the beaches which would otherwise smother shellfish resources, the Xesalcomp project aims to improve the way the seaweed is composted. This is being achieved by introducing new organic materials (organic waste from wine producers) to the process to improve the quality and agronomic value of the final compost. The ultimate goal is to obtain a quality and sustainable product that can be successfully marketed.

In the past, shellfish gatherers removed the seaweed from their shellfish banks, and piled it up to be used by local farmers as compost. But the lack of quality meant use gradually decreased and it was left to accumulate, causing environmental problems such as smell and runoff.

As well as mobilising local wine producers and a forestry association, the project has also involved the town council and the University of Vigo. The university carried out the necessary analysis to achieve the best quality product. The council provided containers, transport and equipment to manage the compost heaps, as well as the land on which to carry out this compost management.

TOTAL PROJECT COST: €32 807

FLAG GRANT : €31 167

EU CONTRIBUTION (EMFF): €26 492

REGIONAL CONTRIBUTION: €4 675

PRIVATE CONTRIBUTION: €1 640

PROJECT DURATION: FROM AUGUST 2019 TO OCTOBER 2020

## Servicing the offshore wind sector *Bornholm FLAG, Denmark*

Bornholm is one of two “energy islands” identified by the Danish government in its bid to make Denmark one of the biggest producers of offshore windmills. The Bornholm FLAG recognised that renewable energy offered an extraordinary economic opportunity for the local community, and that local cooperation would be the best way to achieve a smooth transition to a new local economy and more sustainable energy sources.



It supported the launch of Offshore Center Bornholm (OCB), a network of local businesses and facilities offering services to companies and workers in the offshore wind sector, from the island’s airport to hostels for seasonal workers and professionals such as steelworkers and electricians.

The FLAG supported various activities to increase the network’s visibility: it financed visits to international fairs, the creation of the official website and the development of an app, OCB-Connect, for advertising the businesses that are members of the partnership.

The network is now consolidated in the area and has 17 members. The OCB-Connect app can be used by the 60 000 vessels that pass the island every year to identify the different professionals, such as carpenters, electricians and hospitality workers. Moreover, fisheries workers also benefit from the increased number of services being provided in the port area.

TOTAL PROJECT COST: €43 000

FLAG GRANT: €21 500

EU CONTRIBUTION (EMFF): €14 000

REGIONAL CONTRIBUTION: €7 500

PRIVATE CONTRIBUTION: €21 500

PROJECT DURATION: FROM JANUARY 2017 TO APRIL 2020

## Respecting a balanced ecosystem

### *Zegrze Lagoon FLAG and Masurian Sea FLAG (Poland) with Lapland FLAG (Finland)*

Fishing techniques in many commercial freshwater fisheries focus on the most valuable fish, for example, gill net fishing which targets big predatory species. However, this is considered by many scientists to have a negative impact on lake ecosystems and fish stocks.



Fishers in the Lapland FLAG area have developed various fishing techniques for different fish species and seasons, including box capture that allows the captured fish to swim freely, instead of getting entangled in the net. This improves the quality of the fish and makes it possible to release those that are too small or protected by legislation. Such gear can also help to rehabilitate water ecosystems at risk of eutrophication by removing small plankton feeders and other detrimental fish.

The main goal of the Fishing Intelligently (FIN) project was the promotion of these environmentally friendly methods of freshwater fishing through an exchange of experience and good practices between the Lapland FLAG (Finland) and two Polish FLAGs: Zegrze Lagoon and Masurian Sea, with the support of the Polish Anglers' Association. As a result, the fishermen in Poland expect to see improved water quality, better fish quality and increased profits. A better image of fishing as a sustainable activity is another expected outcome of the project.

The initiative involved training eight Polish fishermen in Finland, who have subsequently started training more fishermen in Poland. The purchase of the special fishing gear, adapted to the Polish freshwater fisheries, is also envisaged along with a conference, brochure and leaflet to disseminate the results in Poland and nearby countries.

By September 2020 at least 20 Polish fishers had received training on these new fishing methods and been equipped with gear enabling them to link the protection of fish resources with improved business results.

TOTAL PROJECT COST: €51 000

FLAG GRANT: €49 000

EMFF CONTRIBUTION: €38 000

NATIONAL CONTRIBUTION: €11 000

PRIVATE CONTRIBUTION: €2 000

PROJECT DURATION: FROM APRIL 2019 TO SEPTEMBER 2020

## Fishing less in protected areas

### *Murcia FLAG, Spain*

Murcia is a region of exceptional marine biodiversity, which enjoys a high level of protection, including two marine protected areas (MPAs). Fisheries and tourism are important activities, both of which are highly dependent on the quality of the marine ecosystem and biodiversity. However, much illegal fishing takes place during the summer months, when tourism leads to high demand in restaurants for local fish and shellfish, putting heavy pressure on certain valuable species such as grouper, lobster and pollock.



For some time, the Cabo de Palos marine reserve has been patrolled by a company contracted by the regional administration. However, poaching continued unabated, with illegal fishers simply adapting to the timing of the regular patrols. Then, in 2018, the FLAG decided to fund a new initiative from the *cofradía* (fishing organisation) of Cartagena.

Thanks to a FLAG grant, the *cofradía* has been able to pay a local fisher to stop fishing for three months over the summer, and instead use his boat to strengthen surveillance activities in the reserve during these critical months. Upon finding illegal activity, the fisher signals to the person that they cannot fish and calls out the region's coast guards to officially sanction the poachers. This has led to ensuring better prosecution of illegal fishing, while also acting as a deterrent to would-be poachers in the area. The *cofradía* has pointed to a 90% decrease in illegal activity and improved fish stocks.

Thanks to this project, fishers have been empowered to protect their resource and have taken ownership of fishing controls. They have seen that it pays off with more healthy fish stocks, and more acceptance of and respect for fishing rules by the people operating in the sector.

TOTAL PROJECT COST: €40 940

FLAG GRANT: €40 940

EU CONTRIBUTION (EMFF): €34 799

REGIONAL CONTRIBUTION: €6 141

PROJECT DURATION: FROM JULY 2018 TO SEPTEMBER 2020

## Reducing pressure on natural resources *North East FLAG, Ireland*

Shellfish production is an important economic activity in coastal areas of North East Ireland. As well as supplying the shellfish for local gastronomy, the shellfish is also widely exported to international markets, such as Spain, France and Italy. Promoting 'greener' food production companies is a priority for the Irish government, and reducing waste is one of the most challenging issues faced by businesses. The North East FLAG has been supporting local seafood businesses to change the way they work.



Cooley Oysters Ltd. has been in the oyster farming business since 1982. They produce 200 tonnes of Gigas oysters per year in the unique waters of Carlingford Lough on the border of Ireland/Northern Ireland. These highly prized oysters are processed and packaged in the company's facilities for supply to both the domestic Irish retail market and for export.

As with all oyster producers, waste shells generated due to natural mortalities and during processing and packaging is a substantial problem. Cooley Oysters Ltd. applied to the FLAG for support to improve its

handling, grading, and packaging processes with innovative equipment and by facilitating a redesign of their processing layout. This included a new automatic and more accurate grading machine, gentler on the oysters as it allows them to be kept in seawater up to the point of grading.

Through these changes, Cooley Oysters Ltd. have been able to reduce oyster mortalities, energy needs and the consumption of public water supply. This commitment to, and investment in, sustainable practices were instrumental in Cooley Oysters Ltd. achieving "Gold" membership status within "Origin Green", Ireland's national sustainable food production programme. The company has now become one of only 26 food producers in the whole of Ireland to achieve this honour.

TOTAL PROJECT COST: €184 000

FLAG GRANT: €92 000

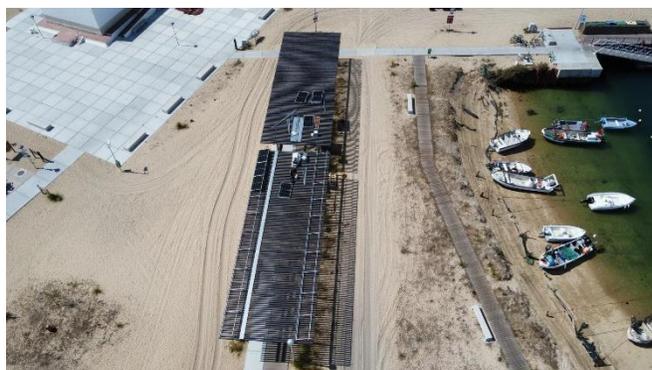
EU CONTRIBUTION (EMFF): €46 000

REGIONAL CONTRIBUTION: €46 000

PRIVATE CONTRIBUTION: €92 000

PROJECT DURATION: FROM JULY 2018 TO SEPTEMBER 2020

## Decarbonizing the aquaculture sector *Sotavento do Algarve FLAG, Portugal*



Some 41% of Portugal’s aquaculture takes place around Culatra island and the Formosa estuary, where the farming of clams and oysters is the main source of income for most of the population.

The FLAG project, promoted by the Association of Culatra Island Residents (AMIC), was part of the bigger “Culatra 2030 - Sustainable Energy Community” initiative.

This initiative aimed to install Culatra harbour with solar energy-related equipment, such as a photovoltaic plant (64 kWp) to provide energy to the fisheries facilities; a 32 kWh energy storage unit; a pilot solar-powered vessel for use by all the shellfish farmers in the community; and a charging point to support aquaculture and tourism activities in a sustainable way. It also promoted the creation of a local micro-grid concept that allows the intelligent use of energy through the identification of peak hours and efficient management of available energy resources.

A partnership was established with Sun Concept, a Portuguese shipbuilding company that specialises in developing and manufacturing recreational and professional boats with solar-electric propulsion. A solar-powered vessel will be used for aquaculture activities and the project will allow the community to test this kind of boat for other activities, encouraging a transition from combustion engine vessels to solar-electric ones. This is expected to have direct, positive effects on environmental conservation as well as the profit margins for local economic activities, partly thanks to the certification of its aquaculture products with the “Bivalves Culatra 2030” brand.

Local shellfish farmers will also become more competitive when applying for national energy transition subsidies – such as those available through the National Plan for Energy and Climate 2030, the Roadmap for Carbon Neutrality 2050, and the National Investment Plan 2030.

TOTAL PROJECT COST: €199 937

FLAG GRANT: €189 940

EU CONTRIBUTION (EMFF): €161 449

NATIONAL CONTRIBUTION: €28 491

PRIVATE CONTRIBUTION: €9 997

PROJECT DURATION: FROM JANUARY 2020 TO DECEMBER 2021

## From shellfish waste to a new energy source

### *Mont Saint-Michel FLAG, France*

Mussel farming, an important sector on Brittany's coast, generates by-products including organic waste from mussels that are too small to commercialise. The waste would end up in the sea and on the beaches, causing a negative impact on the coastal environment and unpleasant smells for people wanting to use the beaches.



Since 2017, Cultimer France SAS, a mussel and oyster farmers' cooperative, has been studying the opportunities presented by these by-products. With support from the FLAG, the Methacoque project, launched a collaboration with local research institutions to explore the use of waste mussels as a source of methane. This led to new studies to obtain essential scientific and technical data needed for the practical implementation of this idea.

Through this project, Cultimer is finally putting lessons learnt into practice, by proving the technical and economic feasibility of using waste mussels as an energy source. It has set up a pilot plant to produce biogas (methane) from the unwanted mussels. The plant can currently process up to 50kg of undersize mussels per day, minimising waste and generating a valuable source of energy. The technology is relatively easy to replicate for other mussel producers and the methane produced is sold to external methane production plants keeping operations simple and realistic for shellfish producers.

TOTAL PROJECT COST: €195 000

FLAG GRANT: €156 000

EU CONTRIBUTION (EMFF): €78 000

REGIONAL CONTRIBUTION: €78 000

PRIVATE CONTRIBUTION: €39 000

PROJECT DURATION: FROM FEBRUARY 2020 TO FEBRUARY 2021