

# FLAG Project :Turning shellfish by-products into methane



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pour les affaires maritimes et la pêche



# The FLAG « Côte d'Emeraude Rance et Baie du Mont-Saint-Michel »



- 233 000 habitants
- Fisheries sector:
  - 83 fishing boats – mostly small coastal fisheries
  - Main species fished :
    - Scallop, spider crab, cuttlefish, shellfish, fish (sole, ray...)
- Aquaculture:
  - Three production sites
  - 138 shellfish farms : mostly oysters and mussels
- FLAG main challenges:
  - Maintaining water quality
  - The sustainability of fisheries and aquaculture activities
  - Promoting local products

# The « Methacoque project »

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- Mussels Farming generates by-products : « undersize mussels »
  - Disposed of in the sea or on the beach
  - These discharges will be forbidden at the horizon 2024
- Adding value to this by-products:
  - Main difficulty = separate the shell from the mussel meat
  - Several solutions developed in Brittany : Cooking process, Enzymatic reaction, Composting and **Methanization**
- Methanization of mussels:
  - Project leader : Cultimer France – a mussel and oyster farmers cooperative
  - Cultimer 2017-2021 funded a thesis to prove the technical feasibility of the methanization in laboratory
  - 2020 – 2021 Cultimer developed a “methanization pilot unit” with the support of the FLAG

# The methanization pilot unit

Total Project cost : € 195 000

- EMFF contribution : € 78 000 / Public contribution (region) : € 78 000

- The pilot is running since January 2021
- Able to process 50 kg shells / day, turning them into methane
- The final equipment will be :
  - Small equipment to fit easily in each farm
  - Objective : no additional cost for the farmer
  - Turning undersize mussels into a hydrolysate which will be sold to local methane production plants (strongly reduce the administrative burdens)
  - Able to process 2.5 t in 3 days
- The approach could also be applied to the treatment of organic waste from other fisheries



# Lessons & perspectives

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- 2017-2020 : Cultimer had to convince the administration to get the authorization. The original project couldn't succeed because of the regulatory burden.
- All the actors were consulted : farmers, local authorities, associations, residents...
- Financial support of the FLAG : real kick off for the project
- Today the project is supported by the administration and local authorities
- Partnerships are now built with local methane production plants
- 2022: design and develop the final equipment for the farmers