

## BELGIUM

### Farm's performance, restructuring & modernisation

#### Location

Rumbeke-Beitem

#### Programming period

2014 – 2020

#### Priority

P2 – Competitiveness

#### Measure

M16 - Cooperation

#### Funding (EUR)

Total budget 33 000

EAFRD 15 000

National/Regional 15 000

Private 3 000

#### Project duration

2019 – 2021

#### Project promoter\*

Inagro vzw (Lead partner)

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#### Website

[www.inagro.be/Wie-is-Inagro/Projecten/project/204](http://www.inagro.be/Wie-is-Inagro/Projecten/project/204)

Setting up an EIP Operational Group that aims to enable Flemish farmers to operate small-scale anaerobic digesters more efficiently.

### Summary

Small-scale anaerobic digestion makes it possible to convert manure into renewable energy. This allows farmers to produce their own energy and become self-sufficient. The technology is also beneficial because of its potential to reduce greenhouse gas emissions from manure storage.



An initial EIP-AGRI Operational Group (OG) called 'Pocketfarmer' was set up to encourage farmers, who own small-scale anaerobic digesters, to learn from each other and help them operate their installations more efficiently. At the end of that project, the project partners felt that many of the problems/challenges that had arisen during the project had not been entirely solved. Therefore a second EIP-AGRI project was set up to ensure that more farmers could benefit from this work on the challenges of setting up and operating small-scale anaerobic digesters.

### Results

By stimulating knowledge exchange on the exploitation of small-scale anaerobic digesters, the project will improve the performance of these installations on Flemish farms. It will improve the amount of renewable energy that farmers produce for their own consumption, while reducing the greenhouse gas (GHG) emissions from manure storage.

A total of 53 farmers are involved in the Operational Group, meaning that 77% of the 69 owners of active installations in Flanders are participating in the group.

Small-scale anaerobic digesters are common in other regions; thus, the initiative and methodology is applicable to other areas. An organisation working on biomass valorisation in Wallonia has already expressed its interest in the project and is considering setting up a similar initiative.

\* The Project promoter/beneficiary is an EIP-AGRI Operational Group (<https://ec.europa.eu/eip/agriculture/en>)

## Context

Small-scale anaerobic digestion makes it possible to convert manure into renewable energy, thus allowing farmers to become self-sufficient in terms of energy. Furthermore, the technology is also interesting because of its potential in reducing GHG emissions from manure storage.

The initial EIP-AGRI Operational Group 'Pocketfarmer' encouraged farmers who already own small-scale anaerobic digesters to share their experiences and learn from each other. Overall, it helped the sector to take concrete steps towards introducing changes that improve the quality of the installations and their operation. Several individual farmers and digester manufacturers made changes to the settings/construction of their installations to improve their performance.

However, when the project was completed, the project partners felt that many of the problems/challenges that arose could not be fully solved within the project's planned duration or within the allocated resources. These challenges included:

- There are aspects of construction, which although make the installation cheaper, do not completely fulfil the required technical specifications. If chosen, they can create difficulties for the farmer with regard to the choice of construction materials and for the installation. This can have an impact on whether the waste materials can remain in the digester for a minimum residence time of 30 days and that sufficient biogas is produced per cubic meter of manure. Secondly, it can have an impact on the life span of the engine, heating system, fermentation tank and other components.
- Technical digestion (biological) challenges. Micro-organisms find it difficult to survive on the same type of biomass for a long period of time. Continuous lab-scale digestion tests have shown that there is no certainty that a stable digestion process on pure cattle manure can run for more than two residence times.
- The limited common knowledge on digestion, construction and gas valorisation among the different parties involved (digester manufacturers, farmers, maintenance technicians, subsidising bodies and network operators), makes it difficult to properly execute and monitor installations.
- The ongoing communication between the different parties is difficult and there is a lack of written agreements. These factors reduce the farmers' ability

to negotiate in case of problems.

- There are a number of administrative bottlenecks in the process for farmers to receive support, including uncertainties as to the reasons why files are not processed faster..

In this context, it was necessary to continue the project to ensure that more farmers could benefit in the long term from the work carried out regarding these challenges.

## Objectives

The project 'Pocketfarmer 2' aimed to identify and roll-out further solutions and thus increase the amount of active installations by:

- encouraging the exchange of knowledge and information between (future) operators, partners and other stakeholders so that the sector has the most up to date information,
- identifying and addressing or solving lingering technical issues,
- supporting dossiers linked to financial aid and regulations.

## Activities

The lead partner, Inagro vzw, an institute for research and advice in agriculture and horticulture, provides project coordination. The OG includes the partners Inagro, Boerenbond, Biogas-E and a subcontracting biogas lab, as well as five farmers that own small-scale anaerobic digesters. The project partners physically meet twice a year and convene regularly via conference calls.

Based on the concrete actions decided by the members, research is carried out to find solutions for the identified problems/challenges. About halfway through the project, the OG will organise lab-scale digestion tests in the biogas lab on the digestion technical/biological issue, which is the most prominent.

Furthermore, the project will assess the cost-effectiveness of the solutions that will arise from the research.

The project also aims to strengthen the farmers' negotiating position. It will establish specific guidance for negotiations, giving tips or summarising farmers' arguments which can be used in a more formal context, e.g. when dealing with manufacturers.

The project also follows legislative changes in financial aid and the relevant regulations. In addition, it supports farmers in their search for financial aid and in applying for the necessary certificates.

All results obtained will be disseminated at 'knowledge cooperatives' which are biannual meetings organised in two locations across Flanders. At these meetings all the small-scale anaerobic digester owners involved gather and exchange experiences and knowledge. In between these meetings, a private Facebook group helps all members stay in touch and gives them a platform to share knowledge and submit urgent questions to the rest of the group.

Following the first 'Pocketfarmer' project several stakeholders, who were not part of the first OG, have expressed their interest in being informed about the running of the group, its results and to be able to give feedback. With this in mind, a stakeholder meeting will be organised twice throughout the project's life, one halfway through and the other at the end of the project, to inform interested external stakeholders.

Furthermore, public dissemination is planned at the beginning, halfway through and at the end of the project. Small tips and tricks or changes in legislation will be communicated via newsletters, for example, throughout the lifespan of the project. At the end of the project a concise, attractive overview will be created and distributed to the OG members in digital format. It will include a number of practice related testimonials, solutions to the technical/biological problems and tips and tricks gathered throughout the project.

### Main results

By stimulating knowledge exchange on the exploitation of small-scale anaerobic digesters, the project will improve the performance of these installations on Flemish farms.

This will improve the amount of renewable energy that farmers produce for their own consumption, while reducing the GHG emissions from manure storage.

The interest of farmers in the OG has increased compared to the first project. The first OG comprised of 31 farmers and owners of small-scale anaerobic digesters, with 53 farmers joining the second one. This means that 77% of the 69 owners of active installations in Flanders are participating in the group.

Small-scale anaerobic digesters are common in other regions; thus, the initiative and methodology are applicable to other areas. An organisation working on biomass valorisation in Wallonia has already expressed its interest in the project and is considering setting up a similar initiative.

Inagro is running another project called 'Pocket Power' (2016 to 2020) on small-scale anaerobic digestion. This project is funded by the Flemish Innovation and Enterprise Agency. Its focus is on the extension of small-scale anaerobic digestion from dairy cattle farms to the pig and vegetable sectors, as well as on quantifying the GHG emission reductions from small-scale anaerobic digestion on dairy farms. The Pocket Power project's results were presented to the participants of the 'Pocketfarmer 2' project.



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#### Additional sources of information

<https://lv.vlaanderen.be/en/node/9058#Pocket>