NUTRI•KNOW

Farmer's Encyclopedia on innovative Nutrient Management Solutions

EIP-AGRI Operational Group Pocketboer 2

Pocketboer 2

More performant operation of pocket digesters

https://biogas-e.be/pocketboer2

Activities

As a result of the problems related to farm-scale digesters, the OG Pocketboer was introduced in 2017.

It served as a platform where operators can learn from each other's experiences, compare installations and find solutions together in order to optimize their biogas plant.

It became clear that a follow-up project was needed to effectively apply the solutions.

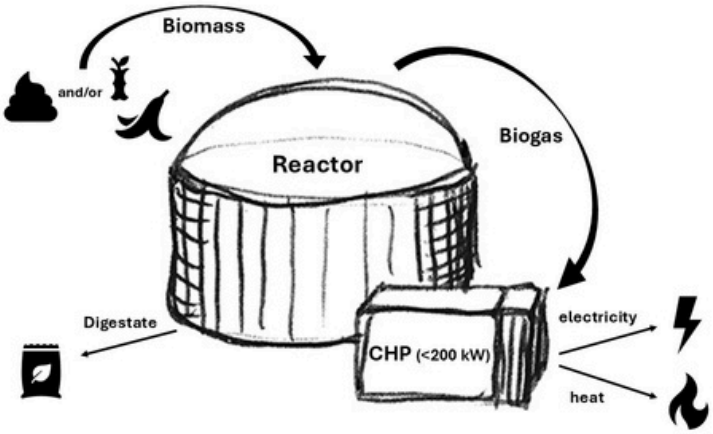
In 2019, the OG Pocketboer 2 started. Further solutions for persistent problems were investigated, guidance was offered on certificate support, individual advice was given and broader training was set up regarding various techniques.

Objectives

Pocket digestion (farm-scale anaerobic digestion) can play an important role in the story of sustainable nutrient management.

The OG Pocketboer 2 aims to find solutions for persistent and common problems with pocket digesters, some of which were already defined during the original OG Pocketboer. It encourages implementation of solutions at many existing and future plants to improve the digester performance and efficiency.

Schematic overview of a pocket digester



Further details

Total budget: € 33.000,00
Total financed: € 30.000,00
Main funding source: Rural development 2014-2020 for Operational Groups
Rural Development Programme: 2014BE06RDRP001 Belgium - Rural Development Programme (Regional) - Flanders

Ended, 2019-2021

Flanders, Belgium

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Results

During the OG, hands-on information was created and spread, which increased the awareness of interested farmers for this technique.

Tips & tricks for pocket digestion collected throughout the project were bundled in a clear poster that was distributed to the operators of pocket digesters in Flanders (and through broad communication).

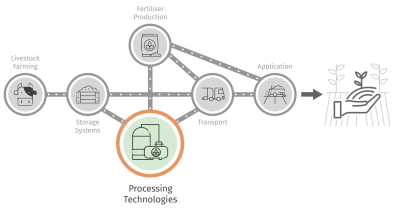
Furthermore, several individual farmers and manufacturer(s) made changes to their installations to improve the performance, leading to an increasing trend in the number of digesters and electrical capacity.

The outcomes of the OG demonstrated the positive environmental impact of pocket digestion, which led to an overall increased interest in the technology. Nevertheless, ongoing efforts are needed to create more awareness on farm-scale digestion.

Context

Currently, both organic and synthetic fertilizers are used to supplement nutrients in the soil. This allows farmers to grow their crops optimally. However, improperly managed nutrients can become pollutants that harm the environment. Therefore sustainable nutrient management is essential. Pocket digestion can play an important role in this sustainable story. Through pocket digestion or farm-scale anaerobic digestion, renewable energy is produced from on-farm biomass.

Location in the Nutri-Know value chain



More performant operation of pocket digesters

It mainly concerns digestion of only one type of input stream (mono-digestion), in most cases dairy manure. The produced biogas is valorised in a combined heat and power (CHP) unit (< 200 kW electrical power), of which the generated electricity and heat can be used to meet the farmers' energy demand, thereby (partly) replacing fossil fuels and reducing greenhouse gas emissions. The environmental benefits of pocket digesters are not limited to the production of renewable energy. Since storage is minimized, (methane) emissions can be significantly reduced and environmental nuisance is limited. In addition, the digestate can be used as an organic fertilizer (with a higher fertilization efficiency than raw manure).
The technology was introduced in Flanders in 2011 and boomed till 2015, but then some bottlenecks started to show, resulting in a decrease in number of active installations. Some of those bottlenecks were: technical imperfections, biological challenges, limited knowledge and experience, difficult communication and high administrative load (e.g. for certificates).
By tackling these challenges, demonstrating the positive environmental impact and highlighting the sustainability aspect of pocket digestion, the technology and the interest to invest will improve.

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Learn more about the project at **www.nutri-know.eu**

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Funded by the European Union