

# Streamlining policy to support implementation of farm-scale digesters in Flanders and scaling in Europe

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## Take-home messages

- Farm-scale digestion contributes significantly to farm-level emission reduction, but its implementation in Flanders is stalled by complex permitting procedures and strict nitrogen regulations.
- Small-scale digesters should be allowed under permit exemptions or simplified notification procedures with clear environmental safeguards.
- Faster approval of emission-reducing technologies and a clear policy signal would unlock deployment and help meet climate and nitrogen reduction targets.

## Introduction

Farm-scale anaerobic digestion, also known as pocket digestion, refers to the technology that produces green electricity and heat from on-farm manure and/or other agricultural residual stream to meet (part of) the farm's energy needs. The resulting digestate is rich in nutrients which can be recovered and specifically applied as a fertilising product with improved agronomic properties compared to untreated organic materials. To this end, it fosters soil health maintenance and fertility. In addition, digestate contains organic matter that contributes to carbon build-up in the soil, and also water that can be put to valuable use if recovered.

The technology is well established in Flanders, with close to 60 operational plants in 2024, mainly mono-manure digesters. Nevertheless, optimisation in view of improving production and further increasing the positive climate contribution is ongoing. Fresh manure digestion can reduce methane emissions from long-term manure storage on a standard dairy farm by up to 70%. In terms of overall manure and energy related GHG emissions of a standard dairy farm, considering storage, field application and the energy substitution potential of the generated biogas, a reduction of 50% may be possible. Moreover, farm-scale digestion can serve as a catalyst for additional ammonia emission reduction when combined with advanced sustainable manure management or downstream digestate treatment techniques, such as stripping-scrubbing, for nutrient recovery. Together with the energy self-sufficiency component, this navigates more and more farmers towards an economically profitable and ecologically future-proof model. The years 2023 and 2024 were therefore marked by numerous initiated (permit) processes. Nevertheless, the failure to effectively grant permits was also the harsh reality for (small-scale) biogas projects.

A recent sector survey by Biogas-E shows that the permitting (procedure) is perceived as very complex, mainly due to the stringent nitrogen regulation for agricultural projects, which is also still in jeopardy and causes a near stand-still. This bottleneck results in conflicting advice, a complex preliminary study and a long lead time - things that are

not at all encouraging for interested actors and therefore stifle investment appetite. Despite the advice from Wetenschappelijk Comité Luchtemissies Veehouderij (WeComV) suggesting that pocket digesters have no significant impact on ammonia emissions, the impasse is also for pocket digesters clearly noticeable.

### Call for exemption of the pocket digestion technology in permit obligation

To unlock the full potential of anaerobic digestion in Flanders and meet the targets of the Flemish Energy and Climate Plan, decisive policy action is required. The first priority is to **simplify and streamline the permit process**. Small-scale digesters, which clearly demonstrate environmental benefits, should no longer face lengthy and uncertain procedures. Instead, they should be exempted from full permits under strict conditions or be allowed to proceed via a simple notification procedure. Standardized criteria and fast-track channels would give both authorities and farmers the clarity and speed they need to invest with confidence.

At the same time, the government must **accelerate the recognition of emission-reducing technologies**. Farmers and project developers cannot afford to wait years for manure processing techniques that lower ammonia and greenhouse gas emissions to receive approval. Binding timelines, expert review panels, and provisional recognition mechanisms would ensure that innovative solutions can be deployed quickly, while scientific validation continues in parallel.

Finally, there is an urgent need to **provide a clear and consistent policy signal**. By actively supporting sector initiatives, Flanders aims to ensure that policy evolves hand in hand with scientific evidence and cross-border collaboration. Only with clarity and commitment from a policy point of view can the sector break the current impasse and move towards an economically viable and ecologically future-proof model.

#### About the authors

This policy brief is drafted as part of the project NUTRI-KNOW ([www.nutri-know.eu/](http://www.nutri-know.eu/)). NUTRI-KNOW is a Horizon Europe project under Coordination Support Action (CSA) framework, that brings nutrient recovery research results to end-users in the market and policy. This project engages 12 EIP-AGRI operational groups from 4 EU member states: Spain, Belgium, Italy, and Ireland. Among them, the operational group Pocketboer II is a follow-up project to Pocketboer, aiming to leverage the experience of dairy farmers already using pocket digesters to find solutions to common problems and improve performance.

For communication or information reach out to the authors:

- Prof. dr. Ir. Erik. Meers, Ghent University; [Erik.Meers@ugent.be](mailto:Erik.Meers@ugent.be)
- Dr. Ir. Tine Vergote, Biogas-E vzw; [Tine.Vergote@biogas-e.be](mailto:Tine.Vergote@biogas-e.be)
- Ir. Céline Wyffels, Biogas-E vzw; [Celine.Wyffels@biogas-e.be](mailto:Celine.Wyffels@biogas-e.be)