



1. INTRODUCTION TO INTEGRATED FOOD-ENERGY SYSTEMS (IFES) CONCEPT FOR CLIMATE-SMART AGRICULTURE

CORRESPONDING MODULE 6

Introduction

Agricultural methanisation in France :

Methanisation is a process used, among other things, in agriculture, which transforms organic matter into digestate and gas. This sector is currently experiencing exponential growth in France: it has gone from an energy production of one TWh in 2007 to almost seven TWh in 2019, and has generated a turnover of 840 million euros. This way of recovering organic waste is therefore particularly promoted today, especially in the agricultural sector. At the end of 2021, there were 1175 anaerobic digestion units in France, about 70% of which are "agricultural" (the others are units treating household waste, wastewater from wastewater treatment plants and a few "centralised" units treating various materials such as bio-waste from the catering industry or co-products from the food industry). Finally, the development of methanisation is an integral part of the agricultural component of the "France 2030" public investment plan.

This popularity is based on the advantages of this way of producing energy. Renewable and circular, as it allows the use of organic waste from farms and their production, it is presented as an indispensable factor in diversifying our energy mix and emancipating us from fossil fuels. Its production generates digestate that can be used as fertiliser, which strengthens the autonomy of farms equipped with an anaerobic digestion unit. Lastly, these methanisation units represent a potential improvement in the working conditions of farmers by diversifying their income (some research studies nevertheless show that it is sometimes difficult for farmers to generate an income from this activity).

Although anaerobic digestion is an interesting technology with real ecological, social and economic benefits, its use and development must therefore be strictly controlled and its environmental impact precisely assessed. Any methanisation project must be subject to an environmental impact study and solid consultations with local residents.

Full article: Agricultural methanisation, what risks, what benefits
Source : <https://www.greenpeace.fr/>

Description

Originally, the EARL BOUCHONNEAU specialised in the selection of the Large White breed. Since **March 2007**, it has obtained its qualification in "integrated agriculture".

Its director, Olivier BOUCHONNEAU, is motivated and passionate about genetics, with an entrepreneurial spirit that is both individual and collective. With his 3 colleagues, he is developing a real dynamic for pig selection, and more particularly for the Large White breed.

Since 2008, Olivier's company has been sharing with a dairy company the ambition of pooling crop work (wheat-maize) as much as possible through a GIE (Groupement d'Intérêt Economique "Sèvre et Moine"). All the crops produced by the GIE are stored and used on the farm to feed the animals (1500 tonnes of storage).

Olivier BOUCHONNEAU is a shareholder in a methanisation unit designed to convert liquid manure into gas.

This gas now supplies the commune of Mortagne-sur-Sèvre. "AgriBioMéthane" is the first methanisation unit in the west of France to inject gas.



- A reduction in greenhouse gas emissions by replacing the use of fossil fuels or chemical fertilisers (provided that the soil can accommodate this material)
- Ability to handle greasy or very



wet organic waste, which is very expensive to compost



Advantages and challenges

In 2010: Olivier Bouchonneau joined forces with three dairy farms to produce biogas called "Agribiométhane"

In 2014: the injection-type plant is operational.

Our first objective was to better manage our livestock effluents,"** says Olivier Bouchonneau. **With the sale of biogas, we just wanted to achieve financial balance. We also benefited from the digestate for our crops, which allowed us to significantly reduce our purchases of mineral fertiliser.

Their methanisation unit recovers 17,000 tonnes of effluent and 6 to 7,000 tonnes of food waste. We use waste from canteens," explains the farmer. It's a way of showing the different roles of agriculture in the region. The shed where the inputs are stored has been covered with photovoltaic panels that supply 25% of the methanisation unit's electricity needs.

In 2017: a bioNGV station opened its doors.

In the future, the four farmers are also thinking of CO2 recovery. ***"With methanisation, we strengthen agriculture by creating value and jobs. It also makes it more attractive for farmers to take over and set up,"** says Olivier Bouchonneau. **We are acting in favour of energy independence. We are useful to our region. Frankly, it's worth the effort.***

Main data

250 Large White sows in selection
Cereal production on 86 ha (Wheat, Maize)
Recovery of 17,000 tonnes of effluent,
6-7,000 tonnes of food waste.

Further

Information

<https://elevage-bouchonneau.fr/>