

A biogas plant manufacturer had its work cut out to meet the specific requirements of one customer – a dairy and poultry farmer located in Normandy

# Biogas boom in Normandy

**T**here is no disputing the French biogas market is in motion. By passing the action schedule Energie Méthanisation Autonomie Azote (EMAA) the government has set ambitious goals until 2020 to change the biogas sector in a sustainable manner.

With this, the current 250 biogas plants will grow to 1,000 between now and 2020, quadrupling the volume of electricity and heat generated from biogas. This means around 800,000 homes are set to benefit from biogas-generated electrical energy, while 550,000 tonnes of heating oil will be replaced with heat obtained from biogas.

## Commercial cooperation

One dairy farm located in Croisilles, Normandy is contributing to these figures after it began operating a biogas plant at the site in September 2012. The facility, which took a total six years to complete, generates 250kW of electricity. It was built by German plant manufacturer PlanET Biogastechnik and its French subsidiary Biogaz PlanET France.

The plant also generates 1,672MWh per year of heat provided by a combined heat and power (CHP) plant, which is used in cooperation with project partners to dry several raw materials such as wood, woodchips and hay. One of the project partners, for example, is a regional timber dealer who invested in the drying system

along with the dairy farm.

These project partners now benefit from the 'Best-in-Tariff' assigned by the French government, which is only reserved for those biogas projects able to prove utilisation of the heat.

## Double profit

The technological solution for the drying the raw materials includes an additional heat recovery system which allows three or four times faster drying compared to usual drying systems.

This is a double advantage for the operator of the biogas plant; due to the shorter drying time, the most important proteins of the grassland plants survive and the loss of nutrients is minimised. With this, the nutrient quality of the hay has increased, allowing the farmer to feed his 150 dairy cows with less forage



Grand opening and commissioning of the agricultural biogas plant

maize and more hay. This high-quality hay can also be sold to breeders where it is in high demand; its nutrient concentration can yield up to 9,000 litres of milk per year.

And while the farmer previously required approximately 50 hectares of cultivation area for maize for the cows, this has since

dropped to between 25 and 30 hectares. Currently, the content of dry matter has increased from 50 to 87% within just 60 hours.

## Reasonable recycling circuit

As a poultry and dairy farm, the client wanted a biogas plant that fitted to its needs. Earlier considerations to use biogas heat in a greenhouse of 1,000m<sup>2</sup> were overruled because this would have meant stepping into foreign markets. Instead it was preferred to digest the quantities of manure and liquid manure and to reuse the biogas heat for the animal feed production later. Also, the integration of local partners was focused to establish a regional recycling circuit.

The production of approximately 1 million Nm<sup>3</sup> of biogas each year is now used to supply about 500 households with electricity produced in a regenerative way. ●



Dry feeding system with 38m<sup>2</sup> developed for manure and grass