



SUCCESS STORY

AZIENDA AGRICOLA CAMISASSI
Italy

THE FARM

Farm legal status

The farm Camisassi is located in Italy, Piedmont, fraz.Trebbiè 49, Cavallermaggiore.

The entrepreneur of the business is Camisassi Francesco, who is a component of Camisassi's Family that is an historical family in the province of Cuneo that work in agriculture and breeding for many generation.

Farming system

Camisassi Farm is specialized in the production of milk. Livestock consist of:

-175 dairy cows

- 120 young dairy cows (> one year)

-110 calves (< one years)

In the next years the farmer communicated that would increase the number of the livestock about 30%.

The livestock housing is composed both deep litter and stall with dung grid.

The total production of manure is about of 4000 m³/year of slurry and about 2600 m³/year of solid manure.



About the field cultivation, the farm cultivate about 92 ha divided in:

- 60 ha of maize of which 19 ha for the production of high moisture corn, 38 ha for maize silage in first and second crops (about 30 ha of maize silage are cultivated after the harvest of Italian ryegrass).
- 11.5 ha of alfalfa
- 15 ha of meadows
- 7 ha for the production of energy crops (triticale and sorghum silage)

To sum up, about 6700 m³/year of manure and 1200 ton/year of co-substrates (which represent about the 17% of the total mass, manure + co-substrates) could be used to feed the anaerobic digestion plant. The percentage of co-substrates allowed by Italian law, is at maximum 30% of the total mass.

The area subject to intervention is not burdened by environmental or hydrogeological constraints and it is outside of protected areas.

The Biogas plant

The farm in object is going to realize a micro scale biogas plant for the production of electric energy with a CHP (Combine Heat and Power) plant. The plant will produce 150 kWel of electricity. The electricity will be sold.

The CHP plant is in phase of construction. The authorization has been obtained by the city of Cavallermaggiore, the province of Cuneo and the Piedmont region in November 2016. The plant will be full running in June 2017.

The farm has available all the necessary substrates for feeding the plant (manure + co-substrates). Regarding the digestate produced by the biogas plant, it will be spread on the land of the farm, also to realize a cost-effectiveness in terms of reduced acquisition of mineral fertilizers.

Currently feed-in tariffs subsidies for electricity produced for varying classes of generated power. Subsidies vary by country resulting in different rules for different locations. Rules implementing these differences are used in the analysis conducted by the system. The subsidy for this type of plant (plants capacity up to 300 kWel), for CHP scenario is 0.236 €/kWh.

The heat coming from the CHP plant, will be utilized to heating the houses of family's farmers. Thanks to that, the farmer will have a saving of about 11 ton/years of pellet, now utilized for this purpose. In essence, the plant achieves a positive environmental balance.

The digestion system is organized in one round digester of about 800 m³ of capacity. The tank is made of concrete and equipped with cover, thermal insulation, waterproofing and resistance to chemical and physical agents.

The installation can be monitored 24/7 via remote access. The all-day maintenance serves guarantees that in case of any trouble the installation is up-and-running again as soon as possible.





Reason of the farmer to invest and BioEnergy Farm 2 support given

The Camisassi's farm is interested to invest in the anaerobic digestion in order to valorise own biomass and livestock waste produced through an anaerobic digestion plant. The digestate, after a suitable period of storage, is then distributed on the farm's land closing the circle and it is valuable as a fertilizer.

The farmer say also that the sold of electricity, guarantees a fix and additional source of income for the farm. That contrast the milk market trend that in Italy is very fluctuating.

The help of Bioenergy Farm 2 experts, was essential in the early stages to convince the farmer of the convenience of a micro scale biogas plant (exhibitions in Cremona fair). The farmer communicated that he never trust in micro scale anaerobic digestion before the advice offered by the experts.

In the next stage, the experts provided to elaborate a personal business plan for the farm in object and then, give advice during the whole process.



Key data

Start of operation: 2017
Supplier: Rota (biogas plant) and Maiez (CHP Engine)
Type of plant: CHP
Type of farm: Dairy farm
Investment: about € 1.000.000
Gross annual income: €246.000
Annual operational costs: €108.000
Nett annual income: € 138.000
Payback period: 8 years*
*payback period is incl. digester

Production data

Biomass treated:
6700 m³/year of manure and
1200 ton/year of co-substrates
Biogas in: 60 m³/h
Gas production: 528.000 m³/y biogas
Electricity production: 1.081.590 kWh/y
Heat production: 4816 GJ/y

The project BioEnergy Farm II wants to inform farmers about the benefits of micro scale digestion and give farmers a view on the feasibility of this technology for their business.

Are you curious about the feasibility of micro scale digestion on your farm?

Our biogas experts have software tools to calculate the feasibility of micro scale digestion on your farm. Contact us!



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