



ITALY

Rota

## Rota

The reasons which have convinced Mr. Valerio Ramero, owner of the family farm, to build a biogas plant are of various kinds. First he wanted to optimize the management of waste and slurry, so that in order to have a more efficient fertilizer, easily manageable and less smelly.

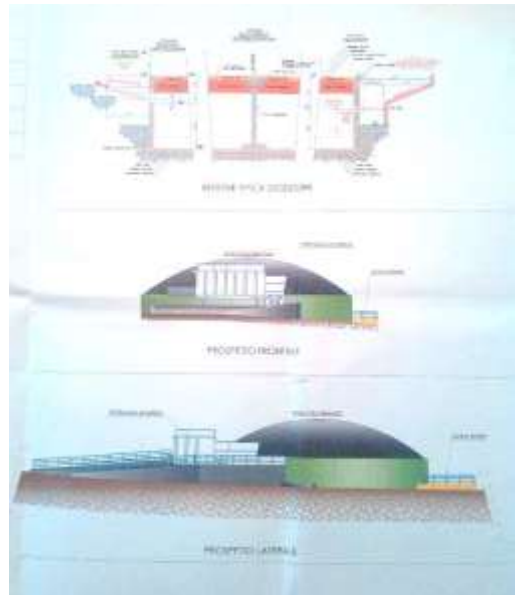
The regime of incentives at that time also permitted a good income, especially because the plan has been designed so that it can be powered by exclusive use of manure and slurry produced by the family farm (with the exclusion of a modest quantity of silage, always of exclusive farm production). Furthermore the farm uses a dryer powered by gas to dry the forage, whose costs could be cancelled by using the heat produced from the biogas plant.

*The farmer crop production increased and the smell, near the storage structures of waste and slurry, are significantly improved*

## What lessons has been learned

The expectations on the easier manure and slurry management and the fertilizer efficiency have been confirmed. The farmer crop production increased and the smell, near the storage structures of waste and slurry, are significantly improved. The objectives of electricity production have been overcome and with them the estimated revenue from the sale of electricity and related incentives

## A short description of the process



## Key data:

Start of operation:	2012
Manufacturer:	Rota
Type of plant:	Manure and slurry based with mixer in pre-treatment tank
Location:	in Boves a small town in Province of Cuneo (Piedmont)
Amount of gas produced (m <sup>3</sup> per year):	173.500
Amount of biomass treated (tonnes per year):	31.000
Investment costs (EUR):	800.000
Cost and benefit:	215.000 EUR/year.
Payback period (years):	3,7

## Feedstock

Cows slurry(tonnes per year):	22.000
Liquid cattle manure (tonnes per year):	7.000
Leftovers (tonnes per year):	0
Other (tonnes per year):	1.850(silage)

## Production data

Available area for the output of the biogas fertilizer (hectares):	59
Electric power of the gas engine (kW):	150
Generated thermal energy:	123kwh
Utilization of heat:..... Self-consumption, used for: digester, house and drying hay	
Generated electric energy (kWh):	1.301.400
Power consumption (electricity) of the plant itself (kWh):	9 – 12%

## Technical plant description

Operating temperature (dg):	39 - 42
Average retention time in digester (days):	52
Average expenditure of human labor (persons):	1 - 2 hour/day
Size of reception facility (m <sup>3</sup> ):	70
Size of fermentor (m <sup>3</sup> ):	1.250
Size of end storage tanks (m <sup>3</sup> ):	3.000
CHP (kWh):	150

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?

From September 2015 we offer personal guidance at home! Our biogas experts have software tools to calculate the feasibility of micro scale digestion on your farm. Contact us!



[www.BioEnergyFarm.eu](http://www.BioEnergyFarm.eu)



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