

59 CASALVOLONE (NO) ITALY

Year	2010
Client	EC.AM. SRL
Operator	EC.AM. SRL
System description	Dry anaerobic digestion, tunnel composting, odour control and screening system
Waste processed	Organic Waste and sludge
Plant capacity	88.000 t/year. Installed electrical capacity 998 kW



EC.AM. has awarded ATZWANGER with the design and construction of the equipment of an integrated waste treatment system.



The plant uses a combination of an anaerobic (digestion) and aerobic (composting) processes for the treatment of source separated organic waste, food waste, green waste, sludge and municipal organic waste with recovery of electric energy and matter (compost).

The process includes two successive phases:

- Fermentation phase in an anaerobic environment, with degradation of the organic matter and formation of biogas (methane gas and carbon dioxide); the biogas recovered in this phase is used to fuel two engines which produce electrical energy and heat;
- Composting phase, organized in two successive phases, intensive bio-oxidisation and maturation (curing). The first phase, that takes place in bio-tunnels, is marked by a rapid decomposition of the organic matter, with an intense metabolic activity and rise in temperature; the resulting product is fresh compost. The second phase, called "curing", takes place on the maturation floor and the final product is mature compost with a higher content of humic substances.

The final products of the recovery process are:

- Biogas used in gas engines for the production of electrical energy and heat;
- Quality compost to be used in agriculture.

The plant is equipped with an air extraction system and a bio-filter for the control of the odours generated by the process.

The project is completed with screening system to collect structural material and refining system for the final product (compost).

