

ORGANIC WASTE TREATMENT PLANT WITH **BIOMETANE PRODUCTION** IN CATANIA

The project provides the construction of an anaerobic digestion plant for organic waste resulting from separated collection of MSW (OFMSW), with production of biomethane. The digested sludge will be treated for compost production. The main objective of this project proposal is to limit negative effects on environmental and human health resulting from the MSW management. The project is in accordance with EU's objectives regarding recycling of waste and the reduction of waste landfilling.

For this reason, municipalities have been activated measures to increase the MSW separate collection in accordance with the first subparagraph of article 32 (1C) of Italian D.Lgs. 152/2006 and European directive 2008/98/EC.

In accordance with the waste hierarchy established by art. 4 of the European directive and the purpose of reducing greenhouse gas emissions by landfilling, easier separate collection and an appropriate waste treatment are planned, in order to produce organic materials without negative impacts on the environment.

The project is composed of two main working areas inside two existing buildings, located in Catania's industrial area.

The activities that will take place in the plant are: waste storage and mechanical pre-treatment; anaerobic digestion; treatment of the digested sludge; biogas upgrading; exhaust air and liquid waste treatment.

The project provides waste treatment capacity equal to 57.000 t/year, of which 45.000 t/y are OFMSW and 12.000 t/y are green waste used as bulking material during the digested sludge maturation phase.

DESIGN DATA

Private client

SICULA TRASPORTI s.r.l.

Task assigned and carried out

preliminary and final design

Cost € 21.683.382,40

Location Catania (Italy)

UTM Coord. (Zone 33T)

502,872 E - 4,493,845 N

Site area 31.000 m²

Shed surface 6.600 m²

Design period 2016

TECHNICAL DATA

Treatment mechanical pre-treatment, anaerobic digestion and aerobic stabilization (composting)

Anaerobic digestion no. 2 digesters (dry process) 2.250 m³ each

Aerobic biostabilization of digestate no. 4 closed tunnels (7 x 24 m each)

Average process period 90 days

Air forced system no. 4 blowers 45 kW power and 10.000 Nm³/h flow rate each

Air treatment 80.000 Nm³/h (wet scrubber and biofilter - 600 m²)

