

# PLANT FOR THE **TREATMENT OF OFMSW** (ORGANIC FRACTION OF MUNICIPAL SOLID WASTE) AND **M.S.W** (IN A STAND ALONE CONFIGURATION) IN CALATAFIMI

The project concerns the construction of a plant in a stand-alone configuration, consisting of both anaerobic digestion section of the organic fraction deriving from the separate collection of urban waste (OFMSW) with bio-methane production (energy recovery) and quality compost (material recovery) and a mechanical-biological treatment section of mixed municipal solid waste (M.S.W) for the recovery of materials / products and energy for the plant's self-consumption. The plant has a maximum treatment capacity of 65.000 t/year for the OFMSW treatment section and 80.000 t/year for the M.S.W treatment section. The project therefore envisages the conduct of waste management operations R3 - R4 - R13 - D8 - D13 - D15 as indicated in Annex B and C of the fourth part of Legislative Decree 152/2006. The activities that take place within the plant can be divided as follows:

## A. OFMSW TREATMENT SECTION

- Mechanical pretreatments
- Anaerobic digestion, biogas production, biomethane refining
- Production of quality compost

## B. M.S.W TREATMENT SECTION

- Mechanical separation treatments;
- Anaerobic stabilization, biogas production, energy cogeneration
- Aerobic biostabilization of organic waste
- Material recovery
- RDF production

The organic treatment of OFMSW produces a high quality compost equal to about 21.000 t/year and biomethane production equal to about 490 Sm<sup>3</sup>/h. In the M.S.W treatment section we obtain a quantity of stabilized organic fraction (O.F) about 19.000 t/year, recyclable materials about 22.000 t/year and a biogas production about 430 Nm<sup>3</sup>/h.

## DESIGN DATA

**Private client** OWAC S.R.L  
**Type of service** Definitive design  
**Project cost** € 36.830.000,00  
**Location** Calatafimi - Segesta (TP)  
**Tot area** 66.750 m<sup>2</sup>  
**Design period** 2018

## TECHNICAL DATA

**OFMSW treatment section**  
 - **Capacity** 65.000 t/year  
 - **Process duration** 90 days  
 - **Anaerobic digester** No.2, 1.800 m<sup>3</sup> each  
 - **Bio-cells for aerobic stabilization** No. 9, 500 m<sup>3</sup> each  
 - **Maturation of basement** No. 4, 2.400 m<sup>3</sup> each  
 - **Compost produced** 21.200 t/year  
 - **Biomethane produced** 490 Sm<sup>3</sup>/h

## MSW treatment section

- **Capacity** 80.000 t/year  
 - **Duration for stabilization of organic fraction** 38 days  
 - **Aerobic bio-cells** No. 7, 400 m<sup>3</sup> each  
 - **Bio-cells anaerobic** No. 4, 400 m<sup>3</sup> each  
 - **Post-treatments** pressing of plastic material and shredding for RDF  
 - **Stabilized organic fraction produced** 19.200 t/year  
 - **Recoverable plastics produced** 21.300 t/year  
 - **Recoverable metals produced** 800 t/year  
 - **Biogas produced** 430 Nm<sup>3</sup>/h

