MULTIFUNCTIONAL **WASTE TO ENERGY** PLANT CASTELLANA SICULA

In the context of circular economy and energy recycling, the municipal waste platform is planned in order to produce energy and secondary raw material from MSW.

Thanks to an anaerobic digestion section, the plant is expected to produce biomethane and compost from the OFMSW, and raw material from the residual fraction of MSW. Moreover, in the platform will be executed the pre-processing and the securing of the WEEE (Waste of electric and electronic equipment) and the pre-treatment of the bulky waste.

The plant has a maximum treatment capacity of 42,500 t/year for the OFMSW section and 68,000 t/year for the residual fraction of MSW, 300/year for the bulky waste and finally a capacity of 1,500 t/year for the e-Waste.

The Plant activities can be divided as follows:

A. OFMSW TREATMENT SECTION

- Mechanical pre-treatment
- Anaerobic digestion Biogas production Biomethane up-grading
- High quality compost production

B. MECHANICAL BIOLOGIC TREATMENT SECTION FOR RESIDUAL WASTE OF MSW, BULKY WASTE AND DRY FRACTION OF MSW

- mechanical separation treatment
- anaerobic stabilization biogas production Biomethane up-grading
- RDF production
- secondary raw material production (paper, plastic, metals, i.e.)
- separation and collection of recyclable material from bulky waste
- mechanical treatment and volume reduction, with final baling

C. PRE-PROCESSING AND SECURING OF E- WASTE

- e-Waste storage
- Disassembly and waste securing
- Stockage of dangerous and non-dangerous -compound





HEADQUARTES Via Resuttana, 360 - PA CAP 90146 / +39 091-303243 - FAX +39 091-7219247

DESIGN DATA

Private client Biowaste CH4 Castellana Sicula S.r.l. Type of service Definitive design Project cost € 55.420.465,65 Location Castellana Sicula (PA) Total area 80.000 m² Design period 2021

TECHNICAL DATA

OFMSW TREATMENT SECTION

Capacity 42,500 t/year Process length 90 days Anaerobic digester 1 of 2.250 m³ Bio-cells for aerobic stabilization 8 of 510 m³ each Maturation platform 2 of 2,700 m³ each Compost produced 14,000 t/ year **Biomethane produced** 280 Sm³/h **Recycled plastics produced** 3.900 t/vear Recycled metals produced 300 t/year

MSW TREATMENT SECTION

Capacity 60,000 t/year Stabilization process length 38 davs Bio-cells anaerobic 9 of 350 m³ each **Biocell for aerobic stabilization** 5 of 350 m³ each Post-treatments shredding of the RDF and baling Organic fraction stabilized 14,600t/year **Recycled plastics produced** 6,300 t/year Recycled metals produced 1,100 t/vear Biomethane produced 180 Sm³/h