



REVAMPING OF THE AEROBIC / ANAEROBIC INTEGRATED PLANT FOR THE **TREATMENT OF FORSU** - SALERNO

The project aims to improve the composting plant of the Municipality of Salerno, which has a treatment capacity of 30.000 t/year and is operated by Salerno Pulita S.p.A.

The production process is upgraded to use the BATs and incorporate industry 4.0, interconnectivity and smart automation solutions, such as advanced software, cloud, robotics, and remote monitoring.

Through the abovementioned interventions the existing anaerobic digestion of organic matter will achieve maximum production capacity of biogas, to be fed to the cogeneration process for the production of electricity and thermal energy.

For the revamping of the anaerobic treatment process the following activities are expected:

- Adaptation of the FORSU pre-treatment systems, mainly by replacing the existing press unit with a higher performance machine that integrates advanced technological solutions;
- Decommissioning of existing emergency flare, now out-of-service, and installation of new open-flame flare with steady combustion temperature;
- Decommissioning of the existing gasometer system and installation of a new two membrane press static system
- Inertization with nitrogen, emptying and washing the digesters;
- Revamping of the anaerobic digestion system through replacing the vertical agitators, pumping systems and the polyelectrolyte dissolution system and reconditioning the piping and valves.
- Extraordinary maintenance of the existing biological desulfurization system and revamping of the biogas upgrading system by replacing the cogeneration units;
- Installation of an advanced monitoring system for the composting in-vessel reactors and for the anaerobic digestion process
- installation of continuous remote automation and monitoring system

The anaerobic digestion of the OFMSW, is expected to produce 683.421 Sm³/year of biogas. On the other hand, the composting process of the solid fraction, obtained from pressing the dehydrated digestate and blending it with lingo-cellulosic waste (green waste), will produce 10.140 t/year of compost.

DESIGN DATA

Client: Salerno Pulita
Type of service: Definitive design
Project cost: € 3.120.405,36
Location: Salerno (SA)
Total site surface: 46,109 m²
Design period: October 2021

TECHNICAL DATA

AEROBIC-ANAEROBIC OFMSW SECTION

Treatment capacity: 30.000 t/year
Process duration: 90 days
Anaerobic reactors: 3 of 800 m³ each
In-vessel reactor for aerobic stabilization: 10 of 287 m³ each
Maturation phase: 6 turning piles of 356 m³ each
Produced Compost: 10,140 t/year
Produced Biomethane: 80 Sm³/h.
Electric energy: 1.245 MWhel/anno
Thermal energy produced: 1.000 MWh/anno

