COMBINED MULTIFUNCIONAL INDUSTRIAL PLANT FOR SLUDGE AND LIQUID WASTE TREATMENT - FOGGIA

The proposed project features a multi-combined platform divided in **two distinct sections**:

1. A sludge treatment section with capacity for 50.000 t/year for sludge collected in the Province of Foggia.
2. A Waste Water Treatment Plant (WWTP) for liquid civil waste with a total capacity of 300 m3/day

The project promotes **circular economy practices** through the recovery of energy available within the sludge matter and transforms the energy to biogas and biomethane. For this purpose, cutting-edge anaerobic digestion technologies are used.

The platform has the following purposes:
the **production of biogas** using the anaerobic digestion section to process the incoming sludge;
the **upgrade** of biogas to biomethane;
the **dewatering** of residual waste from the anaerobic digestion that can later be briquetted and used in construction or disposed in sanitary landfills;
the production of **lignite** through innovative processes;
the production of **purified water** to be used for irrigation purposes.

As summarized below, the design choices find an optimal equilibrium between the different treatment and recovery techniques:

A. SLUDGE TREATMENT SECTION

B. WWTP:

The average quantity of clarified permeate will be approximately 156 m^3 /day . The chemical composition complies with the limits specified on table 4, annex 5, part three of the Legislative Decree 152/06 and subsequent amendments, as well as adhering to the requirements concerning reuse of waste water reported on the Ministerial Decree 12 June 2003, n. 185.

DESIGN DATA

Public client Acquedotto Pugliese S.p.A
Type of service Technical and economical feasibility study
Project cost € 30.222.924,45
Location Foggia
Total site surface 51.000 mq
Design period June 2022

TECHNICAL DATA

SLUDGE TREATMENT SECTION

Treatment capacity 50,000 t/year
Anaerobic reactors 2 digestors (wet) of 3.100 m^3 each
Biogas producible 3.800.000 Nm^3/year
Cogenerator
Eletric power 1.200 kW
Termical power 1.239 kW

WWTP

Treatment capacity 300 m^3/day
Clarified water produced 156 m^3/day
Concentrate produced 12 m^3/day