

DECO S.p.A.

Chieti | Italy

MBT BIOSTABILIZATION PLANT WITH SRF PRODUCTION



ONE OF THE LARGEST AND MOST INNOVATIVE BIOSTABILIZATION PLANT IN EUROPE, THANKS TO ITS FLEXIBILITY IT CAN TRANSFORM LARGE VOLUMES OF MUNICIPAL SOLID WASTE INTO SOLID RECOVERED FUEL (SRF) FOR VARIOUS USES, FROM CEMENT KILNS TO DEDICATED POWER GENERATION PLANTS.

PLANT DATA

Company	Deco S.p.A.
Capacity	300.000 tpa of unsorted Municipal Solid Waste
Treated waste	Unsorted Municipal Solid Waste
Final Output	135.000 tpa of SRF
Start up	November 2009
Plant	Biostabilization Mechanical Biological Treatment for SRF production
Population served	1.000.000
Employees	25

COMPANY

Deco S.p.A., Located in the Abruzzo region, the company operates since 1989 in the environmental sector. Founded by the **Di Zio industrial group**, the company has evolved into a large Group with highly skilled resources and deep expertise throughout the entire integrated waste cycle.

PROJECT

Deco S.p.A. commissioned to Entsorga a **biostabilization plant** in Chieti (CH) to treat **Municipal Solid Waste (MSW)** and produce **quality SRF**.

SOLUTION

The biostabilization plant has a **processing capacity of 270.000 tpa** of Municipal Solid Waste. It is also capable of processing **commercial and industrial waste**.

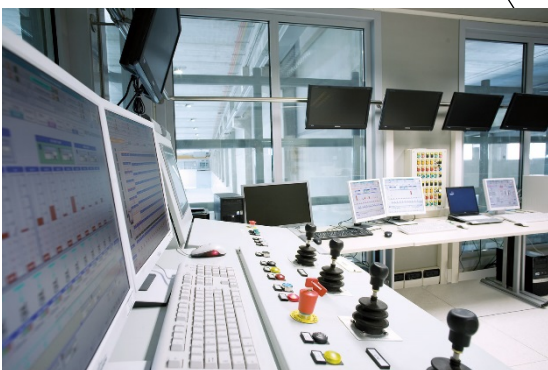
PROCESS

The waste treatment process is divided into **three key phases**:

- **pre treatment**
- **biodrying phase**: waste is **dried** using an **automatically controlled ventilation system (1)**, so to avoid any direct contact between waste and operators.
- **final mechanical refining**: the dried material can be further and more easily mechanically refined to obtain a specific product from the point of view of energy efficiency, easy and safe to use.

During the whole process the **ventilation system** extracts exhaust air from inside the bioxidation area and conveys it to a **biofilter (2)** to purify it from unpleasant odors.

(1) **VENTILATION SYSTEM**
AUTOMATIC CONTROL 24/7



(2) **BIOFILTER** FOR THE PROCESS AIR
CLEANING AND ODORS ABATEMENT



FINAL PRODUCT

The final result is a **biodried product**, the **Solid Recovered Fuel (SRF)**, a renewable fuel with **high calorific value** and suitable to substitute fossil fuels (mainly coal) in several processes. The **flexibility** of the Chieti plant allows to **modify the SRF specifics** and to produce fuels **suitable for different uses**, from cement kilns to dedicated co-generators or waste-to-energy plants. Its use allows for achieving **80% of landfill diversion** and consequently reduces greenhouse gas (GHG) emissions and other environmental impacts (land consumption, leachate production, etc.). Under various European regulations, the SRF which contains usually > 50% of biogenic fraction can be defined as a **renewable energy source**.



STRENGTH

- **environmental compliance**: no odors, dust, or leachate are released in the surroundings. All operations take place in **closed areas** operated **under slight negative pressure** to prevent any odor emission
- **reduced operation and labor costs**, thanks to the **complete plant automation** that allows reducing manpower needs and need for operators in the waste processing areas
- **maximum safety and minimum health impact for operators**, which are not exposed to the harsh conditions and potential hazards of the processing areas
- **low energy consumption** thanks to the use of high efficiency and energy recovery equipment [**bridge crane**]
- **maximum flexibility**: the plant can produce alternative fuel with different specifications by changing equipment settings in the refinement section



USED TECHNOLOGIES

The plant uses the Entsorga proprietary technologies: **Bee™**, **Bridge crane™**, **Biofilter**, **Prometheus™**