BELVEDERE S.p.A.

Peccioli (PI) | Italia

BIODRYING OF MSW TO COMPOST LIKE OUTPUT (CLO)

THE **"PUBLIC COMPANY" BELVEDERE S.p.A**. HAS ENTSORGA AS SUPPLIER OF CHOICE TO DELIVER AN **BIODRYING SYSTEM TO STABILIZE UNSORTED MUNICIPAL SOLID WASTE** AND SUBSTANTIALLY REDUCE ITS CARBON FOOTPRINT.
THE SYSTEM IS PARTICULARLY WELL SUITED TO ADDRESS NEEDS OF COMMUNITIES LOOKING TO IMPLEMENT **QUICK AND EFFICIENT SOLUTIONS** TO PREPROCESS **UNSORTED MSW BEFORE DISPOSAL**, AS REQUIRED BY THE CURRENT EUROPEAN REGULATIONS

PLANT GENERAL INFO	
Company	Belvedere S.p.A.
Capacity	90,000 Tpa MSW
Treated waste	Unsorted Municiapl Solid Waste
Final Output	60,000 t / a with respirometric index (RI) <1000
Start up	August 2015
Plant type	Biodrying system
Population	300.000
Employees	6

ENTSORGA
GREEN TECHNOLOGY REVOLUTION

THE COMPANY

Belvedere S.p.A. was founded in 1997 as a public company owned by the Municipality of Peccioli (PI). The company **manages the local landfill** and waste disposal plant, producing also renewable power. Belverdere S.p.A. is also active in biomass to power, solar and wind energy.

THE PROJECT

Belvedere S.p.A. has selected the Entsorga as supplier of choice for the plant in Peccioli **to process Municipal Solid Waste collected in the area.**

THE SOLUTION

Entsorga has supplied the **biological treatment section** based on its own proprietary **Turtle Q-Ring™ technology**, a solution that combines reliability and reduced capital investment.
This system is composed of **13 biocells covered by a breathable Q-Ring™** fabric, a special patented Entsorga fabric that guarantees **air and water vapor perspiration**, while at the same time keeping odors and other pollutants confined inside the biocells.
The year intake capacity of the plant is **90,000 tons of MSW**.

THE PROCESS

Municipal Solid Waste is loaded by wheel loaders into **the biocells (1),** where **for about 21 days** the feedstock is processed, dried and stabilized. The decay of organic substances due to **the natural action of microorganisms is accelerated** by a **forced ventilation system** that supplies oxygen through pipes distributed within the concrete floor of the biocells. At the same time the **heat** naturally generated allows **sanitizing the biomass**. The process is automatically managed by the Entsorga designed **control system (2),** which allows monitoring detecting the feedstock temperatures with and optimizing the airflow.

THE PRODUCT

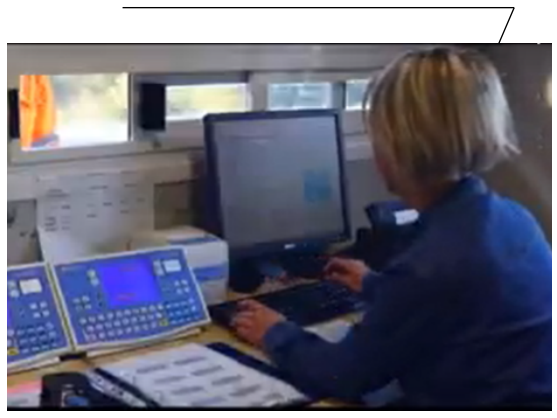
The result is a **stable processed material** with **very low moisture content and respirometric index** (<1000 mg O2 / kg s.v. * h-1) suitable for being disposed, in compliance with the latest European standards. The biostabilization process, making the putrescible part of the undifferentiated waste **inert,** in fact **reduces the emissions of greenhouse gases** (biogas) and the production of leachate, providing a **great benefit for the environment.**

STRENGHTS

- **Low environmental impact: no odors, dust, or leachate** are released in the surroundings. The biological treatment phase takes place in an enclosed area and thanks to **the semi-permeable membrane**, the odorigenic molecules generated in the treatment phase are effectively abated.
- **reduced operation and labor costs,** thanks to the **high plant automation**
- **maximum safety and minimum health impact for operators,** which are not exposed to the foul air, dust and potential polluants
- **low energy consumption** thanks to the control system which optimizes air flow rates within the process

(1) **BIOCELLS** FOR ENCLOSED PROCESSING OF MSW

(2) 24/7 **AUTOMATIC DCS DRIVEN** CONTROL SYSTEM



USED TECHNOLOGIES

The plant uses the Entsorga proprietary technology **Turtle Q-Ring™.**

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