ACEA PINEROLESE INDUSTRIALE S.P.A.

Feasible production and use of new biobased products from MWB

Possibile produzione e uso di nuovi prodotti biobased da FORSU

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THE GREEN TECHNOLOGY EXPO

ECOMONDO
Progettiamo
un mondo migliore.

acea PINEROLESE
L'INNOVAZIONE È IL NOSTRO TERRITORIO

OUTLINE

- ACEA Pinerolese Industriale Spa
- LIFE EBP project

ACEA: MULTIUTILITY COMPANY

ACEA is a public **multi-utility company**, which carries out the following services:

WATER SECTOR: for the management of the integrated water system

ENERGY SECTOR: for natural gas distribution and heat management

ENVIRONMENT SECTOR: for the integrated waste collection, treatment, valorization and disposal process

ACEA: LOCATION AND ACTIVITY

The **ENVIRONMENTAL SECTOR** operates in the **Pinerolo area** -south west of the Province of Turin- for **47 Municipalities** and 150'000 inhabitants, carrying out the following activities:

- urban solid waste collection
- separate waste collection
- street sweeping
- waste treatment and disposal

FROM WASTE TO RESOURCE

BIO WASTE

BIOGAS

COMPOST

THE BIOWASTE

FOOD WASTE

Household
Restaurants
Canteens
Local markets

GREEN WASTE

Pruning from domestic origin
Urban green waste

Anaerobic digestion

Composting plant

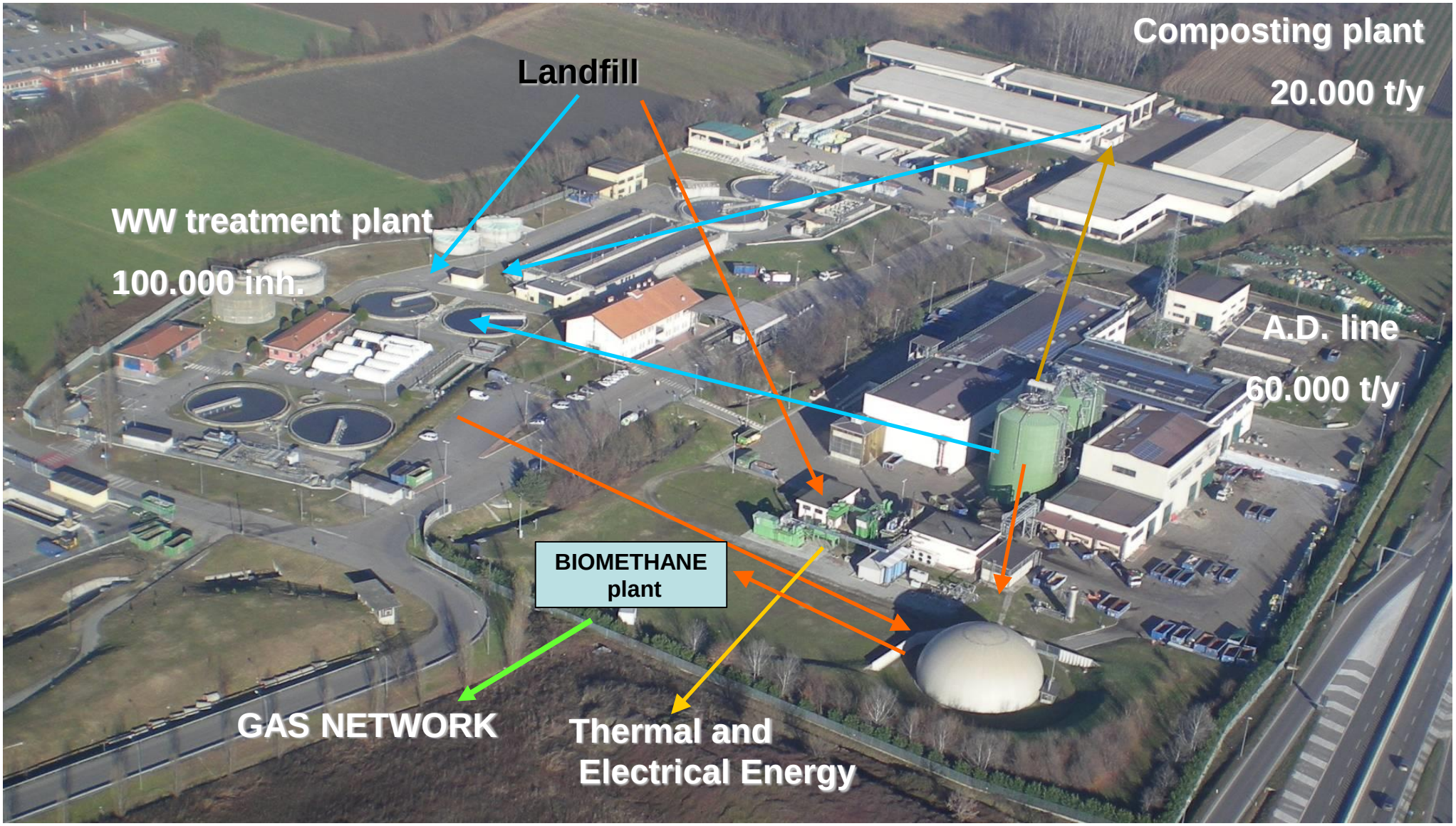
VIRTUOUS EXAMPLE OF TREATMENT OF BIOWASTE

The ACEA Waste Treatment Plant was established **in 2003** to initially serve only the Pinerolo area (150˙000 inhabitants).

Currently, the **organic waste** treatment line is a reference **at a regional level**, with a potential capacity of **60˙000 t / year** (to be enlarged to 90˙000 t / year), serving roughly **1˙000˙000 inhabitants.**

It is configured as a single **interconnected plant** for the services related to water treatment, sludge / digestate, thermal and electrical energy recovery.

Integrated Environmental District



Biogas flow

Waste water

Sludge / digestate

Biomethane

Feasible production and use of new biobased products from MWB – LIFEEBP PROJECT

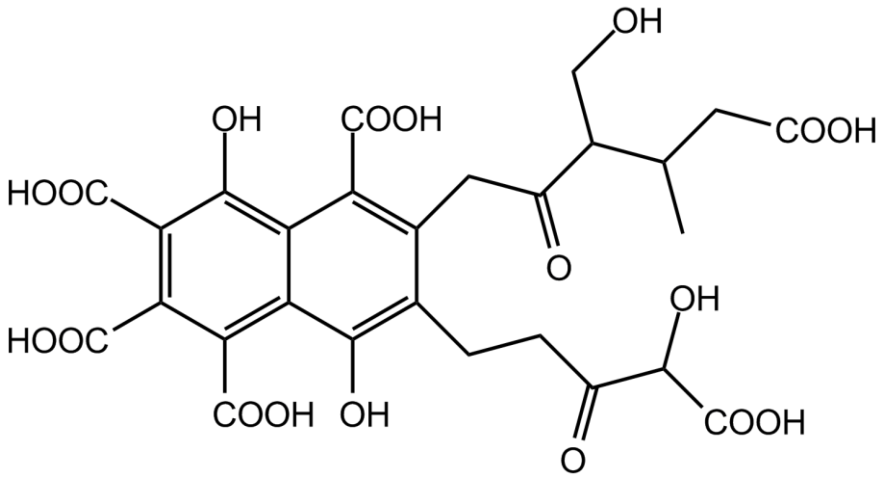
LIFE19 ENV/IT/000004

ACEA is involved for the production of new high-added value compounds from compost, for entering both the agriculture market and the chemical industry for the production of bio-plastics and detergents.

FLORAWIVA® COMPOST DI QUALITÀ

certified by CIC

SOLUBLE BIOPOLYMERS (BPs)



LIFE EBP PROJECT – process and prototypes

HYDROLISIS PROTOTYPE:
0.7 m^3 working volume
pH 14 and 90°C

Biobased product are solubilized and separated from the inert part or insoluble residue (IRs)

MEMBRANES PROTOTYPE

Tangential membrane filtration system with **5 kDa molecular** cut off membrane to separate BPs from the excess alkali reagent

DRYER

high-added value compounds from compost, for agriculture market and the chemical industry (bio-plastics and detergents)

LIFE EBP objectives

Objective is to demonstrate the ENVIRONMENTAL, ECONOMIC and SOCIAL BENEFITS of bioproducts in the sectors of MBW, agricolture and chemical industry in 5 European countries takes as case study

- Replicating BPs production process in real operational condition using municipal biowaste as feedstock
- Validation BPs performance as soil fertilizers, plant biostimulants/anti-pathogen agents, biopolymer to make plastics, surfactants to make detergents
- Confirming BPs compliance with EU regulation
- Assessing BPs marketability

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