CASE STUDY

Cork, Ireland

INNOPLANA

Eco-Friendly | Safe | Economical | Energy Efficient

INNODRY 2E®

Low energy consumption

suez environnement

Degrémont

Cork

INNODRY 2E® - A low energy and flexible solution

Needs Analysis

Cork WWP (Ireland) was designed in 2000. The specifications did require a complete sludge treatment solution including dewatering, drying and granulate storage. The system was to take **maximum advantage of the biogas produced by digesters** as well as any surplus heat used for the heating of the digesters. The drying equipment had to be flexible in order to cover the **varying production rates** and, at the same time, simple and easy to operate, requiring the minimum number of operating personnel.

Why Degremont Technologies-Innoplana?

To ensure an optimal energy balance at partial and full load, two INNODRY 2E® lines were selected. Each of these lines has a **water evaporation capacity of 1'700 kg/h** and is capable of producing granules with 90% DS. The INNODRY 2E® **units can be operated either individually or together**.

Implementation

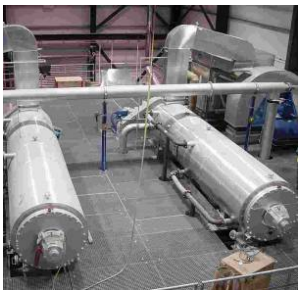
During the plant realization phase, the Degrémont Technologies-Innoplana team cooperated closely with the client and contributed substantially to the success of this complex project.

Degrémont Technologies-Innoplana could draw on a wealth of experience related to such treatment plants:

- optimized design of **integrated heat recovery system**
- energy consumption as low as **730 kWh per ton of evaporated water**
- full operators training enabled them to autonomously run the plant after a short period of time

The Result

The plant was handed over in 2005 and has since been running continually to the client's full satisfaction.



Integrated Heat Recovery System

In the 1st stage of the INNODRY 2E®, the dewatered sludge is dried with a thin film evaporator to approximately 45% DS. Afterwards, the still plastic sludge is formed in the chopper to granules.

Following, in the 2nd stage, the granules are dried on a belt dryer to approximately 90% DS. The belt dryer is equipped with a closed circulating air loop also called **"Integrated Heat Recovery System"**.

The vapours produced by the first stage are used to heat-up the drying air for the 2nd stage. This unique heat recovery system results in an outstandingly low biogas consumption of only 730 kWh per ton of evaporated water.

This value has been confirmed by the independent calibration company "**Bureau Veritas"** during a measurement program. On the same occasion, other production parameters were also examined such as **extremely low dust** content and **fully hygienized granules.**

An additional advantage of the integrated heat recovery system is the substantial **reduction of investment and operation costs** of the waste air treatment plant as the exhaust air volume from INNODRY 2E® is 5 to 8 times lower than any other drying technology.

INNOPLANA

DEGREMONT TECHNOLOGIES LTD
STETTBACHSTRASSE 1, CH-8600 DÜBENDORF, SWITZERLAND
+41 44 801 8511 (TEL) • +41 44 801 8501 (FAX)
WWW.DEGREMONT-TECHNOLOGIES.COM