

METADATA (*)

TOPIC D – Training Unit 5: Wastewater Treatment Process (Spanish case)

Source

Partner: **ESAMUR**

Project: TRINEFLEX - Transformation of energy intensive process industries through integration of energy, process, and feedstock flexibility, Grant agreement ID: 101058174

Ownership

Content has been developed by Pedro Simón Andreu, Technical Director of ESAMUR

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Abstract

The Training Unit describes the wastewater treatment process and the basic principles of the treatment, taking as example the Wastewater treatment Plant (WWTP) of Alcantarilla – Spain, and the main equipment used in a WWTP.

Structure

- Lesson 1: Wastewater treatment process. Fundamentals and equipments
The lesson describes the WWTP process and the main equipments involved.
- Lesson 2: Energy consumption and production in a WWTP
The lesson presents a breakdown of the energy consumptions in a WWTP, with focus on the aeration process. The production of energy by the combustion of biogas produced in the digestion process will be explained.
- Lesson 3: Objectives of TRINEFLEX project in Demo case 3
The lesson describes the objectives of the TRINEFLEX project and how ESAMUR is facing them.

Learning Outcomes

After this Training Unit, the trainees will be able to know, after the first lesson, which are the main processes carried out in a Wastewater Treatment Plant (WWTP), with special attention for the biological reactor and digester. Also the main equipments will be presented. In the second lesson, the main energy sources used in a WWTP will be explained, and also a typical breakdown of the energy consumption in the different parts of the process will be shown, with special attention to the aeration process. Also energy production systems in a WWTP will be explained. In the third lesson, the objectives of TRINEFLEX project in Alcantarilla demo-site will be explained and shown how they will be faced.

Intended Audience

The training unit is designed with a level to be understood by many possible trainees, as students, researchers or decision makers, without knowledge of the processes in a WWTP, the energy consumptions and sources and the possibilities of energy production in these plants. The level is basic,

but it's enough to get an overview of the possibilities and chances in a WWTP, that is an intensive energy consumption industry. .

Pre-requisites

No special skills or knowledge are needed for the trainees, all the relevant information, for the objectives of the project, is shown in the lessons

Language: English

Format: Video mp4, PDF

Expected workload

Expected workload is 15 minutes for each lesson.

(*) The structure of the Metadata for the Training Units derives from the training Metadata model developed within the Leonardo da Vinci project LINKVIT (2013-15, GA N. 2013-IT1-LEO05-04046)