

METADATA (*)

TOPIC D – Training Unit 6: Wastewater Treatment Process (Greek case)

Source

Partner: EYDAP

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

Ownership

Nikolaos Tsalas, Researcher of R&D Department of EYDAP, ntsal@eydap.gr

Eleni Efstathiou, Head of Metamorfosis WWTP: eeysta@eydap.gr

Stelios Samios, Head of R&D: samios@eydap.gr

Vasiliki Polichniatou, Researcher: vpolychniatou@eydap.gr

Konstantinos Peroulis, Researcher: kperoulis@eydap.gr

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Abstract

The training Unit describes the wastewater treatment using the activated sludge method, taking as an example the Wastewater Treatment Plant (WWTP) of Metamorfosis – Greece- and the main stages, equipment and the connection between them.

Structure

- Lesson 1: Wastewater treatment process. Fundamentals and equipments
The lesson presents the stages of Metamorfosis WWTP process and the main equipment.
- Lesson 2: Energy consumption and production at a WWTP - Objectives of TRINEFLEX project in Demo case #5
The lesson presents the analysis of the energy consumptions in the Metamorfosis WWTP, with focus on the aeration process and sludge treatment, reference to the production of thermal energy from the biogas produced in the anaerobic digestion process, usage and disposal rates and objectives of TRINEFLEX project and interventions at EYDAP demo case.

Learning Outcomes

Upon completion of the two lessons, the trainees will be able to:

1. Describe the stages of liquid wastewater and sludge treatment in a wastewater treatment unit following the activated sludge method.
2. Identify the essential equipment involved in the most energy-intensive processes, which are also the processes we will focus on within the Trineflex project, at the Metamorfosis Wastewater Treatment Plant (MWWTP).

3. Understand the energy balance of the MWWTP.
4. Familiarize themselves with the objectives set within the framework of the Trineflex project.

Intended Audience

Initially, this training unit was designed to be understandable to a wide audience and to further highlight the usefulness of the Trineflex project. More specifically, it is primarily aimed at newcomers in the wastewater treatment field (e.g., students & researchers) who are interested in optimizing their energy performance.

Pre-requisites

For attendance and understanding this training unit, trainees at a basic level simply need to be familiar with the concepts described in the table of glossary. Naturally, it would be desirable if there is pre-existing experience in the wastewater treatment field and knowledge of the goals of the Trineflex project.

Language: English

Format: Video mp4, PDF

Expected workload

Expected workload is 50 minutes.

References/Complementary additional training material:

Recommended links for the general principles of wastewater treatment procedure as follows:

- *How do wastewater treatment plants work?*,
<https://www.youtube.com/watch?v=s8IVjQg7yno>

(*) 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)