

## Energy Data Management Solutions: Case for biological wastewater treatment

This installation would serve about 100,000 people and a daily flow of 20,000 cubic meters of wastewater, with an annual energy consumption of 2,2 GWh, a yearly electricity bill exceeding €160.000. The most energy consumed part of the installation was the oxygenation unit which consume more than 50% of total energy.



### Description of the case study:

A biological wastewater treatment is the main method of wastewater management. Through specific processes the contaminants of wastewater are identified and separated in order to allocate the wastewater to the environment.

#### Customer

This infrastructure serves a specific region in Greece which presents some fluctuations in the provided wastewater value through time.

#### The challenge

The aim of Intelen was to optimize its significant energy costs without changing the quality of service.

The fact also that the cost of electricity exceeded 35% of the total annual operating costs of the company, highlights the importance of specialized services of Intelen.

#### The solution

The procedures that are introduced in a biological wastewater treatment require special handling. Any change can have a direct impact on the quality of the services. Due to that the installation is operating under strict rules, which require delicate handling from Innoven.

Innoven's engineers installed electricity meters in order to collect more accurate consumption data from each subunit. Particularly significant was considered the correlation of the bellows of oxygenating function in regard to the supply of waste water and to the concentration of dissolved oxygen in the tanks.

This optimized the function of bellows and provided the required oxygen by ensuring the quality of the effluent.

Also an analysis was introduced based on the tariff of electricity in regard to energy consumption. For the reduction of electricity bills an installation of RES units was proposed.

Moreover, Innoven's engineers were now aware of the consumption of all modules and could compare it to their technical characteristics, in order to identify the need of maintenance in time.

Finally, there was proposed a replacement of old equipment which have higher energy consumption than the one described in the technical specifications.

Gradually, the implementation of the above action, leads to a significant reduction of energy cost (about 7% / year).

### What was the type of green solution? Please select the type of solution.:

Technology/Product [1]

### What does the featured solution contribute to?:

Resource efficiency

### Which technology area(s) does the case study belong to?:

Resource efficiency [2], Energy efficiency [3]

### Energy consumption description:

154MWh/year

**Cost savings description:**

11.000€/year

**Partners:**

Company name

- **Innoven** [4]

**Relationship type:**

Company that produced the green solution,

Company that supplied or installed the green solution

---

**Source URL:** <http://greeneconet.eu/energy-data-management-solutions-case-biological-wastewater-treatment>

**Links**

[1] <http://greeneconet.eu/type-green-solution/technologyproduct>

[2] <http://greeneconet.eu/technology-area/resource-efficiency>

[3] <http://greeneconet.eu/technology-area/resource-efficiency/energy-efficiency>

[4] <http://greeneconet.eu/innoven>