go green with Aarhus

Marselisborg Wastewater Treatment Plant

Source: Aarhus Vand

Marselisborg WWTP produces 34 percent more electricity than it needs and 1,5 GW of heat (data from 2019).

Typically, water and wastewater-treatment processes account for 25 – 40 percent of the municipality's electricity bill – energy that can be saved and money that can be freed up and put to better use elsewhere. The answer lies in understanding that the technology and knowledge is available to make water-management systems energy neutral.

EFFICIENCY

Over the past five years, Aarhus Water has put great focus on energy savings and energy production. The Marselisborg Wastewater Treatment Plant has increased plant efficiency and reduced energy consumption by optimizing all its processes. This excess energy is enough to serve the needs of the drinking water supply and wastewater treatment facilities in the region.

NEW TECHNOLOGIES

Energy-saving technologies such as an advanced SCADA control system, a new turbo compressor, sludge liquor treatment based on the anammox process, as well as an optimised fine bubble aeration system have been implemented. During the same time period, the energy production has been improved through the implementation of new energy efficient biogas engines (CHP).

Most of the installed technologies have a payback time of less than 5 years.

FACTS:

- Total energy production: 8461 (2019) MWh/ year
- Total energy consumption: 5848 MWh/year, equivalent to a net energy production of 145 percent
- New technologies have resulted in a reduction in power consumption of approximately 1 GWh/year = 25 percent in total savings.

(based on data from 2019)

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