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Report

INTERNATIONAL WORKSHOP
ADVANCES IN CLEANER PRODUCTION

“CLEANER PRODUCTION TOWARDS A SUSTAINABLE TRANSITION”

Ecoefficiency in Portuguese WWTP

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Abstract

Cleaner Production is a strategy that supports companies on their way towards sustainability by focusing their efforts mainly on the reduction of materials' and energy's use, on processes' improvement, on cycles' closing and on waste flows' valorisation or elimination. This approach was used in Waste Water Treatment Plants (WWTP) by considering their running as an industrial process.

In a flowchart all the inputs and outputs were identified. Energy was quantified and the associated costs were allocated. Special attention was paid to energy use in the treatment processes and therefore the higher electricity consumptions were measured. In each WWTP the efficiency in the removal of the pollution load was related to the energy consumption.

For each WWTP an indicator (Value) relating removal efficiency to cost (or energy consumed) was established and used for benchmarking between the target WWTP.

Possibilities, of reduction of materials and energy consumption in the normal functioning of the WWTP, were identified. Other improvement opportunities were detected in what concerns the inputs related to population training and information, namely those related to water savings, internal housing water reclamation and chemicals use.

Keywords: *Cleaner Production, Sustainable Value, wastewater treatment plant, energy efficiency, eco-efficiency*

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