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"Gheorghe Asachi" Technical University of Iasi, Romania

PRELIMINARY EVALUATION OF THE ENVIRONMENTAL IMPACT OF WATER TREATMENT PROCESS

Florina Fabian[1,2]*, Silvia Fiore[2], Giuseppe Genon[2], Deborah Panepinto[2], Valentin Nedeff[1], Mirela Panainte[1]

[1]"Vasile Alecsandri" University of Bacau, Romania, 600115, Bacau, Romania
[2]DIATI, Politecnico di Torino, 10129, Torino, Italy

Abstract

Urban water cycle, managing water supply, distribution, potabilization and wastewater treatment, comprehensively involve a considerable consumption of chemicals and energy. This study proposes an overview of the factors contributing to the environmental impact of Water Treatment (WT) process. The approach is based on the evaluation of Carbon Footprint, the environmental indicator able to relate direct and indirect emissions generated by any process in terms of CO_2 equivalents. Energy consumption and utilization of chemicals in a potabilization treatment are strictly depending on several issues, mainly the geographic area of the water system, the original quality of raw resource and the required standards for drinking water. The results of the study show that WT processes have a low environmental impact in comparison with other activities of production. Anyway the emphasis is on reducing the quantities of employed chemicals and on improving energy efficiency. The load of WT, in comparison with other public services, is in fact a chief aspect in the right evaluation of any possible improvement of the overall environmental balance of a metropolitan area.

Key words: Carbon Footprint, chemicals, energy consumption, environmental impact, water treatment

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* Author to whom all correspondence should be addressed: e-mail: florina.fabian@yahoo.com; Phone: +40-234-5457534; Fax: +40-234-5457534