Environmental Engineering and Management Journal

August 2017, Vol.16, No. 8, 1739-1749
http://omicron.ch.tuiasi.ro/EEMJ/

"Gheorghe Asachi" Technical University of Iasi, Romania

WATER FOOTPRINT APPLIED TO CONSTRUCTION SECTOR

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Abstract

Water footprint is an indicator of freshwater use that looks not only at direct water use of a consumer or producer, but also at indirect water use; it can be regarded as a comprehensive indicator of freshwater resources appropriation, next to the traditional and restricted measure of water withdrawal. It could be counted in terms of the sum of direct and indirect water costs in all processes and input-output analysis to detailed water used in all plant.
In this paper, the application of the water footprint in a construction business located in Eastern Sicily is presented, its main activity is represented by the production of aggregates, bituminous and concrete mixes.
In order to identify the economic, social and environmental advantages, we quantify this multi-dimensional indicator and we analyse the water incorporation into products, evaporation, abstracted from ground-or surface water and returned to another catchments or sea, with unavailable degradation in quality. It consists of two main components: the operational (or direct) water footprint of a business is the volume of freshwater consumed or polluted due to the business's own operations. Thanks to the calculation of the Water Footprint the amount of water resources that a company of this size really requires was understood and greatly exploits the opportunity and the strategies to reduce its water consumption, such as installation of a system for collecting rainwater, continuous recycling system and new sleeve filters. The costs of these investments were calculated by choosing different alternatives to safe non-renewable water.

Key words: civil construction sector, freshwater treatment, ISO 14046:2014, non-renewable resources, water footprint

Received: February, 2017; Revised final: July, 2017; Accepted: August, 2017

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