Environmental Engineering and Management Journal *March 2016, Vol.15, No. 3, 613-625*
http://omicron.ch.tuiasi.ro/EEMJ/

"Gheorghe Asachi" Technical University of Iasi, Romania

ECO-INNOVATIVE TECHNOLOGIES FOR MITIGATING GASEOUS EMISSIONS FROM WASTEWATER COLLECTION SYSTEMS

Iulia Carmen Ciobotici Terryn*, Andreea Cocarcea Rusei, Marius Stamate, Iuliana Lazar

"Vasile Alecsandri" University of Bacau, Faculty of Engineering, Calea Marasesti 157, 600115 Bacau, Romania

Abstract

The study aims to identify important challenges that the practitioners and researchers in wastewater collection systems are facing in order to reduce the emissions of hydrogen sulphide and greenhouse gas emissions. Based on literature review, it identifies the main technologies used for avoiding and removing odorous compounds from wastewater gas streams. The paper also highlights issues pertaining to the emission and biofiltration of hydrogen sulphide, methane and nitrous oxide from sewage conveyance from Bacau city. The results illustrate that the eco-innovative technologies as it is the case in the vacuum system and biofiltration have an important potential to mitigate the environmental impact of wastewater collection in what concerns the emission of harmful gases (hydrogen sulphide) and greenhouse gas emissions at the level of lift stations or vacuum stations.

Key words: biofiltration, green-technologies, sewer gas emissions, vacuum sewer system, wastewater conveyance

Received: August, 2015; Revised final: February, 2016; Accepted: February, 2016

* Author to whom all correspondence should be addressed: e-mail: julyci@yahoo.com; Phone: + 40745434232