GREENHOUSE GAS EMISSIONS FROM MUNICIPAL SOLID WASTE MANAGEMENT: THE SITUATION IN GREECE

D. Tsourdalaki, C. Papadaskalopoulou, M. Loizidou

Unit of Environmental Science & Technology, School of Chemical Engineering, National Technical University of Athens, Zographou Campus, 9 HeroonPolytechniou Street, 15780 Athens, Greece

**Tel. +30 2107723108; Fax: +30 2107723285; email: chpapad@chemeng.ntua.gr*

Abstract

Aim of the present paper is to assess the current situation regarding the greenhouse gas (GHG) emissions from the disposal of waste in Greece, in order to provide a clear picture of emissions at landfill rather than national level.The assessment is based on detailed data collected with respectto the characteristics of the landfills currently operating in Greece, as well as, on on-site measurements of emissions and on model simulations. An in-depth analysis took place in order to identify those landfill characteristics that affect most GHG generation and to indicate the available mitigation options and their potential, based on different scenarios. Furthermore, the future GHG emissions from waste management in Greece were estimated while taking into account the targets set in the new National Waste Management Plan(NWMP). The analysis showed that the application of simple technologies for the capture and flaring of the generated landfill gas can dramatically decrease GHG generation by many orders of magnitude. Landfill gas utilization can further decrease emissions and generate emission savings at the same time. The achievement of the targets set by 2020 at the NWMP would substantially decrease both the amount and the biogenic carbon content of waste disposed due to the high recovery rates of organic and recyclable waste, thus resulting in very low to negative emissions from landfilling.