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POSTCLOSURE INFLUENCE OF EMISSIONS RESULTED FROM MUNICIPAL WASTE DUMP SITES: A CASE STUDY OF THE NORTH-EAST REGION OF ROMANIA

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Abstract

The Strategy of Waste Management, Horizon 2014-2020, states 8 major objectives with the role of establishing new priorities for Waste Management. Thus, one of the proposed measures for the next 5 years is encouraging the wastes exploitation for energy recovery. In this context, the main goal of our study was to evaluate the level of pollution considering 5 closed municipal waste dump sites from the North-East region of Romania over the period 2013-2015, having in mind at a first glance, the possibility of methane emissions valorization in the form of biogas. Rapid Impact Assessment Matrix and Leopold's Matrix were used for the environmental impact assessment. The results of the environmental impact assessment showed that the impact on environmental quality was very high for Vaslui and Iasi counties, due to pollution migration from North to South of the studied region, and from one environmental component to another (e.g. from soil to ground water). On the other side, the results obtained by monitoring the emissions generated by the waste dump sites from Botosani County revealed there is a major impact an air quality. The overall impact, quantified by two conventional methods shows that at regional level, heavy metals are the most contributing pollutants to environmental impact, thus it is necessary to implement measures to remediate and protect soil and ground water quality. The results of this study revealed that there are no major negative impacts or fire risks directly generated by waste dump sites, and biogas is not valuable for energy recovery goals.

Key words: emissions, environmental impact assessment, heavy metals, municipal wastes dump sites

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