



The Ecological Aspects of the Production of Electricity in Power Generator Systems

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Abstract. This paper presents problems related to the use of municipal landfill gas as a fuel for engines powering electric generators. The authors focus mainly on the energy-related and ecological aspects. In the first part of the paper the authors briefly analyzed the legal regulations related to the use of alternative sources of energy, municipal landfill gas in particular. In addition, analysis shows that due to a large amount of accumulated waste we should expect a bigger global production of municipal landfill gas in the nearest future. The paper also presents the authors' own results of emission tests performed on a power generator fuelled with landfill gas and these results were compared with the emissions generated during the production of electricity from coal and lignite and from a diesel engine operating in the power generating system. The ecological evaluation of the use of municipal landfill gas in combustion engines has been complemented with the evaluation of the ecological benefits of the tested power-generating unit. This evaluation has been carried out based on the calculation scheme by the United States Environmental Protection Agency (EPA).

Key Words: Biogas, combustion engine, renewable energy, emission measurement
