

Introducing Pay as You Throw System and Autonomous Composting Units for Biowaste Management in Municipality of Probistip

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Abstract

Municipal Solid Waste management is still one of the major environmental challenges at national level, and although with national and regional waste plans in place. Republic of North Macedonia with its eight regions has only one regional landfill active, and at least 54 non-standard municipal landfills and hundreds dump sites and old landfills. And in the light of soon expected regional establishment of an integrated and self-sustainable waste management system in the eastern and north-eastern regions, in order to increase awareness by the local population and hospitality enterprises for source separation schemes of organic waste, as largest producers of organic waste, Goce Delcev & Hellenic Mediterranean Universities together with Municipality of Katerini, Municipality of Yermasoyia and Municipality of Probishtip, launched joint Project co-founded by EU, "Utilizing Pay as You Throw Systems and Autonomous Composting Units for Biowastes Management in Touristic Areas". Annually, about 3300 t of MSW is generated in Municipality of Probishtip, with estimated 45.3% organic waste, all together disposed at a non-standard landfill just out of the city borders, and as soon as regional waste management system kick-in this should be changed, affecting current practice and costs. The Project includes transfer and application of innovative technologies Pay As You Throw - PAYT system and Autonomous Composting Units - ACUs for biowaste

management in Municipalities of Katerini, Yermasoyia and Probishtip. PAYT system and ACUs as inovative technologies for biowaste management involves source separation schemes of organic waste in different bins (biowaste in 10 L bins and residual mixed waste in 80 L coded bins). Two ACUs with 60 t/year capacity have been installed and commissioned, one for hospitality enterprises installed nearby City market and San Niko Hotel and the other one in Kalnishte urban area aimed to serves 80 households included in Project, for composting organic waste. For introducing "Pay As You Throw" system specially designed weighing equipment built into the one waste collection truck owned by PUC Nikola Karev and coded waste bins for hospitality enterprises and households have been supplied. Participants training, data collection and analytical procedure are currently ongoing and expected direct benefits including: reduction of waste quantities that are landfilled, reduction of transportation cost for PUC, reduction of charges for hospitality enterprises and households participating in separation scheme and reduction of environmental pollution caused by landfill gas emissions and leachate, as much as reaching the ambitious target of Waste Framework Directive (98/2008).

Keywords: PAYT, ACU, biowaste, source separation, environmental protection

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