Deliverable Activity 3(c)

Implementation and Assessment of the separate collection program in the selected areas of the Municipalities of Athens and Kifissia
EXECUTIVE SUMMARY

This technical report is prepared under the co-financed European LIFE-Environment Program “Integrated management of biowaste in Greece – The case study of Athens - ATHENS BIOWASTE”. The program aims to implement the first pilot biowaste source separation scheme in selected areas of Athens and Kifissia municipalities and to subsequently treat biowaste in the mechanical recycling and composting plant of the Association of Municipalities in the Attica Region – Solid Waste Management (EDSNA) in order to produce high quality compost.

The technical report is part of the 3rd action of the “ATHENS BIOWASTE” project named «Implementation of the source separation of biowaste program in Attica” and specifically includes activity 3 (c) relating to the laboratory analysis of collected samples of biowaste from the piloted source separation program in municipalities of Athens and Kifissia. The Association of Communities and Municipalities in the Attica Region (ACMAR) and the National Technical University of Athens (NTUA) are responsible for the implementation of this report. In addition, the report includes data for activity 3(b) relating to the implementation of separate collection. Monitoring of the implementation was undertaken by EPTA.

The objective of the report is to present and evaluate the source separation of biowaste in selected areas of Athens and Kifissia municipalities throughout the duration of the pilot scale application. The audit and characterization of the collected biowaste that will form the organic feed substrate to produce compost, is also planned. Specifically, the report is divided into three parts which are described below.

Part A: Initially the following topics are presented (a) the areas and service points of the municipalities of Athens and Kifissia where the source separation of biowaste is applied and (b) the types of source separation schemes set out in the municipalities. This section provides the actual implementation data of the source separation scheme in relation to the initial planning of the project as it is reflected in previous technical reports of project (namely "Technical report on the selection of pilot areas in Athens and Kifissia municipalities" & "Technical report on the design of biowaste source separation system").

Part B: The second section is related to the characterization of the selected biowaste that result from the serviced areas of the two municipalities. Specifically, the physicochemical properties of the collected biowaste were determined and then compared with similar data from other EU countries. The results suggest that the characteristics of biowaste from Greek municipalities are similar to those of other EU countries. Furthermore, it is concluded that biowaste source separation should always be preferred to mechanical post-separation of mixed waste in order to minimize the impurities and pollutants content in biowaste.

Part C: The third section focuses on the monitoring and evaluation of biowaste source separation schemes in Athens and Kifissia municipalities based on specific parameters and indicators such as the quantity of collected biowaste, the level of
impurities, the participation rate, the specific collection rate and the diversion level of biowaste. The results from the pilot scale application of the source separation schemes are positive achieving participation rates of 29.7 and 24.1% in the municipalities of Athens and Kifissia respectively, while the total biowaste collection quantity amounted to 557 tonnes (522 without impurities) throughout the duration of the demonstration phase (22 months). Given the existing Greek legislation (Law. 4042/2012) which sets a mandatory target of 10% source separation of biowaste by 2020, it is concluded that the application of the project in the two municipalities corresponds to a population equivalent of 16,772.

The biowaste collection rate was found equal to 26.77 and 15.51 kg/(inh. year) in Athens and Kifissia municipalities while the percentile biowaste diversion amounted to 15.05 and 8.16% of total biowaste produced in Athens and Kifissia municipalities respectively. The results are satisfactory considering the nationwide 10% biowaste source separation target by 2020. It is expected that the integration and implementation of appropriate incentive mechanisms will provide the means to increase the active public participation to biowaste source separation schemes and increase the biowaste diversion and collection rate to more than 30% and 50 kg / inh. year respectively.