

Action A1.3 Inception Studies for the implementation of economic instruments

DELIVERABLE A1.D6

Preliminary Study on the application of PAYT in the municipality of Vari Voula Vouliagmeni and Existing situation

Beneficiary Responsible: ERS, Beneficiaries involved: MoVWV, MEEN, HRA

Summary

This report offers an introduction and overview of PAYT systems, examining the existing state of play and reviewing the benefits for local authorities of implementing PAYT systems. It presents the results of existing case studies across Europe and the rest of the world. It should be noted that this report uses and updates sections of the study titled Implementation of PAYT Systems in Greece developed by the Ecological Recycling Society in the context of the LIFE HEC PAYT project (2011), and also presents some of its findings.

It focuses on past experiences and developments in Greece including the legislative framework that had obstacles to implementing PAYT schemes within Greece. It also examines the recent removal of the main legislative barriers in Greece for the implementation of PAYT systems. Which has been removed with LAW 4819/2021. Furthermore, the law acts as a main driver for the development of PAYT systems in Greece as Local authorities with a population of over 100.000 must implement PAYT systems by January 1st 2023, and those above 20.000 must implement it by 1st January 2028. This meets one of the goals set out in by the Ministry and its partners in the elaboration of the proposal for the LIFE IP CEI Greece project and the National Waste Management Plan.

After reviewing several European and international case studies an emerging patterns of overall conclusions can be drawn from the case studies and existing literature and documentation.

These include:

- Pay as you throw systems effectively reduce the amount of residual waste produced from households and businesses.



- When Pay as you throw systems are done in combination with separate collection of other waste stream, residual waste is further decreased than in cases where separate collection is not done in combination.
- The implementation of PAYT systems also results in an increase of recycling rate and increased purity and quality of recyclables.
- Overall charges for waste fees are reduced for households when a PAYT system is in place vis à vis a fixed charge system, due to the reduction in residual waste.
- Effective public awareness and information campaign are necessary to secure overall success for the implementation of PAYT fees.
- Efficient monitoring and control are necessary factors for the efficient implementation of PAYT systems.
- Although residual waste is reduced and recycling increases with the implementation of PAYT systems, overall total waste production is not always reduced unless. In many cases this needs to be coupled with waste prevention initiatives.

The second part of this report (chapters 5-7) examine the characteristics of the Municipality of VV (MoVV), the analysis of the current waste management situation of the municipality and the operating costs of sanitation and recycling services, as they arise from data of the municipality and from its updated local waste management plan (LWMP).

The relevant characteristics of MoVV are described in detail, so as to be applied in the pilot application of the project implementation phase. These characteristics concern the area and the population of the municipality, building characteristics, the economic activity of the inhabitants, the points of interest of the municipality, as well as a brief report of the educational institutions, hotels and the health and medical institutions, since the municipality of VV is a pole for the wider region of Attica. In terms of the area of the municipality, it consists of 29,083 km², while its population amounts to 48,399 inhabitants showing an increasing trend compared to 2001 (ELSTAT census 2011). MoVV is not characterized as a very densely populated area, with the average population density of its permanent population being proportional to the corresponding size for the Attica Region (1,001.11 people / km²). In terms of building characteristics, the total number of houses within the boundaries of the Municipality amounts to 28,789, 6,244 of which are detached houses (21.69%), and 22,545 relate to duplexes, apartment buildings and buildings whose main use is not residential. Regarding the points of interest of MoVV, its coastal zone is a local and supra-local pole due to the existence of free and organized beaches, as well as the concentration of a variety of recreational activities. Other important points of interest are the "SOS Children's Village", the Military School of Guards, the Research Center for Biomedical Sciences "Alexander Fleming" and the Asclepieion Hospital. The municipality hosts 20 hotels and 318 restaurants, bars and cafes.

The current waste management situation of the municipality of VV is then presented, and analyzes the types and quantities of various waste streams managed by the municipality, MSW production



per inhabitant of the municipality, the existing Sanitation and Recycling Service staff of the municipality, the available equipment, as well as various small-scale pilot PAYT actions implemented by the municipality. The collection of the municipality, according to the latest updated LWMP, includes twenty-two (22) separate-waste streams, with 21 relating to solid waste (MSW), while the per capita production of MSW municipality for 2018-2019 is estimated at 686.60kg. The Sanitation and Recycling Department of the municipality employs 152 permanent employees and 42 contract workers. In the area of Vari, there is already a Recycling Corner installed for (4) streams, with (4) semi-submerged bins for paper, aluminum, plastic and WEEE and according to the LWMP, the temporary operation of the Station has been approved. Waste Transfer Station (WTS) in the municipality of VV near the Voula Cemetery, in Panorama Voula. The stores that already separately collect biowaste are 56. The municipality is already implementing in a pilot area of the city the "Benefit as You Save" (BAS) and is piloting in the area of Pigadakia, a small pilot to see the feedback from residents on the different application of PAYT to finalize the final details of the full-scale application. Previous pilots of BAS and separation at source (as at the time there were legislative obstacles to implement PAYT) showed a 24.95% rate of diversion of landfill waste for 2019.

The municipality of VV is preparing to become the first municipality in Greece to implement a full-scale implementation of a PAYT system within the LIFE IP CEI Greece project. In the sections concerning the municipality of VV, the current situation and the actions that take place in it are presented. MoVV is an urban area with ~ 60% of its waste coming from households and ~ 40% from commercial activity (with around 330 catering and food businesses and some large waste producers producing a disproportionate amount of the municipality's waste. The municipality of VV, in some areas and in different neighborhoods, has started pilot activities of separate door-to-door collection of various waste streams: waste, organic waste, plastics / metals and mixed packaging (PMD), PET bottles, paper and green waste (pruning). It also has communal bins (bells) for separate glass collection. The initial results of all these activities have been taken into account for the full implementation of the PAYT system developed in the deliverable A1.D7 of the LIFE IP-CEI Greece project.

The final chapter of this deliverable presents and analyzes the operating costs of sanitation and recycling services in the municipality of VV. It also looks at the direct and indirect costs that arise for the municipality, as presented in the city's reports of 2017, 2018 and 2019. It is concluded that there are possibilities for the development and upgrade of the sanitation and recycling services. Regarding the cost per inhabitant and cost per ton of waste, it is found that MoVV's Annual Cost 193.31 € / ton related to MSW management is one of the lowest of the 66 Municipalities of Attica.