

Challenges for waste management in small islands & remote areas

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Extended Abstract

Background

Even though the recycling rates have been improved significantly throughout Europe, there are parts of its territory that do not succeed to implement waste hierarchy prerequisites. Remote areas face particular difficulties in complying with current waste policies due to lack of infrastructure or lack of accessibility to urban centers. Many parts of Europe (35%) are classified as remote areas - particularly isolated areas, islands and rural areas – which are poorly connected to each other and to neighboring regions and agglomerations. Due to inherent conditions of remote areas (i.e. distance), high transportation and management costs are imposed, making difficult for the competent waste management bodies (e.g. Municipalities) to follow options at the upper part and thus turning to the lower parts of the waste hierarchy, namely landfilling or even to illegal waste management practices (e.g. in Greece) such as uncontrolled dumping of waste. Landfilling of waste causes environmental damage in two ways: (a) Direct Greenhouse Gas (GHG) emissions from the decomposition of biowaste (organics and paper); and (b) Indirect GHG emissions through increased energy requirements to extract raw materials instead of recycling/recovering the materials from waste. Notably, recycling of aluminium requires 95% less energy than extracting bauxite ore from the physical environment. For these reasons, most of the European remote areas still lag behind in their waste management performances. This way, valuable materials are leaking from our economies which are based on linear metabolism lifestyle (produce-consume-dispose) rather than the circular lifestyle suggested by the European Roadmap for Resource Efficiency. The Waste Framework Directive sets specific targets for recycling of MSW i.e. 50% of MSW must be recycled by 2020, while the targets become stricter for 2025 & 2030.

Innovative approach for boosting recycling in remote areas: development, setup, implementation and monitoring of a novel waste management system in remote Greek communities

Getting the most out of new technologies and proven best practices can improve the waste performance of remote areas, by integrating source separation and volume minimization (compression) prior to its transportation to final markets for further exploitation. Source separation of

at least metal, plastic, paper and glass is the key step for recovering higher value materials from waste and for achieving more circular economies in practice.

LIFE PAVEtheWAYSTE is a pilot project that aims to implement, test, evaluate and disseminate a recycling method that is new union-wide. It will facilitate the implementation of waste and resource efficiency-related policy and legislation, including the Roadmap to Resource Efficient Europe, the 7th Environment Action Programme and the Waste Framework Directive (WFD), with particular emphasis on the first steps of the Union waste hierarchy (notably recycling). The demonstration project envisages to facilitate selected remote municipalities of South Aegean (Municipality of Naxos & Small Cyclades Islands) and Western Greece (Municipality of Ancient Olympia) to significantly improve their municipal waste recycling performance and, thus, pave the way to high resource efficiency. The main focus of the present work is the presentation of the main project objectives, as well as of the activities implemented so far concerning the development of Integrated Solid Waste Management Plan for each case study, the design, construction and installation of prototype recycling systems and the establishment of a monitoring scheme using appropriate indicators to examine the impact of the project activities in environmental, technical and socio-economic terms throughout the implementation phase.

Keywords

Remote areas; Integrated Solid Waste Management; Waste Framework Directive; Recyclables; Source separation

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More information on the LIFE PAVEtheWAYSTE project can be found on the project's website: www.pavethewayste.eu/