The effect of a dynamic waste management system in remote rural areas

D. Hidalgo¹*, J.M. Martín-Marroquín¹, F. Corona¹, F. López²

¹CARTIF Technology Centre, Boecillo (Valladolid), 47151, Spain

²Diputación de Valladolid, Calidad del Agua y Medio Ambiente, Valladolid, 47003, Spain

(E-mail*: dolhid@cartif.es)

Introduction

35% of the European regions are classified as remote areas. The exposure of these communities to illegal waste dumping practices associated with poor waste collection schemes prior to the closure of dumpsites, and the role of collection efficiency afterward in reducing this critical environmental threat constitute key issues in the EU.

The improvement of collection efficiency, better surveillance of environmental authorities, together with environmental awareness of the general population are necessary steps to combat these bad practices. A circular economy paradigm must be enacted in remote regions taking measures to promote in-situ recycling and improve cost-efficiency in waste management.

Circular business model in the waste management sector

The LIFE PAVEtheWAySTE project proposes the implementation of a circular model based on the belief that many of the waste produced in remote areas can be a **source of secondary materials** capable of replacing traditional raw materials in local production processes, thus avoiding their potential disposal on the environment and the unnecessary consumption of natural resources.





Undesirable current situation:

- Illegal dumps
- Lost of resources
- Pollution

Green Kiosk operating in Greece





around recycling

New local businesses

Population involvement:

- Reward incentive scheme

Model replication in Spain

So far, the results obtained in Greece have been particularly encouraging. Purity rates of waste materials are very high, ranging from 86-97%. The most common waste streams delivered to the Green Kiosks are **PET bottles**, **glass bottles**, **and cardboard** owing to the lack of drinking water, the large number of restaurants (touristic area) and large quantities of imported packaged goods.

The second step in the LIFE PAVEtheWAySTE project is to implement **replication studies** for transferring the project findings in follower Municipalities. Valladolid Province (Spain) has already implemented a mobile "clean point" with the same philosophy that the "Green Kiosk". 122 services in rural locations were given in the Province only 2019 collecting more than 3.000 m³ of waste.

