

Balkan industrial solid waste reuse: The SWAN digital ecosystem developments

Olga Skiadi¹, Andreas Pantazopoulos², Athanasios Angelis-Dimakis^{3,5}, C. Tsakalou¹, I. Vyrides⁶, Maria Doumi³,
Vasilis Angelis³, A. Alexopoulos^{1,4}, N. Panagou¹

¹Association of Municipalities in the Attica Region-Solid Waste Management (EDSNA),

² Region of Attica

³ University of the Aegean, Department of Business Administration, WAVE Lab

⁴ University of West Attica, Department of Accounting and Finance

⁵ School of Applied Sciences, University of Huddersfield, UK

⁶ Cyprus University of Technology, Department of Environmental Science and Technology

Corresponding author: Olga Skiadi, skiadi@edsna.gr

Abstract

SWAN project (acronym of “a digital Solid Waste reuse pLAtform for BalkaN”) concerns the creation of an innovative reuse ecosystem that will develop local and transnational cooperation in the Balkan-Mediterranean region, among industrial solid waste producers and potential solid waste re-users. Its implementation, will ensure the diversion of an important fraction of waste from further treatment and landfilling (which is not preferred according to the waste management hierarchy) and will contribute on saving raw materials, under the principles of circular economy and industrial symbiosis.

This goal will be achieved by the design and development of the SWAN digital platform; a tool that could map and match solid waste sources with potential waste re-users, and propose waste reuse loops and value chains in the region. SWAN platform will act like a monitoring system, identifying and recording potential sources and receivers, who -due to the platform’s interoperability provided by an algorithm – will be able to exchange information about technical, financial and environmental matching of supply and demand. The aim of this paper will be the presentation of the structure and general design characteristics of SWAN platform and a brief overview of the project.

Four countries in the Balkan-Mediterranean Region participate, Greece-Albania-Bulgaria-Cyprus, four data bases will be created and populated with data and each one of them will be connected to SWAN digital platform, developing the SWAN digital ecosystem. This will lead to an innovative Balkan-Med map of solid waste flows which will establish a common and transnational strategy in the region towards resource efficiency according to EU policies that applied through the prism of sustainability.

The project has two years duration (2017-2019), with a budget of 968 k€, co-financed (85%) by the European Regional Development Fund (ERDF) under the umbrella of the European Union programme INTERREG BalkanMed 2014-2020.

Keywords: *Industrial Solid Waste, Circular Economy, Digital Platform, Interreg V Balkan Med, SWAN, Industrial Symbiosis*