SMART GROUND Project: SMART data collection and inteGRation platform to enhance availability and accessibility of data and infOrmation in the EU territory on SecoNDary Raw Materials

Piergiorgio Rossetti (1), Giovanna Antonella Dino (1), Marco de la Feld (2), Antonietta Pizza (2), Frederic Coulon (3), Stuart Wagland (3), Diogo Gomes (3), and the SMART GROUND Team

(1) University of Torino, Earth Sciences Department, Torino, Italy (giovanna.dino@unito.it), (2) ENCO srl, Napoli, Italy, (3) CRANFIELD University, Cranfield, Bedford, UK

The issue of resource security has come to the forefront of the debate over recent years, partly due to considerable concern over the security of supply of the so called 'critical' materials, with rare earths attracting the greatest attention in the press. Their supply is fundamental to maintain and develop EU economy and its industries relied on a steady supply of Raw Materials. Thus considering the increasing scarcity and raising prices of both, energy raw materials and other raw materials, such as metals and minerals, the recycling and recovery of these materials from anthropogenic deposits such as landfills is of increasing relevance. Europe has somewhere between 150,000 and 500,000 landfill sites, with an estimated 90% of them being "non-sanitary" pre-dating the EU Landfill Directive of 1999. Thus historical background makes the numerous old waste dumps as possible sources of critical and secondary raw materials (SRM and CRM). However, to date there is no inventory available of SRM and CRM present in EU landfills, and best management practices to recover SRM from landfill activities are inefficient. In this context, the EU SMART GROUND (SG) project (Grant Agreement No 641988) intends to foster resource recovery in landfills by improving both the availability and the accessibility of data and information on SRM in the EU and creating synergies among the different stakeholders involved in the SRM value chain. To do so, the project aims to collect and integrate in a single EU databank (SMART GROUND Data Bank) all the data from existing databases and new information retrieved during project activities. Such data will be collected from the different waste streams including municipal, industrial and mining wastes across EU landfills. It will improve data gathering on SRM from different types of waste, by defining new and integrated data acquisition methods and standards. At last, but not least, the project will also improve the SRM economic and employment potential, by i) providing training on the assessment of landfill sites material recovery to targeting end-users, ii) establishing a dedicated network of academic, industrial, regulators and other stakeholders committed to cost-effective research, technology transfer and training. The present contribution will provide an overview of the SMART GROUND project and highlights the results obtained during the first six months of project activity.