The challenges of landfill mining

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Abstract
The method of excavating and processing waste from landfills - called landfill mining - is not a new approach and has already been described in literature. Reviewing the literature of the last decade it can be seen that present studies have focused mainly on small-scale pilot studies and the perspective of landfill operators. Studies on the performance of technologies, the quality and quantity of the excavated materials and local environmental impacts have been conducted. Conclusions show that the decision for excavating and processing the wastes from old landfills will always be a site specific decision depending on parameters such as type of wastes, post-closure costs, contamination risk, technical standard of the landfill, demand for land etc. However, an integrated and generally valid decision-support tool could facilitate the market implementation of landfill mining. Therefore a focus of future research in the area of landfill mining needs to be put on the development of standardized frameworks for evaluating economic and ecological performances (e.g. Life Cycle Assessment and Life Cycle Costing Analyses).

Autor
Ortner, M.E.; Bockreis, A.

Institution
Universität Innsbruck, AT

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