

# NEWS ON LANDFILL MINING



Landfill Mining is an English term commonly used to express the concept of reclamation of old landfills (depleted or abandoned) by removal of the deposited waste by excavation.

This type of intervention arises from the need to recover the old volumes of the landfill both to make them available for a new use and because it is necessary to apply new safety criteria to landfills as a consequence of new technical and environmental standards occurred after the activation.

The recovered waste is generally subjected to operations of separation in different categories, in order to recover metals, plastics, aggregates and to differentiate the organic parts with high calorific value.

The main trends of the Landfill Mining are

- A. Recovery of landfill volumes
- B. Recovery and recycling of materials
- C. Energy enhancement of the organic fraction
- D. Improvement of the environmental framework and safety

Landfill Mining is conducted through a first phase of excavation and exhumation of waste through the use of common excavators or other appropriate means.

The waste thus collected can be sent to a plant for separating the various components, arranged before or after a heat treatment.

Obviously all these operations must be carried out with extreme care and possibly directly on site.

For this purpose, the application of pyrolytic waste treatment technology is optimal, given the size of the plant, the non-significance of emissions, the possibility of recovering metals from the ashes and therefore in a completely inert phase.

A pyrolytic plant capable of treating about 2 (two) t / h of waste with a consequent production of electricity equal to about 1 MWe / h and possible thermal energy equal to about 1.4 MWt / h can be taken into account. The amount required for the turnkey installation is in the order of 6/7 Meuro with a space requirement of no more than 1000 square meters. The return on investment is given primarily by the value of waste and the introduction of electricity to the grid to the values recognized by current regulations. The residual char, after characterization, can be relocated to landfill or more probably used as a soil improver.

It should be noted that for the purpose of correct plant functionality, the material entering the pyrolysis reactor should be made up of a mixture of rejected waste and fresh waste in the respective quantities to be defined in the activation phase.