

## **Waste to Energy Technologies - Further Look into Plasma Gasification Implementation in Al-Ekaider Landfill, Jordan**

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### **Abstract**

The purpose of this paper is to present the importance of managing increasing amounts of solid waste generated in the north of Jordan by conducting a waste to energy strategy in Al-Ekaider landfill, mentioning the most innovative method for implementing it, its advantages, disadvantages and requirements. It was found that Plasma Arc Gasification is the most effective and the most environmentally superior method for doing so, whereas a synthetic gas predominantly comprising hydrogen and monoxide could be produced for multiple uses, such as making energy, liquid fuel synthesis or running fuel cells (in the future) with the production of economically valuable by-products like sulfur and construction aggregates. Other uses will be demonstrated within this paper. An estimated rated power of 75 MW could be extracted by such a method if the energy choice would be selected downstream.