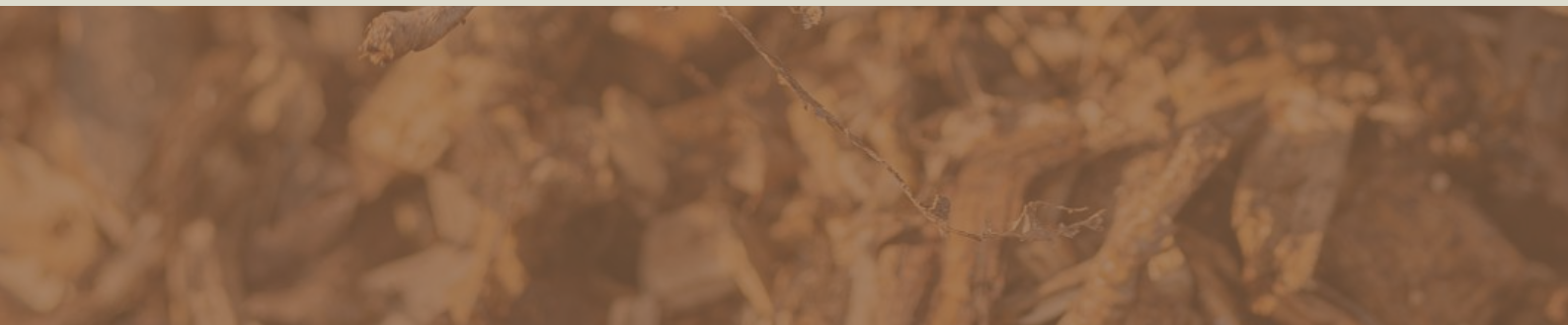
ENERGY AND CLIMATE
PANORAMA

Municipal Solid Waste-to-Energy Processing for Circular Economy in Pakistan

U.S.-Pakistan Center for Advanced Studies in Energy



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Executive Summary

This research report assesses the potential of waste to energy power plants processing in Pakistan, within the framework of circular economy of the country. It addresses the waste management issues, driven by the rapid urbanization and population growth. The significant challenges posed by the inadequate waste disposal practices, identified in this report.

This report provides an overview of different WtE technologies such as Gasification, Pyrolysis, Anaerobic Digestion and Incineration and evaluate the best suitable technique in the context of waste composition of Pakistan. Significant inefficiencies and environmental impacts were revealed through an evaluation of exiting MSW infrastructure and management practices. The report evaluates the feasibility of the most suitable MSW to energy (WtE) technology i.e., Incineration plant, on the basis of technical economic and environmental factors and analyzed the potential benefits which are contributing to a sustainable Circular Economy. To facilitate the adoption of WtE technologies, strategic policy recommendations are presented in this report.

In conclusion, the report calls for action from policymakers, stakeholders, and the public to embrace WtE solutions as a pathway towards sustainable waste management and a resilient circular economy in Pakistan.