

Comparative Analysis of Landfill Gas Utilization Technologies

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To capture the environmental and economic benefits associated with LFG resources, conversion technologies that significantly neutralize environmental damage associated with landfill sites, and at the same time produce salable energy at marketable prices, are desirable. This report is intended for an audience of potential public and private developers of LFG projects. It also is intended for federal and state environmental agencies in order to show that there are real environmental benefits to using LFG as an energy source, especially in the trading of OERs in non-attainment areas. The report presents the following: 1) a general description and state of performance characteristics of each of the selected technologies (Otto Cycle, Brayton Cycle, Organic Rankine, PAFC, and MCFC); 2) a summary by state of the utility rates and value of environmental externalities. Identifies potential revenue streams available, including electricity sales, tax credits, renewable energy production incentives payments, and externalities values; 3) performance, cost, and revenue comparisons, and emissions comparisons, and 4) a discussion of possible partnership arrangements to take advantage of the programs.