

Closure of Bakoteh Dumpsite

Gas Collection System

Proposing a Passive Gas Collection System with a utility flare system using extraction wells.

Key Feature: Decomposition process of landfill is converted from anaerobic to semi-aerobic, **reducing** greenhouse gas (GHG) emissions by up to

40%

In addition, the combustion of the GHG through extraction wells can achieve

98-99% combustion efficiency

Cover

Proposed: Evapotranspiration (ET) cover



Groundwater Pollution Mitigation System

Proposed: Diversion of surface run-off

Key Feature: Slope of **2-3%** to ensure adequate diversion of surface water, reducing instability and water infiltration.

Monitoring System

Proposed: **Groundwater and gas monitoring wells** to observe the effects the landfill may have on the community after closure.

New Site - Brikama

Sorting and Waste Collection

Proposed: Creating legitimate and stable jobs for waste-pickers, sorting wastes for other transformation processes in the solid waste management system.

Key Features: Localized collection sites in the different cities, reducing costs on transportation through utilization of medium and large sized trucks. Wastes are sorted for value, then recyclables and organic wastes for the facility to process.

Transformation methods for repurposing and revenue generation

Proposed: Converting inorganic wastes into a thermoplastic composite material for brick creation and construction purposes with a patented israeli process. Organic wastes are composted in localized bin collection systems for reduced transportation and cost-efficiency.

INSTALLATION COSTS
~\$2,423,060

PROJECTED COSTS/MONTH
~\$178,800

PROJECTED REVENUE/MONTH
~\$453,750

LABOR COSTS
\$919,360

130

**JOBS
CREATED**

Redevelopment

Proposed: Conversion of the old site into a community park after complete closure.

**PROJECTED
COSTS**
~\$3,658,000

New Technologies for New Times

Solid Waste Management
Design Competition

4W Consulting

Representing:

University of Southern California

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**REUSE
RECYCLE
REPURPOSE
UPGRADE**

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