Electricity production from household waste of the city of Cotonou

Expected project CAPEX : 120'000'000 €

Mandating Authority : Ministry of the Environment and Sustainable Development

Project Type : MSW to Power

Summary
This project will integrate garbage collection in the city of Cotonou, and ensure complete processing of household waste for maximum use of the calorific value. Only inert waste will be sent to a controlled landfill.

Location and population
Cotonou, Benin
700'000 inh

Social and environmental impact
Reduction in GHG emissions; reduction in effluent pollutants; creation of between 500 and 700 direct jobs; creation of 20MW of renewable and local energy.

Main stakeholders
1 - Ministry of Sustainable Development, Department of Energy;
2 - City of Cotonou;
3 - PAREGAL (project leader);
4 - Biogreen Africa (technology provider).
Project maturity (IFC / World Bank Categories)

STAGE 1: Concept Development, Site identification

STAGE 2: Pre-Feasibility Studies

STAGE 3: Feasibility Studies

STAGE 4: Permitting / Financing / Contracts

STAGE 5: Engineering/Construction/Commercial Operation

STAGE 1: Concept Development, Site identification

Expected capacity (Input-Output)

330 kT/Yr MSW in 135 kT/yr RDF - 20 MWe output

Land identified

Yes

Site access:

✓ Adequate road

☐ Rail access

☐ Port facilities

Technology:

PYROPOWER - High Temperature Pyrolysis from ETIA - BIOGREEN AFRICA

Waste stream data

Municipal Solid Waste - A characterization has to be done as part of the feasibility study

STAGE 2: Pre-Feasibility Studies

Pre-feasibility study:

Yes

STAGE 3: Feasibility Studies

Feasibility study:

Yes

STAGE 4: Permitting / Financing / Contracts

Land concession signed

Yes

Building permits signed

No

Environmental impact study

A strong environmental impact is expected because currently the waste is not managed. It is sent to non-controlled landfills.

Identified sources of fundings

PAREGAL

STAGE 5: Engineering/Construction/Commercial Operation

Engineering, Procurement and Construction Contractor

TBD

Operation and Maintenance Contractor

TBD

Comments

A feasibility study should be launched to confirm the bankability of the project. Current discussions propose to finance the entire project by the price of electricity. This study must first validate the amount and type of garbage available. The above-mentioned figures were given on a declarative basis by local authorities.