Conversion of Biodiesel Waste to Electric Energy and Briquettes for Assisting Clean Energy Security

Expected project CAPEX : Tbd

Mandating Authority : Ministry of Mines, Petroleum and Natural Gas

Project Type : Waste to Energy

Summary
The project consists of the development of Bio-fuels from non-edible oil seed (Jatropha and Castor) feedstocks. More than 75% of the by-products from oil extraction are wastes in the form of fruit shells and oil cakes. This waste will be managed in order to generate 333 tons of briquettes/year from fruit shells and 5 MWh/day electric power through digesting the oil cakes.

Location and population
Hossaina, Ethiopia

Social and environmental impact
More than 300 permanent and contractual jobs; improved access to energy; gender empowerment in the form of specialized harvesting and cleaning jobs for women; utilization of briquettes for household cooking, which produce less smoke than traditional biomass; improvement of women’s health

Main stakeholders
Ministry of Minerals, Mines and biofuel; Ministry of Environmental Protection and Forestry; Ethiopian Institute of Agricultural Research

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**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

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**STAGE 1: Concept Development, Site identification**

**Expected capacity** (Input-Output)

333 tonnes of briquettes / year and 5 MWh/day

**Land identified**

Yes

**Site access:**

- ✔ Adequate road
- ✔ Rail access
- ✔ Port facilities

**Technology:**

- biogas-digester, biogas purification, generator, micro-controller, regulator, hammer mill, carbonizer, screw press

**Comments**

All the necessary and additional information and documentation will be prepared and made available whenever it is required by the interested partners and funding institutions.

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**STAGE 2: Pre-Feasibility Studies**

**Pre-feasibility study:** Yes

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**STAGE 3: Feasibility Studies**

**Feasibility study:** No

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**STAGE 4: Permitting / Financing / Contracts**

**Land concession signed**

Under negotiation

**Building permits signed**

No

**Environmental impact study**

No

**Identified sources of fundings**

Equity co-investor identified

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**STAGE 5: Engineering / Construction / Commercial Operation**

**Engineering, Procurement and Construction Contractor**

Tbd

**Operation and Maintenance Contractor**

75% of the operation and maintenance activities will be covered by YME Product Design and Manufacturing PLC.

**Comments**

Under negotiation