

**4TH WEST AFRICA CLEAN ENERGY AND ENVIRONMENT
& 1ST GHANA RENEWABLE ENERGY FAIR**

**TURNING WASTE TO ENERGY
Opportunities for Cities & Businesses**

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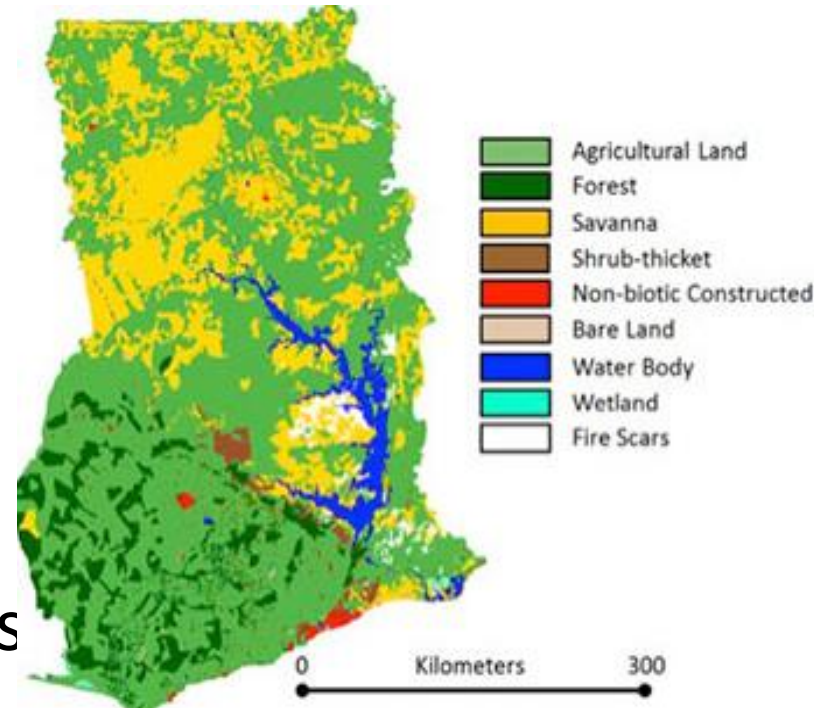
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Waste Energy Sources

- Agro Industrial Waste
- Crop Residues
- Wood Waste (Off-Cuts and Saw dust)
- Municipal Liquid Waste
- Municipal Solid Waste

Agro Industrial Waste

- Oil palm processing
- Fruit processing
- Cocoa processing
- Cassava processing
- Cashew nut processing
- Crop Residues
- Abattoirs & Slaughter houses
- Breweries (about 9 major companies)



Wood Waste

(Logging residues, Off-Cuts and Sawdust)

- Forest sector is a major foreign exchange earner for Ghana
- Estimated that about 1.0million m³ of logs are harvested in the country annually
- Logging activities yield a lot of residues, off-cuts and sawdust which cause serious health and environmental consequences if not properly disposed.



Municipal Solid & Liquid Waste

- Solid and liquid waste management is one of the most challenging issues for metropolitan and municipal Assemblies in Ghana
- 2,000 MT of solid waste generated each day but only 1,200-1,300MT are collected for disposal in landfills.
- Basically all fecal matter from the over 25million population in Ghana are disposed off without treatment into the sea or in landfills which ends up into the rivers.



Composition of Solid waste in Ghana

- It is estimated that 60% of solid waste in Ghana are organic with plastics, rubbers and papers accounting for 8%
- Moisture content range from 39% to 62%
- Calorific value of solid waste in Ghana range from 14MJ/kg (in low income communities) to 20MJ/Kg (in high income communities)
- Ghana's Agro industrial, solid and liquid waste have very high calorific value capable of providing energy using appropriate technologies

Waste to Energy Technologies

- Technologies for the conversion of waste to energy is very matured and can easily be adopted for use in Ghana.
- Gasification Technology
- Biogas Technology
- Cogeneration Technology
- Pyrolysis Technology
- Charcoal Production Technology
- Briquetting Technology etc

Biogas

- Biogas has potential of producing about 15m³ of gas daily.



Policy Strategy

- Policy objective of Government is to increase the proportion of renewable energy in the national energy mix.
- Major strategy is to promote energy production from waste.
- Very attractive Feed-in-tariff for biomass and waste to energy
 - Biomass: Ghp56.01/KWh (US\$c17.51)
 - Waste-to-Energy: Ghp59.03/KWh(US\$c18.46)
 - Biomass (plantation as feedstock): Ghp63.29/KWh (US\$c19.79)

Policy Strategy

- The Renewable Energy Purchase Obligation Scheme (REPO) will soon outline mandatory quotas for bulk electricity consumers to purchase a specified quantity of renewable electricity.
- The regulatory framework and procedures for investment as an IPP are in place.
 - Check the Energy Commission website www.energycom.gov.gh for more details
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Conclusions



- Ghana is committed to the development and promotion of renewable energy.
- The RE Law 2011 (Act 832) presents unique opportunities for the private sector to harness the benefits of renewable energy in Ghana.
- Ghana has the right enabling environment for attracting private sector investment in sustainable energy solutions.
 - Political stability and good governance;
 - Strong and independent institutions;
 - The rule of law;
 - Free and independent press;
 - Transparency and accountability; and
 - A strong civil society

YOU ARE THEREFORE WELCOME TO INVEST IN THE
WASTE TO ENERGY SECTOR

Thank You

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