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SUSTAINABLE BIOENERGY AND SOCIAL ASPECTS

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- Experience in the Bioenergy Industry (Woodfuel)
- Experience in the Bioenergy Industry (Biofuel)
- Current Activities In the Biofuel Industry
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- Renewable Energy Bill
- Bioenergy Policy
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INTRODUCTION

- Location
  Latitudes 4° 44’N and 11°11’N and
  Longitude 3° 15W and 1° 2’E.

- Area (Land: Water)
  238,539 km² (235264 km²: 3,275 km²)

- Climate (Average Temperature: Average Rainfall)
  Tropical with 2 major seasons dry and wet (30°C: 807mm)


- Type of Government: Democracy

- Economy
  - Real GDP growth rate (2010): 5.4%.
Bioenergy potential is:

- Total Wood supply for fuel is 30.7 million tonnes/annum
- Woodfuel supply is 8 million tonnes/annum
- Entire land cover has potential for energy crop/biofuel cultivation
- Waste: Municipal waste is 2 million tonnes/annum
- Wood residue is 2 million tonnes/annum
- Animal waste is 11 million tonnes/annum
EXPERIENCE IN THE BIOENERGY INDUSTRY (WOODFUEL)

- Woodfuel contributes to over 60% of the total final energy consumed annually in the country.

- The woodfuel industry is operated by the informal sector.

- The earth mound which is used to produce charcoal have low efficiencies: conversion rate is 8:1.

- The traditional woodfuel stoves have low efficiencies and as well generate a lot of smoke in the cooking environment which leads to health hazards, especially respiratory diseases among women.
Charcoal and fuelwood are produced commercially far from the major consumption centres and transported by road over distances of more than 100 kilometres.

Many of the vehicles used in the transportation of woodfuel are relatively old and very often are over-loaded thus posing great danger to other road users as well as causing deterioration of the road infrastructure.

There are no dedicated vehicles for the transportation of charcoal.

Even though regulations exist on the use of over aged vehicles and overloading of vehicles for the transportation of goods, these are not strictly enforced especially in the transportation of charcoal and fuelwood.
EXPERIENCE IN THE BIOENERGY INDUSTRY (WOODFUEL)

- There is inadequate data on woodfuel production and consumption.

- There is weak collaboration among the relevant institutions for the supply of woodfuel feedstock especially on the development of woodlots and utilization of forest logging residue and sawmill off-cuts in the country.
EXPERIENCE IN THE BIOENERGY INDUSTRY (WOODFUEL)

INTERVENTIONS

• Improved cook stoves have been introduced and disseminated. One of the improved charcoal stoves known as Gyapa stove has become a household stove.

• Rural communities are being sensitized to develop woodlots to improve on their income generating activities.

• Regulations are being developed to regulate the production, transportation and marketing of woodfuel.
Biofuel, in the form of shea butter oil, has been used for a long time in northern Ghana for lighting in lanterns.

Interest in biofuel production, at the national level, can be traced back to the period after the oil shocks of the late 1970s and early 1980s.

In response to the crisis, the Government of Ghana established a National Energy Committee to develop a strategy towards mitigating the impacts of the spiralling crude oil prices.

The Committee recommended for the development of alternative fuels to petroleum products.
OVERVIEW OF BIOFUEL DEVELOPMENT EFFORTS IN GHANA

- Unfortunately, the efforts and recommendations of the Committee were not followed through, owing to crude oil prices on the world market declining from the high levels of US$40/barrel to US$20/barrel making the biofuel intervention financially unattractive.

- The Government, again formed a Biofuel Implementation Committee which prepared a draft National Biofuel Policy Recommendations in 2005 when world crude oil price rose to US$70.00.

- In 2010 the Energy Commission developed the Bioenergy Policy which is to be subjected to Environmental and Social Assessment by the EPA prior to Cabinet consideration and approval.
CURRENT ACTIVITIES IN THE BIOFUEL INDUSTRY

– THE PUBLIC SECTOR

• Biodiesel fuel (B100) and Bioalcohol standards have been developed and gazetted.

• The Council for Scientific and Industrial Research (CSIR) with sponsorship from the European Commission and Royal Society of England is undertaking a five-year project on the use of Jatropha curcas for energy production and research into Second Generation Biofuel respectively.

• The tertiary institutions are doing a lot of research in biofuels.
  - Research into Waste Vegetable Oil Potential as Biodiesel Substitution for Fossil Fuels conducted by the Dept of Agric Engineering, Kwame Nkrumah University of Science and Technology (KNUST);
  - Conversion of some lignocellulosic biomass found in Ghana into cellulosic bioethanol for blending with petrol for use in the transportation sector by the Dept of Chemistry, KNUST.
CURRENT ACTIVITIES IN THE BIOFUEL INDUSTRY – THE PRIVATE SECTOR

• The proposed bio-finery project by Africa Biofuel and renewable Energy Company to produce bioethanol from coca waste (pod and pracenter)

• Seven companies namely Triagrimarc Ghana Ltd, Scanfuel Ghana Ltd, Natural Diesel, Jatropha Africa, BioFuel Africa (BFA) Ltd, Natural African Diesel (NAD) Ghana Ltd and Kimminic Estates Ltd are engaged in Jatropha plantation.
CURRENT ACTIVITIES IN THE BIOFUEL INDUSTRY

THE PRIVATE SECTOR

- ARDG Ltd. produces biodiesel from waste vegetable oil.

- Triagrimaric Ghana Ltd produces biodiesel from sunflower.
Government has tabled the Renewable Energy (RE) Bill before parliament to be passed into Law by the end of this year.

- Goal: To accelerate the uptake and integration of renewable energy into the national energy mix to enable the attainment of 20% RE policy target of government by 2020.

A Bioenergy Policy has been draft for Cabinet consideration and approval.

- Goal: To develop and promote the sustainable supply and demand of bioenergy to ensure energy security for Ghana.
Sustainability of woodfuel production

The Energy Commission shall in consultation with the Forestry Commission and other stakeholders develop programmes to sustain wood fuel production.

Regulations, which incorporate GBEP sustainability criteria, shall be developed for the production, transportation and marketing of woodfuel.
Feedstock production

- A licensee that has been granted a license under this Act to produce biofuel from feedstock, shall obtain the relevant permit from the Ministry of Food and Agriculture.

Pricing of biofuel

- The Minister shall designate biofuel blend as a petroleum product in accordance with the National Petroleum Authority Act, 2005 (Act 691).

- The National Petroleum Authority shall be responsible for pricing of biofuel blend in accordance with the prescribed petroleum pricing formula provided for under Act 691.
Sale of biofuel blend

- The proportion of biofuel in biofuel blend offered for sale to consumers at the point of sale shall be determined from time to time by the National Petroleum Authority in consultation with the Energy Commission.

- A person who sells biofuel at the point of sale, shall display conspicuously the proportion of the biofuel contained in the fuel.

- The National Petroleum Authority shall establish producer prices for biofuels, which shall be reviewed periodically.
A person who fails:

- to display at the point of sale the proportion of biofuel contained in the biofuel blend, or

- maintain the equipment and property used in the provision of service, or

- comply with the technical standards established by the Energy Commission

commits an offence.
THE BIOENERGY POLICY

- Provide incentives for the importation, conversion and use of flexi-fuel vehicles that can run on high percentage blend of biodiesel, ethanol or vegetable crude oil.

- To ensure balanced sustainable feed stock and food security proportion of land for the cultivation of biofuel crops shall be allocated to food production.

- Promote the use of other organic waste such as rejected and waste agricultural produce, household and municipal wastes, waste cooking fats and oil etc. as biofuel feedstock.

- Ministries of Energy, Transport and other private stakeholders shall promote the dispensing of biofuel blend to government vehicles, mass transportation, private sector transport owners and electricity generating sets.
THE BIOENERGY POLICY cont’d

- Introduce fiscal and tax incentives for the biofuel industry such as Government granting zero import duty and VAT on equipment for the processing of biofuels for up to 10 years and income tax reliefs for up to 10 years of operation for local biofuel companies.

- Legislate a ban on biofuel imports to protect the local market.

- Exempt locally consumed biofuel from levies and taxes.

- Impose levies and taxes on biofuel exports.

- Introduce guaranteed market price for biofuel.

- The Bioenergy Policy document will be subjected to Strategic Environment and Social Assessment which employs GBEP sustainability criteria.
SOCIAL IMPACTS

- With a proportion of land for the cultivation of biofuel crops allocated to food production food security will be safeguarded.

- Creation of employment in the rural areas.

- Provision of the social amenities for rural communities by plantation owner to fulfill their social responsibility.
CONCLUSION

- The Government of Ghana is committed to developing sustainable bioenergy industry in view of the policies being put place.

- The policy interventions in the development of Ghana’s bioenergy industry will guarantee food security and improvement of the socio-economic well-being of its citizens.
I would like to leave you with this Government of Ghana’s vision: “that one day soon the highway from Accra in the South, to Paga in the North and roads crossing the country from East to West will be good roads lined with lush well-kept plantations of food and fuel crops as well as every District having some production and/or value-adding activity along the bio-energy supply chain”.
THANK YOU