

# **Using Science and Technology as tools to increase biofuels feedstock productivity in Ghana**

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# Projected National Petroleum Products Consumption: 2005-2015

■ (all figures are in tonnes)

Product	Annual Growth Rate (%)	2005	2010	2015
Gasoline	2.0	574,242	632,622	696,938
Kerosene	1.65	74,372	80,730	87,632
Gas Oil	5.5	895,576	1,170,483	1,529,777
LPG	9.1	71,698	111,258	172,645
<b>Total</b>		<b>1,615,889</b>	<b>1,995,095</b>	<b>2,486,993</b>

Source: Consultant's estimates. See Annex ...

# Why improve feedstock productivity?

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- Real time feedstock supply needs
- Methods crude, preparation
- Cost effectiveness
- Comparative advantage



# **Land use map for Ghana (Land Administration Project, LAP). Agricultural lands**

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- Need to demarcate agricultural lands for each feedstock
- Facilitate land acquisition procedures
- Make large farms possible

# Soil health improvement methods

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- Correct soil deficiencies
- Safe and effective application of fertilizers and other agro-chemicals

# Land Preparation techniques

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- Land topography and plowing patterns
- When to prepare land for feedstock planting
- Plowing machineries and their effective use

# Biotechnology and improved planting materials

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- High yielding varieties
- Disease and pest resistance
- Short gestation period
- Drought resistance
- Other crop desirable traits



# GPS and plant population establishment

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- Appropriate planting distance
- Maintaining maximum plant population
- Crop refills, crop protection methods, and other good agronomic practices
- Use of environmentally friendly agro inputs

# Agro climatology and planting periods

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- Interpretation of meteorological data
- Obtaining onset of rainfall data
- Calculating gestation periods of feedstock and planting periods
- Obtain meteor information/data

# Post harvest technology

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- Moisture content determination
- Harvesting methods
- Processing equipment
- Storage infrastructure
- Transportation and other services

# Transportation and other services

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- Appropriate handling
- Appropriate vehicles
- Storage

# Processing and distribution

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- Use of efficient extraction equipment
- Use of efficient biodiesel processors
- Efficient Storage

# Human resources

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- Young graduates with basic understanding of agriculture and biochemistry