

# **Integrated Sugar/Fuel Bio-ethanol Production in Delta**

By

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# Project Objective

- Buy into & work within National Bio-fuel program initiative
- Create linkage between petroleum industry and agric
- Create employment
- Create carbon credit
- Save crude for export & export ethanol

## Expected output

- Produce 75 million litres ethanol per yr
- Produce economic by-product
  - Beverage grade alcohol
  - Refined sugar
  - Electricity from bagasse
  - Carbon dioxide

## **Physical requirements**

- 20000 hectares land from Delta State government
- Infrastructure for inland transport and export
- Favorable climate, rainfall and soil quality

# Technical requirements

- Technical partners
- Licensed technology for bio-ethanol production

## Legal requirements

- NNPC bio-fuel policy; 10% blend within 10 yrs
- FGN – Brazil 2005 MOU for fuel ethanol importation
- Tax incentives and import duties exemptions

# Market requirements

- Large domestic market over 10 billion litres PMS per yr. over 1 billion ethanol l/yr
- West and Central African markets open
- Attractive increasing blend %; E10, E25, E85

# **Human Capital requirements**

- Available human capital with various skills level
- Training for technology and skills transfer
- Wide indigenous knowledge on crop management



# Investment Requirements

- 5 production train, yr round production. \$85m
- Inputs (plantation, preparation, mgmt, equipment, infrastructure etc) \$215m
- Ownership proposed; (promoters 79%, NNPC 11%, communities 10%)
- Financing (70% long term loan, 30% equity)

## **Profitability factors**

- Land and labor cost comparative advantage
- Rise in price and demand of fuel
- Value of Naira enhancing export advantage

# Returns

- Earning from 5 trains/yr ethanol \$4.5m
- Earning from about 120000 metric tons sugar/yr \$54m
- Operating cost plantation/yr \$2.4m
- Income generation after 2 yrs
- ROI in less than 10 yrs

# Future

- Commission detailed feasibility study
- Source partnerships and guarantees