

Eastern & Southern Africa Regional Workshop on Bio-Fuels

**Infrastructure For Bio-Fuels Marketing
UNEP Headquarters,
Nairobi**

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28th June 2007**

Bio-fuels

- **Bio-fuels are a future energy feature that cannot be ignored.**
- **Government and Stakeholders should be pro-active**
- **Introduction and integration of bio-fuels should be based on sound principles**
- **Policy, regulation and infrastructure must be carefully thought through**
- **Concerns usually encountered are**
 - **Sustainability ..availability of sufficient quantities to provide consistency**
 - **Energy return on energy invested (energy efficiency)**
 - **Quality assurance**

Government Policy Issues

- **What are the drivers of bio-fuels program ?**
 - **Social economic ?**
 - **Energy.... Import substitution, energy security, cost ?**
 - **Environmental ..global warming, emissions ?**
- **What are impacts on competing priorities?**
 - **Food self sufficiency ?**
 - **Forest cover (primary forests)?**
- **Who subsidizes where and when not economic ?**
 - **Fiscal and financial incentives and subsidies**
- **Long term sustainability?**
 - **Are policy objective sustainable (costs, impacts) ?**
 - **Can production and distribution infrastructure be sustained ?**
 - **Are there other options e.g export bio feedstock ?**
- **What ministries will drive the effort?**
- **What new laws, regulation, standards, practices and infrastructure ?**

Status of Bio-Fuels in Kenya

- **Bio-Fuel development is at initial stages**
- ***National Bio-diesel Committee* formed in June 2007 by Ministry of Energy (MOE)**
 - **To address only bio-diesels (bio-ethanol to be addressed separately and later)**
 - **Committee composition relevant government Ministries and stakeholders**
 - **Mandated to formulate policies and strategy for bio-diesel development.**
- **Kenya has previous experience with bio-ethanol in the mid-eighties (10% alcohol/gasoline blends)**
- **Kenya sugar industry has future plans to develop bio-ethanol for gasoline blends (or exports)**
- **NGO supported efforts on small scale bio-diesel crops have `already commenced.**

Bio-fuels Infrastructure

Key Components of an effective Bio-Fuels market

- 1. Sound Policies & Regulations**
- 2. Cost Effective Infrastructure**

Bio-fuels Infrastructure For Kenya.....

Guiding Principles

- **Should be based on a comprehensive government policy**
- **Borrow from other countries best practices and successes.**
- **Must be economically viable and should not add on to consumer prices.**
- **Maximize economies of scale (production and distribution) to reduce unit costs.**
- **Must be sustainable (supply and costs) on the long term**
- **Should not compete with other already defined and adopted priorities for the country.**
- **Need to explore other economic alternative markets for bio-fuel feedstock (e.g exports).**

Supply Chain

Stakeholders

- **Ethanol Suppliers.**
 - An sufficiently well organized large scale and out-grower protocol exists.
 - Growers and distillers are normally the same entities
- **Bio-Diesel Feedstock Suppliers**
 - Large scale producers
 - Small scale producers
 - Growers and refiners may be the same or different entities
- **Oil Companies**
 - Marketing Oil companies
 - Pipeline company
- **Kenya Bureau of Standards**
 - Quality assurance
- **Kenya Revenue Authority**
 - Tax revenue accountability
- **Government**
 - Policy development and fulfillment
 - Regulation enforcement .

Supply Chain..

Maximize Economies of Scale

- **Critical mass will drive costs and determine viability**
- **Organize all small scale producers into viable out-grower co-operatives**
- **Co-operatives will offer**
 - **Avenue for government and NGO social – economic intervention (subsidies, loans, extension services etc)**
 - **Facilitate collection, transportation and marketing**
 - **Facilitate quality control harmonization .**
- **Large scale producers will provide necessary critical mass to supplement small scale producers.**
- **Create a *Bio-Fuel Authority/Agency* to further maximize economies of scale for all.**

Supply Chain...

Oil Marketing Companies

- Oil marketing companies will receive feedstock and blend to specification, and distribute through their marketing networks.
- Feedstock quality certification essential before delivery to oil marketers .
- Additional investment required. Trucks (or rail) offloading facilities, receiving/storage tanks, blenders.
- Cannot blend in the main storage tanks as **exports need to be free of bios**
- Transfer price to the oil marketers should be pegged to the landed cost of gasoline/diesel at that depot **less** costs of additional investment on storage tanks and blenders, and incremental handling costs .
- If blending is done in pipeline depots then KPC should be compensated for blending costs (incremental investment and handling)
- If the blend-stock is not sufficient for the whole country the government will decree the distribution regions that will market bio-fuels.
- At the retail station only bio-fuel should be offered. This will reduce need for additional investment in pumps and underground tanks. It will also compel the market to take bio-fuels.

Supply Chain..

A Case for a National Bio-Fuels Authority/Agency/Board

- **Essential for coordination of and implementation Bio-fuels policy, promotion, distribution, pricing, research, blend-stock quality assurance etc.**
- **Create and operate regional bio-feedstock collection depots**
- **Collectively organize transport arrangements for bio-feedstock to oil marketers.**
- **Provides one-stop shop on bio-fuels issues for all stakeholders**
- **Provides a single entry point to oil marketers**
- **Supply coordination to all oil marketers depots**
- **Very necessary to achieve critical mass and economies of scale.**
- **Manages others marketing options on behalf of all growers (bio-feedstock exports, carbon credits exports)**
- **Liaison with revenue authorities**

Supply Chain..

Quality Assurance

- **Government will define legal blend ratios**
- **Kenya Bureau of Standards will prepare standards for bio-fuels .**
- **Oil marketing companies will blend to specification**
- **Ethanol quality is easier to monitor than bio-diesel feedstock**
 - **Cane sugar based alcohol.**
 - **Ethanol produced by large scale entities.**
- **Bio-diesel feedstock quality may vary from crop to crop. The types of crops to be grown for the purpose of fuel blending will therefore need to be specified .**
- **Quality checks at all custody transfer interfaces (refiners, transporters, blend depots)**
- **Bio-fuels feedstock will need to be *de-natured* to prevent use as potable drinks or domestic oil**

Supply Chain..

Regulations

- **Energy Regulatory Commission (ERC)**
 - **Enforcement of standards through Kenya Bureau of Standards**
 - **Full and fair application of all regulations across the board to ensure an equitable business environment**
 - **Foster fair business practices and competition.**
- **Kenya Bureau of Standards**
 - **Together with ERC ensure that standards are established and maintained.**

Supply Chain..

Tax Accountability

- Taxes are pre-paid on all petroleum products and marketing depots are no longer bonded.
- Introduction of bio feedstock means less taxes will accrue from petroleum products (gasoline and diesel)
- For market stability and to maintain KRA tax revenue base , bio-fuels should carry the same tax burden as pure petroleum fuels.
- At what point will bio-feedstock be taxed?
 - KRA can collect taxes directly from bio-feedstock producers , which means the factories should be bonded.
 - Alternatively taxes can be collected at oil blending depots .
- How do you prevent unregulated use of untaxed bio-diesels by the public and producers?
- Any subsidy by Government to producers should be by way of direct grants and assistance to growers/producers (**not through differentiated tax**)

An Ideal Bio-Foodstock Supply Chain

