

CHARCOAL PRODUCTION AND COMMERCIALIZATION IN KENYA

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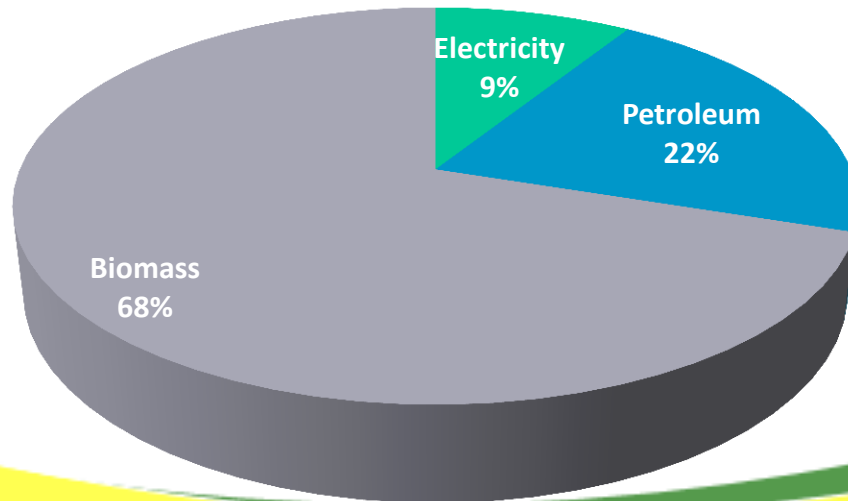
Joint UN Habitat / IRENA workshop: “Renewables for Growing Cities in Africa: A roadmap from 2012 to 2050?”

STRUCTURE OF PRESENTATION

1. Energy Supply in Kenya
2. Renewable Energy Plans and Policies in Kenya
3. Regulatory Framework For Renewable Energy In Kenya
4. Introduction – Charcoal Industry
5. Role of charcoal production and commercialization in Kenya
6. Impacts of charcoal production and commercialization on the opportunities for Renewable Energy use in cities (Kenya Perspective)
7. Barriers to Sustainable Energy for Charcoal Industry
8. Policy, Legal & Regulatory Framework for charcoal in Kenya

ENERGY SUPPLY IN KENYA

- Renewable energy supplies approximately 80% of the total primary energy in Kenya.
- Biomass accounts for 68%, solar, wind power and small hydro's contribute about 1%, and large hydro power stations contribute about 9%. The rest comes from non renewable fossil fuels which are about 22%.
- More focus on biomass is needed to ensure sustainability of energy supply.
- Installed electricity capacity 1, 573 MW.



RENEWABLE ENERGY PLANS AND POLICIES IN KENYA

- Sessional Paper No.4 of 2004 which is the overall Energy Policy for Kenya covering the energy sector, including electricity, petroleum and renewable energy sub-sectors. It captures the short term, medium term and long term goals for the energy sector. The Policy is currently under revision to align it with the New Constitution of 2010.
- The Energy Act, 2006 provides the regulatory framework for renewable energy in Kenya. The Act mandates ERC with the responsibility of regulating production, distribution, supply and use of renewable and other forms of energy. The Act is currently under revision to align it with the New Constitution of 2010.
- Least Cost Power Development Plan (LCPDP) which is a 20 year rolling plan to develop committed energy generation and transmission projects. The LCPDP is meant to identify existing potential in generation, possible investments in transmission as well as carefully forecasting on future demand for power and how best it can be met at least cost.

RENEWABLE ENERGY PLANS AND POLICIES IN KENYA

- Feed-in-Tariff (FIT) Policy which is an instrument for promoting generation of electricity from renewable energy sources, at a pre-determined fixed tariff for a period of 20 yrs.
- The FiT Policy was launched in 2008.
- FIT allows power producers to sell and obligates the distributors to buy on a priority basis all renewable energy sources generated electricity at a pre-determined fixed tariff for a given period of time.
- The update has been very slow; mainly attributed to low tariffs.
- The Policy is currently under review.

REGULATORY FRAMEWORK FOR RENEWABLE ENERGY IN KENYA

Gazetted Regulations

- Solar Water Heating Regulations, May 2012
- The Forestry (Charcoal) Rules, 2009; Currently under review KFS & ERC to address gaps in the Charcoal value chain.

Draft Regulations

- Energy Management Regulations – Drafting process finalized. To be gazetted soon.
- Solar Photovoltaic (PV) Regulations - Drafting process finalized. To be gazetted soon.
- Improved Cookstove Regulations – Drafting in progress
- Biogas Regulations – Drafting in progress

INTRODUCTION – CHARCOAL INDUSTRY IN KENYA

- Charcoal is a key bioenergy resource in Kenya, providing domestic energy for 82% of urban and 34% of rural households.
- In Kenya, charcoal is viewed negatively and is generally regarded as a poor people's source of energy
- Current forest area in Kenya ~ 1.7 Million hectares (3% of land area)
- It is the **cheapest urban household** cooking fuel currently costing about KSh.12,000 (USD 141) per household per year, compared to Ksh. 31,760 (USD 374) for liquid petroleum gas (LPG) and Ksh. 59,200 (USD 696) for electricity.
- Charcoal is mostly produced from producer's own farm with a percentage of 44%, 38% from private land and from government/council land is 13% while communal land is 5%

INTRODUCTION – CHARCOAL INDUSTRY IN KENYA

- Final Delivered Energy by type, 2000 (MOE)

Energy Type	Total GJ (000)	Percentage
Firewood	251,680	36%
Wood for charcoal	264,104	39%
Biomass waste	42,103	6%
Petroleum	124,960	20%
Electricity	9,834	1%
Total	692,863	100%

ROLE OF CHARCOAL PRODUCTION AND COMMERCIALIZATION IN KENYA

- According to a study conducted in 2005: National Charcoal Survey: Exploring the Potential for Sustainable Charcoal Sector in Kenya. ESDA.
- 700,000 people have been employed in this industry with over 2 million dependants.
- There are 200,000 producers that operate in Kenya and 500,000 people involved directly in the charcoal trade as transporters and vendors.
- The amount of charcoal that is produced each year in Kenya is **1.6 million tonnes**
- The average cost of a mature, whole tree to a charcoal producer is Kshs. 583.
- The annual income received from charcoal industry is about Kshs 32 Billion (mUSD 376)
- An Average income of Kshs. 4,496 per month is generated from producers of charcoal, Kshs. 11,298 from the transporters, and Kshs 7,503 from vendors.

IMPACTS OF CHARCOAL PRODUCTION AND COMMERCIALIZATION ON THE OPPORTUNITIES FOR RE USE IN CITIES [KENYA PERSPECTIVE]

- Today's cities are following **an unsustainable path** of development by consuming most of the world's available energy resources that are mainly **based on fossil fuels**.
- Cities hold the keys to energy sustainability.
- For change to happen we do not have to wait for future technologies to emerge, a lot can be achieved using existing technologies, smart urban planning, energy conservation and improvements in efficiency.
- Potential government revenue (Taxes) is estimated at Kshs 5.1 Billion.
- A proportion of the revenue could be used to grow more trees in order to ensure sustainability in the charcoal industry.

IMPACTS OF CHARCOAL PRODUCTION AND COMMERCIALIZATION ON THE OPPORTUNITIES FOR RE USE IN CITIES [KENYA PERSPECTIVE]

- In the city, the **demand for energy is high** hence the revenue could be used to **buy fast maturing tree species**.
- More investments by **the producers or producer cooperatives** will ensure the demand is reduced since more efficient charcoal burning technologies are adopted.
- There will be **clean air hence reduction** of the high **air pollution** which is the major characteristic of the urban areas in Kenya.
- Charcoal industry will therefore contribute positively to environmental conservation.
- The **packaging and labeling of sustainable charcoal** can greatly **reduce illegal charcoal production** since consumers can be able to differentiate.

IMPACTS OF CHARCOAL PRODUCTION AND COMMERCIALIZATION ON THE OPPORTUNITIES FOR RE USE IN CITIES [KENYA PERSPECTIVE]

- **More land** can also be allocated for **sustainable charcoal production** and also space for vending.
- Training of charcoal workers would also widen their skills in **technical and economic issues** hence the economy of the country would greatly improve.

BARRIERS TO SUSTAINABLE ENERGY FOR CHARCOAL INDUSTRY

- Absence of a mechanism for **information flow** about **emerging technology** options and their performance
- Inefficient conversion wood into charcoal leading to demand being higher than supply. This is a result of weak regulatory framework.
- Developing **green cities and green economies** will need **supportive policies, capacity building, knowledge transfer, financial support mechanisms, market stimulation and sensitizing the population**, both at the national and the local level.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

CHARCOAL POLICY FRAMEWORK

- Sessional Paper No. 4 of 2004 on Energy policy.
- Sessional paper No. 9 of 2005 on Forest policy.
- Sessional paper No. 6 of 1999 on Environment and development.
- Strategy for Revitalizing Agriculture of 2004.

These policy documents allow for **production, marketing** and **use of charcoal**

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

SESSIONAL PAPER NO. 4 OF 2004 ON ENERGY POLICY

It seeks to:

- Promote use of fast maturing seeds.
- Give a 10 year tax holidays to producers.
- License charcoal in order to ensure sustainable production.
- Promote private sector participation in charcoal production.
- Issue 20 year lease on government land for commercial production.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

SESSIONAL PAPER NO. 9 OF 2005 ON FOREST POLICY

It seeks to:

- Promote forest based industries that contribute to the national economy.
- Promote sustainable production and efficient utilization of wood fuel.
- Empower local communities to manage forests through Community Forest Associations.
- Promote production and marketing of charcoal.
- Encourage the creation of out-grower for trees to supply SME Industries
- Liberalize the production of tree seedlings.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

SESSIONAL PAPER NO. 9 OF 2005 ON FOREST POLICY

- Promote value addition of forest products.
- Encourage forest products certification and labeling for wider market acceptability.
- Facilitate screening, control, management and utilization of invasive tree/shrub species through appropriate measures.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

SESSIONAL PAPER NO. 6 OF 1999 ON ENVIRONMENT AND DEVELOPMENT

It aims at:

- Making EIA a requirement for all projects and programmes requiring wood.
- Promoting widespread adoption of energy efficient technologies.
- Promoting economic incentives for energy conservation and encourage private investments in energy development.
- Encouraging research in energy conservation and end-use technologies.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

STRATEGY FOR REVITALIZING AGRICULTURE OF 2004

It aims at:

- Transforming subsistence agriculture into commercial and profitable business enterprises.
- Attracting more private investors who will adopt modern farming methods.
- Encouraging commercial tree growing as a business enterprise for energy purposes.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

CHARCOAL LEGAL FRAMEWORK

- The Energy Act ,2006
- The Forest Act, 2005
- The Environmental Management and Coordination Act (EMCA) 1999
- The Local Government Act , 2009 – control destruction of trees, transportation of charcoal and other forest produce.
- The Traffic Act – outlines the laws that need to be observed during transportation of charcoal and verification of the charcoal movement permits.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

THE FOREST (CHARCOAL) REGULATIONS 2009

- Provides guidelines on the legal requirements for producers, transporters, and traders engaged in the charcoal business.
- All commercial charcoal producers are required to organize themselves & form Charcoal Producers Associations (CPAs) in order to help in enforcing the provision of the Forest Act.
- A registered CPA is eligible to engage in charcoal production.
- A valid license from KFS is issued for commercial charcoal production.
- Any person involved in the movement of charcoal or charcoal products from one place to another requires a valid charcoal movement permit.

POLICY, LEGAL & REGULATORY FRAMEWORK FOR CHARCOAL IN KENYA

THE FOREST (CHARCOAL) REGULATIONS 2009

- Buying or selling charcoal from other countries without a permit is an offence liable of not less than Kshs 10,000 or 3 months imprisonment.
- ERC is working hand in hand with KFS in revising the charcoal regulations, to ensure that they are effective in promoting sustainable production of charcoal in Kenya.



Q & A

**THANK YOU FOR
LISTENING!**