

**SIXTH FRAMEWORK PROGRAMME**  
**FP6-2004-INCO-DEV-3**  
**PRIORITY A.2.3.: Managing Arid and Semi-arid Ecosystems**



**National Policies and Strategies on Bioenergy in Africa**

**Case Study: Kenya**

**January 2008**

**COMPETE**

**Competence Platform on Energy Crop and Agroforestry  
Systems for Arid and Semi-arid Ecosystems - Africa**

**Responsible Partner:**

WIP, Sylvensteinstrasse 2, 81369 Munich, Germany

**Project Co-ordinator:**

WIP, Sylvensteinstrasse 2, 81369 Munich, Germany

---

COMPETE is co-funded by the European Commission in the 6<sup>th</sup> Framework Programme – Specific Measures in Support of International Cooperation (INCO-CT-2006-032448).

This work has been conducted in the framework of the project COMPETE (Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems - Africa), co-funded by the European Commission in the 6<sup>th</sup> Framework Programme – Specific Measures in Support of International Cooperation (Contract No. INCO-CT-2006-032448).

The Competence Platform on Energy Crop and Agroforestry Systems for Arid and Semi-arid Ecosystems – Africa (COMPETE) will establish a **platform for policy dialogue and capacity building** and identify **pathways for the sustainable provision of bioenergy**

- to improve the quality of life and create alternative means of income for the rural population in Africa
- to aid the preservation of intact ecosystems in arid and semi-arid regions in Africa
- to enhance the equitable exchange of knowledge between EU and developing countries

The current document has been elaborated within Work Package 6 on Policy Development of the COMPETE project by the consortium partner WIP Renewable Energies.

The objective of COMPETE Work Package 6 is to coordinate policy research activities in African countries aimed at facilitating the efficient implementation of improved energy crop and agroforestry systems in order to enhance economic productivity and sustain rural and peri-urban livelihoods. It is also aimed at avoiding adverse environmental and social degradation that could arise from faulty policy development and implementation.

Within the context of the COMPETE Work Package 6 current national and international policies and strategies (including national legal and institutional frameworks) are identified addressing the implementation of improved energy crop and agroforestry systems.

Produced by:

Karlo Grados and Dr. Rainer Janssen  
WIP – Renewable Energies  
Sylvensteinstr. 2  
81369 Munich, GERMANY  
Tel.: +49 89 72012743  
Fax: +49 89 72012791  
E-mail: rainer.janssen@wip-munich.de

## National Policies and Strategies on Bioenergy in Kenya

Government: Republic

President: Mwai Kibaki (since 30 December 2002)

Vice President: Moody Awori (since 25 September 2003)

Capital: Nairobi

Area: 580,367 km<sup>2</sup>

Population: 34,707,817 (estimate July 2005)

GDP (PPP) 2005 estimate

- Total \$48.33 billion (76th)
- Per capita \$1,445 (156th)

### 1.0 Introduction

The present paper aims to determine the current policy framework and strategy of the Republic of Kenya in the fields of biomass, biodiesel and fuel wood. Given that a national energy policy is an indispensable factor for the economy of a country, there is the need to determine, if the energy policy covers all relevant sectors and if the policies and strategies aim to promote new energy sources to reduce fossil fuel dependence.

Legislation in Kenya supports logging for charcoal production, and due to subsidies official market prices are low. This has made it difficult for the private sector to grow and profitably operate commercial fuel wood plantations. Charcoal is mainly produced illegally and commercialised through the informal market (91% of users purchase charcoal).

### 2.0 Bio-Energy Policies, Projects and Initiatives

#### 2.1 The 2006 Energy Act

The Republic of Kenya has a regulatory framework in the fields of biomass, biodiesel, bioethanol, charcoal, fuel wood, biogas and municipal waste. Article 103, Part V, of the Energy Act 2006 addresses renewable energies, energy efficiency and conservation:

- (2) The Minister may perform such functions and exercise such power as may be necessary under this Act to promote the development and use of renewable energy, including but not limited to:
  - (a) Formulating a national strategy for coordinating research in renewable energy;
  - (b) Providing an enabling framework for the efficient and sustainable production, distribution and marketing of biomass, solar, wind, small hydro, municipal waste, geothermal and charcoal;
  - (c) Promoting the use of fast maturing trees for energy including biofuels and the establishment of commercial woodlots including peri urban plantations;
  - (d) Promoting the use of municipal waste for energy production;
  - (e) Promoting the development of appropriate local capacity for the manufacture, installation, maintenance and operation of basic renewable technologies such as bio-digesters, solar systems and hydro turbines;

- (f) Promoting international co-operation on programmes focusing on renewable energy sources;
- (g) Harnessing opportunities offered under clean development mechanism and other mechanisms including, but not limited to, carbon credit trading to promote the development and exploitation of renewable energy sources;
- (h) Promoting the utilization of renewable energy sources for either power generation or transportation;
- (i) Promoting co-generation of electric power by sugar millers and sale of such electric power through the national grid directly to the consumers;
- (j) Promoting the production and use of gasohol and biodiesel.

The renewable energy sub-sector has following priorities:

- Ensure that energy production, conversion, transmission, distribution and utilization do not impact negatively on the environment;
- Increase national access to energy;
- Provide energy to accelerate rural development;
- Promote development of indigenous energy resources;
- Provide sustainable energy for socio economic development;
- Provide an enabling environment for the provision of energy services;
- Promote energy efficiency and conservation;
- Enhance security of supply.

## 2.2 Initiative for the Promotion of Biomass

The project “Promotion of Efficient Industrial Biomass Cogeneration for Electricity Production” is lead by the Institute for Research in Sustainable Energy and Development (IRSEAD) and includes the participation of Monitoring and Evaluation (M&E) Consulting Engineers, Ministry of Energy, Kenya Sugar Board, Sugar Factories and Sugar Farmers.

The aim of this project is to significantly influence energy generation in the region, with at least 10% of total electrical energy coming from biomass in the next 10-15 years, and to improve local revenues and contribute to poverty reduction.

Furthermore, this project aspires to stimulate awareness of policy makers, industry stakeholders and investors to facilitate, realise and achieve the implementation of medium to large-scale cogeneration, renewable and energy efficiency projects as well as to promote the development of efficient cogeneration projects in Kenya.

This project is supported by the African Energy Policy Research Network (AFREPREN) and funded by the Heinrich Böll Foundation and M&E Consulting Engineers. The annual budget is 60,000 EUR, and IRSEAD will cover all the costs not supported by donors. The Ministry of Energy supports in kind with experts and other facilities.

### 2.3. Jatropha Project in Kenya

The largest Japanese biodiesel producers Biwako Bio-Laboratory Inc., and Hydronet Energy Company Ltd., initiated the first large scale commercial biodiesel project in Kenya, which aims to grow Jatropha on up to 100,000 hectares of land.

Until today, about 3,860 hectares of Kenyan land has been covered by Jatropha Curcas and the project foresees the planting of 30,000 hectares of plants in 2008. This will employ about 10,000 workers to support a production of 200,000 tonnes of biodiesel annually.

The companies aim to expand the plantation to 100,000 hectares within the next 10 years and already have the approval for expansion from the Government of Kenya.

### 2.4. Initiative to Promote Renewable Energies for Poverty Alleviation

The project "Promotion of Low-Cost Renewable Energy Options to target the Poor in Kenya" is lead by the Kenyan Ministry of Energy and includes the participation of NGOs, National Ministries, small and medium-scale industries, donor organisations and interested bilateral partners.

The principal objective is to contribute to poverty reduction with the use of small and medium low-cost and local renewable energy technologies. This project has two phases for the promotion of appropriate small and medium scale renewable energy technologies for rural poor communities in a time frame of five years:

1. Technologies for water provision, wind pumps for water pumping, solar dryers, biogas, solar water heaters, and efficient biofuel kilns.
2. Small hydro for electricity generation, wind electric generators, biomass based cogeneration, biomass gasification, PV for institutional and commercial applications, and other technologies appropriate for poverty alleviation in rural and peri-urban areas.

The followings results are expected:

- Supportive legal and regulatory framework for rural energy provision
- Comprehensive national renewable energy assessment
- Better use of renewable energies
- Increased capacity and skills of local renewable energy manufacturers, assemblers, installers and end-users
- Increased access among the poor to modern energy services and increased opportunities for income generation
- Introduction and contribution of renewable energies to the national energy mix
- Greater empowerment of women

The project is financed by the Renewable Energy Facility (REF) through levies on electricity and petroleum, donor funds, government budgetary allocation and grants, thereby providing a stable financial base for renewable energies in Kenya.

**References**

The Energy Act 2006, <http://www.energy.go.ke/publications/energy%20act%202006.pdf>, Republic of Kenya, Ministry of Energy.

Poverty Reduction Strategy Paper, Kenya, 2005, <http://www.imf.org/external/pubs/ft/scr/2005/cr0511.pdf>

Biomass in Kenya, Knowledge network on sustainable household energy in Southern and Eastern Africa, <http://db.sparknet.info/docs/SparknetScenariosForestry.pdf>

Japanese cooperation projects for the plantation of Jatropha Curcas, <http://www.energycurrent.com/?id=3&storyid=6899>

Jatropha plantations in Kenya, <http://www.bidnetwork.org/artefact-54086-en.html>

Project for the use of Jatropha oil in Kenya, [http://www.energy-africa.com/business\\_plan.html](http://www.energy-africa.com/business_plan.html)

**COMPETE Project Coordination  
WP7 Coordination - Dissemination**

WIP Renewable Energies  
Sylvensteinstr. 2  
81369 Munich  
Germany

Contact: **Dr. Rainer Janssen**  
**Dominik Rutz**

Phone: +49 89 720 12743

Fax: +49 89 720 12791

E-mail: [rainer.janssen@wip-munich.de](mailto:rainer.janssen@wip-munich.de)  
[dominik.rutz@wip-munich.de](mailto:dominik.rutz@wip-munich.de)

Web: [www.wip-munich.de](http://www.wip-munich.de)

**COMPETE Project Coordination  
WP3 Coordination - Sustainability**

Imperial College London  
Centre for Energy Policy and Technology  
South Kensington Campus, London, SW7 2AZ  
United Kingdom

Contact: **Dr. Jeremy Woods**  
**Dr. Rocio Diaz-Chavez**

Phone: +44 20 7594 7315

Fax: +44 20 7594 9334

E-mail: [jeremy.woods@imperial.ac.uk](mailto:jeremy.woods@imperial.ac.uk)  
[r.diaz-chavez@imperial.ac.uk](mailto:r.diaz-chavez@imperial.ac.uk)

Web: [www.imperial.ac.uk](http://www.imperial.ac.uk)

**WP1 Coordination – Current Land Use**

University of KwaZulu-Natal  
School of Environmental Sciences  
South Africa

Contact: **Dr. Helen Watson**

E-mail: [watsonh@ukzn.ac.za](mailto:watsonh@ukzn.ac.za)

Web: [www.ukzn.ac.za](http://www.ukzn.ac.za)

**WP2 Coordination – Improved Land Use**

Utrecht University  
Dept. Science, Technology and Society  
The Netherlands

Contact: **Dr. Andre Faaij**  
**Dr. Veronika Dornburg**

E-mail: [A.P.C.Faaij@uu.nl](mailto:A.P.C.Faaij@uu.nl)  
[V.Dornburg@uu.nl](mailto:V.Dornburg@uu.nl)

Web: [www.chem.uu.nl/nws](http://www.chem.uu.nl/nws)

**WP5 Coordination – Financing**

Energy for Sustainable Development  
United Kingdom

Contact: **Jessica Abbott**  
**Stephen Mutimba**

E-mail: [jessica.abbott@esd.co.uk](mailto:jessica.abbott@esd.co.uk)  
[smutimba@esda.co.ke](mailto:smutimba@esda.co.ke)

Web: [www.esd.co.uk](http://www.esd.co.uk)

**WP4 Coordination – International Cooperation**

Winrock International India

Contact: **Sobhanbabu Patragadda**

E-mail: [sobhan@winrockindia.org](mailto:sobhan@winrockindia.org)

Web: [www.winrockindia.org](http://www.winrockindia.org)

Stockholm Environment Institute

Contact: **Francis Johnson**

E-mail: [francis.johnson@sei.se](mailto:francis.johnson@sei.se)

Web: [www.sei.se](http://www.sei.se)

European Biomass Industry Association

Contact: **Stephane Senechal**

E-mail: [eubia@eubia.org](mailto:eubia@eubia.org)

Web: [www.eubia.org](http://www.eubia.org)

**WP6 Coordination – Policies**

Food, Agriculture and Natural Resources Policy  
Analysis Network of Southern Africa  
South Africa

Contact: **Douglas Merrey**  
**Dr. Charles Jumbe**

E-mail: [d.merrey@cgiar.org](mailto:d.merrey@cgiar.org)  
[charlesjumbe@bunda.unima.mw](mailto:charlesjumbe@bunda.unima.mw)

Web: [www.fanrpan.org](http://www.fanrpan.org)



COMPETE is co-funded by the European Commission in the 6<sup>th</sup> Framework Programme – Specific Measures in Support of International Cooperation (INCO-CT-2006-032448).