**SIXTH FRAMEWORK PROGRAMME**

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**PRIORITY A.2.3.: Managing Arid and Semi-arid Ecosystems**


# National Policies and Strategies on Bioenergy in Africa

## Case Study: Liberia

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# COMPETE

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

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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.

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# National Policies and Strategies on Bioenergy in Liberia

Government: Republic
President: Ellen Johnson-Sirleaf (since 2005)
Vice President: Joseph Boakai
Capital: Monrovia
Area: 111,369 km²
Population: 3,195,935 (estimate July 07)
GDP (PPP) 2005 estimate
- Total $3.292 billion (158th)
- Per capita $1,003 (169th)

## 1.0 Introduction

The Republic of Liberia is among the countries with enormous renewable energy potential. Studies on alternative energy sources indicate that the country is endowed with biomass, hydro and solar resources that could be developed to meet critical energy needs across the country. In Liberia like the most sub-Saharan African countries woody biomass is the primary energy source (90%) used for domestic cooking and heating. Latest data obtained from the National Charcoal Union of Liberia (NACUL) in 2005 shows that charcoal production in Liberia now stands at 36,500 tons per year.

Liberia is classified among the least developed countries. The fourteen years of civil war have destroyed the economy and infrastructure. The majority of farmers are women, and farming methods are basic. Human poverty in Liberia is among the highest in sub-Saharan Africa. In the current period of reconstruction and development several initiatives are implemented including the rehabilitation of the energy sector with the aim to alleviate poverty and to realize the MDGs.

## 2.0 Bio-Energy Policies, Projects and Initiatives

The lack of appropriate policy framework for the exploitation and development of renewable energy sources is a large barrier to the development of the renewable energy sub-sector.

An energy policy in Liberia will be formulated by the Ministry of Land, Mines and Energy with the financial support of the Renewable Energy and Energy Efficiency (REEEP), with co-funding by the Centre for Sustainable Energy Technology (CSET), and the contribution of individuals, as well as public and private institutions.

The draft for Renewable Energy and Energy Efficiency Policy and Action Plan aims to produce a national policy instrument to establish and increment the application of renewable energy and energy efficiency technologies in Liberia by promoting investment, technology transfer, market development and local capacity building.

Today, the legal and regulatory framework for the energy sector in Liberia is not well coordinated. An energy policy to make the energy sector responsive to the needs of the population is not yet defined. The National Renewable Energy Authority will help to combat the fragmentation and lack of coordination of this sector.

## 2.1 Renewable Energy Policy Goals

The principal goals of the renewable energy and energy efficiency policy is to support the development process in Liberia by exploiting renewable energy resources to attract investment, develop the market, transfer technology and build local capacity in the renewable energy sub-sector. Another aspect to achieve above goal is to include renewable energy services into the overall national economic and social development agenda, including poverty reduction strategies and MDG campaigns.

The Government of Liberia aims to achieve the following objectives to concretise a renewable energy and energy efficiency policy:

- Renewable energy services are accessible - this implies that the infrastructure for supply of renewable energy is extensive such that it is easily procured by any person or institution when needed;
- Renewable energy services are reliable so as to meet all demands at any particular time far into the future;
- Renewable energy services are affordable with the view of improving the living condition of the population, especially the poor population;
- Renewable energy is produced and supplied in an acceptable form so that its production, supply and use have no adverse health and environmental impact;
- Renewable energy is used in the most efficient manner.

## 2.2 Resource Development Policy

The central target of the renewable energy resource development component of the policy framework is aimed at ensuring supply availability and self-sufficiency. In order to achieve this target the following strategic issues are addressed:

- Expanding the exploitation and development of renewable energy resources (biomass, hydro, solar and wind);
- Securing renewable energy supplies for the future.

With respect to an increase of the exploitation and development of renewable energy resources, the policy will address the following objectives in the biomass field:

- Support sustained regeneration of woody biomass resources; use of human wastes and dung for energy;
- Create viable and domestic markets for biomass-based alternative fuels through regulations, financial intermediation and pricing incentives.

Available biomass residues such as rice hulls, coffee husks, and coconut shells, as well as residues from the timber industry can be used in efficient stoves, gasifiers (for thermal energy) and gasification/cogeneration units. In addition, dedicated crops can be grown for energy supply such sugar cane and jatropha.

The current focus of the biomass policy of the Government of Liberia includes the following objectives:

- To ensure that protected areas are not endangered by expansion of agriculture and energy cropping;
- To protect and preserve Liberia's extensive ecological diversity and habitats;
- To encourage truly sustainable forestry, including production of "green" charcoal from forests, with revenues used to support local communities;
- To ensure that energy considerations are integrated with food and farming policies.

The National Energy Sector White Paper of the Republic of Liberia issued in February 2007 by the Ministry of Land, Energy and Mines states the following objectives for a future energy policy framework:

- Dependence on petroleum fuels for rural reconstruction and enterprise should be minimized. The country should avoid becoming "hooked" on imported fuels that it cannot afford. Opportunities for alcohol fuels such as ethanol and bio-diesel should receive crucial attention.
- Long-term target for renewable energy (RE) in the overall energy supply mix of the country should be clearly set. This should include clearly defined targets for RE resource development, supply, access, demand and consumption management, investment, market development, technology transfer, and institutional and human resources development.
- Gender concern should be considered in energy policy making as men and women use energy for different things; any change such as the introduction of a new technology is likely to be experienced differently by men and women.
- The use of renewable energy systems and renewable/fossil fuel hybrid systems (the latter with a high fraction of energy coming from renewables) should be maximized for decentralized and dispersed (free-standing) electricity supply. Liberia may be able to mobilize substantial donor assistance to finance the capitalization of power systems. Since most of the lifetime cost of electricity from renewable energy systems is embedded in the upfront costs of equipment and commissioning, using donor funds to the extent possible to buy down the capital costs should be pursued. (Fossil fuel systems are at a disadvantage because donor funds are rarely if ever available to buy down ongoing fuel costs.)

## 3.0 Areas of Legislation and Regulation relevant to Bio Energy

The elaboration of policies on energy issues is governed by the Ministry of Lands, Mines and Energy (MLME). Currently, the creation of a Rural Electrification and Renewable Energy Agency (REREA) is foreseen to promote the use of renewable energies in Liberia.

## References

Draft for Renewable Energy and Energy Efficiency Policy and Action Plan by the Ministry of Lands, Mines and Energy – Monrovia, Liberia June 2007, http://www.reeep.org/file_upload/5272_tmpphp5vFwxs.pdf

Liberia Energy Assistance Program (LEAP), http://www.energyandsecurity.com/liberia.html

Cassava production and utilization in Liberia, http://www.fao.org/Wairdocs/ILRI/x5458E/x5458e0i.htm

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