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National Policies and Strategies on Bioenergy in Africa

Case Study: Zambia

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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 Center for Energy, Environment and Engineering Zambia (CEEEZ).

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 Zambia

1.0 Background

Zambia is self-sufficient in all its energy sources with the exception of petroleum, which is wholly imported. A considerable amount of foreign exchange is used to import this commodity.

Rising oil prices mean that oil imports are placing increasing demands on the country's total foreign exchange earnings. On the other hand, the sharp increase in global demand for oil versus the non-renewable reserves means that a global oil crisis may occur in the near future. This will mean that domestic oil demand will soon outstrip the current supply. For this reason, Zambia has embarked on a programme to explore alternatives to oil and one such alternative is bio-fuel, which includes ethanol and bio-diesel. Ethanol offers an opportunity for blending with petrol or being used as neat fuel, thereby reducing the expense on oil imports. On the other hand, bio-diesel offers an opportunity for blending with conventional diesel or to be used as neat fuel.

2.0 EXISTING POLICY AND STRATEGIES

2.1 Policy

It was realised from the onset that the biofuels program is likely to have a lot of participants ranging from the producers of the energy crops to the traders of the final product. In order to ensure that the program is carried out in an efficient and sustainable manner, so as to derive maximum benefits to the people of Zambia, there was need to develop a policy. Policy on biofuels was also needed so that biofuels are not dealt within isolation, but in the context of the overall energy sector. Once a robust biofuels policy is in place, the programme would become a tool for tackling poverty and a vehicle for creating wealth for poverty reduction. There would also be need to link the biofuels program to other sectors of the economy such as agriculture, manufacturing, education, health and SMEs through a well coordinated policy.

The 1994 National Energy Policy (NEP) does not include issues dealing with biofuels. The Ministry of Energy and Water Development therefore embarked on a policy review process in 2004. To this effect a draft revised energy policy has been produced and this adequately covers bio-fuels.

2.2 Overview of the Energy Policy Objectives on Biofuels

(i) Land

Land is likely to be a major issue in the production of biofuels. Therefore there was need for a policy objective regarding land issues associated with the production of biofuels.

(ii) Implementation Strategy

While there is an implementation strategy for electricity, petroleum and renewable energy sub-sectors in the NEP, there was none for biomass or biofuels in the previous Energy Policy.

(ii) Potential environment impacts of growing energy crops

Huge tracts of land would be involved in the growing of energy crops. There is a need to introduce a policy regarding environmental concerns.

(iii) Potential Competition between food and energy crops

This is an issue that has not been addressed in the reviewed NEP. It would need to be addressed because food crops and energy crops would have to compete for arable land.

(iv) Standards

The revised NEP does not cover the issue of standards. With different participants in the biofuels industry, there is need to ensure uniformity of products by addressing standards.

2.3 The Policy Objective of the New Policy

(i) Land

In order to ensure equitable and sustainable use of land, the following policy measures are being considered:

- Government should ensure that it makes available land for biofuels production. However, in doing so, there is need for transparency.
- The allocation of land for growing of energy crops should not compromise food security. One way of ensuring this would be for government to carry out land audit in order to classify land with potential for growth of energy crops to avoid compromise with food security.
- In allocating land for biofuels production, government should ensure that priority is given to Zambians.
- In any development agreements entered into with the Minister, on behalf of the Republic, to facilitate or encourage investment in the biofuels sector, there should be no sale of land.

(ii) Legislation

There is need for the policy on biofuels to have legislation that provides for the management of the sub sector, defines the rules and guidelines for entry and exit into the sub sector, protects local people involved in the sector against exploitation, ensures security of investments in the sub sector and makes provision for other necessary actions intended to create a conducive environment for business in the sub sector.

Below some legislative policy objectives are outlined that would need to be considered in the biofuel industry:

- There should be no sale of land involved in any development agreements entered into with the Minister, on behalf of the Republic.
- Shareholding by Zambians in the investment of biofuels should be in accordance with the Citizen Empowerment Act.
- In order to ensure sustainable availability of financial resources for the products, i.e. 0.5% could be introduced and channelled towards a Biofuels fund for the Biofuels Development Programme.
- The Biofuel fund should be managed by the Biofuels Associated, Private, Government and the Civil Society.
- Funding/Loans should be made available to local investors and farmers to promote equity participation of the Biofuels programme.

(iii) Incentives

In order to protect the local biofuels industry against collapse during its infancy, there would be need for incentives. The policy objectives to address incentives should consider the following:

- The Minister should declare Biofuels as a priority sector so that it would benefit from the incentives in the ZDA Act meant for priority sectors.
- The Biofuels incentives should be in line with the ZDA Act. However, if the ZDA Act is not adequate, incentives tailor-made for biofuels should be introduced.

(iv) Standards

In order to ensure that there is uniformity of the type of energy crops and biofuels products in the industry, the following policy objectives are being proposed:

- Standard should be set for energy crops, biofuels quality and blending ratios.
- Biofuels standard should be developed in line with the ERB Act.
- Plant material for biofuel, should be registered under the Ministry of Agriculture.
- A threshold should be set, above which a producer of biofuels or biofuels crops should be licensed.

(v) Research and Development

Government should support research and development into all aspects of the biofuel industry to ensure maximum productivity and minimum negative impacts on the environment. This would be achieved by the following policy objectives:

- Government should support more research and development into all new/alien species of energy crop and their cultivation cycles/process before being widely promoted to avoid negative impacts on the environment.
- Promotion of research to determine which type/species of energy crops would give the best quality and yield of biofuels.

- Government should fund and support research and development of breeding, testing and agronomy of plants suitable for biofuels.
- Government should stimulate research and development into the innovation and appropriate local technology for the extraction and processing of biofuels.

(vi) Environment Considerations

Environmental considerations in the promotion of biofuels in Zambia should be addressed by employing the following policy measures:

- EIA (Environmental Impact Assessments) should be a requirement for all major biofuels projects
- Existing biofuels ventures should undergo EIA
- No further land should be allocated or expanded until impacts of *Jatropha* and alien species on the environment are established beyond doubt
- Production of biofuels should be done under the correct environmental management

(vii) Capacity Building

There is need to build capacity in all institutions involved in the biofuels programme to enable them to implement the programme.

(viii) Implementation Strategy

A biofuel implementation programme should be formulated in order to accomplish the biofuel policy objectives and to this effect the number of policy objectives are being implemented, such; development of a Biofuels Act, National Biofuels Strategy, Incentives and Standards. Additionally, the ministry facilitated the formation of the Biofuels Association of Zambia (BAZ).

(ix) Biofuels Act

In parallel to the energy policy, ministry of Energy and Water Development together with the Ministry of Justice are working on enacting a stand alone-act to ensure that the use of biofuels as transport fuels are backed by law. The first draft document has been developed.

(x) Biofuel Framework/Strategy

To ensure the successful development of the biofuels industry in Zambia, the Ministry of Energy and Water Development together with key stakeholders has been working on the development of the framework for the biofuel industry. The framework will guide all the players in the industry. Further the framework for biofuels will spell out clearly what kind of incentives would be needed to make the biofuel programme successful

(xi) Incentives

The government realises the importance of the biofuel industry for the development of the nation. It is for this reason that the Ministry of Energy and Water Development together with the key Ministries such as Commerce, Trade and Industry and the Finance and National Planning are looking at the possibilities of including the biofuel industry, as a priority in the Zambia Development Agency Act. This would ensure that all the incentives applicable to other priority sectors are also applicable to the biofuels industry.

(xii) Standards

The Ministry of energy and Water Development together with the Energy Regulation Board and the Zambia Bureau of Standards have developed draft standards for biodiesel and ethanol. This will ensure that the quality of biofuels on the market meets the acceptable regional specifications. The standard being developed for biodiesel is based on the South African standard SANS1935:2004 with minor changes to suit the local situation. SANS 1935:2004 was itself adopted from the European Standard.

(xiii) Biofuel Association of Zambia

Due to the increase interest and number of players in the biofuels sector, it was felt that there was need for an association that is representing the interest of the players in the industry. The Ministry of Energy and Water Development facilitated the formation of the association called "Biofuels Association of Zambia (BAZ)". The association is now working closely with the government on all issues concerning the biofuels industry

3.0 Conclusions

The foregoing policy initiative in the field of biofuels is meant to ensure a biofuels programme carried out in an efficient and sustainable manner, so as to derive maximum benefits to the people of Zambia. It is also envisaged that the initiative would put biofuels in the larger picture of the energy sector and contribute towards poverty reduction and wealth creation. However, in order to achieve this, the government will have to develop an implementation programme for the policy initiative.

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