

AUC Programme on Bioenergy Development in Africa

1. Introduction

Bioenergy plays a significant role in the African energy sector and will continue to be a dominant source of fuel in the medium to long-term. A viable option for Africa is to develop strategies and markets for sustainable utilisation of biomass resources. Currently, more than 600 million people in Africa still depend on traditional biomass as a primary source of energy. This overdependence contributes to deforestation and is, in part, responsible for widespread respiratory diseases. Indoor air pollution from traditional biomass fuels kills more people than malaria – about 2 million people per year. About 3.4 million hectares of African forests are deforested annually, with severe negative impacts on biodiversity and the ecosystems, as well as emitting GHGs, contributing to climate change. Women and children are often at the receiving end of the fuel shortage as they need energy for multiple tasks – cooking, lighting and heating – and often have to resort to using traditional biomass which tends to take its toll on their health. In addition, the opportunity costs associated with spending long hours in search of woodfuel can be used for other productive activities. Biomass as a renewable energy resource provides huge opportunities to transition towards sustainable and modern energy systems on the continent. Developing the bioenergy sector in Africa provides huge opportunities for economic, environmental and social transformation. The biomass value chain could contribute towards enhancing food security, modern energy access, rural development and transformation, jobs creation, women empowerment, market and income opportunities as well as improvements in health, amongst others.

2. Bioenergy Development in Africa Programme

In 2010, the African Union Commission (AUC) established a programme on "Bioenergy Development in Africa", in order to address a range of issues that are hampering the development of a sustainable, more efficient and modern bioenergy systems and markets in Africa. Through the programme, the AUC has carried out a number of activities and designed programmes to promote the development of bioenergy on the continent.



i. **Study on "Sustainable Development of Bioenergy in Africa: Opportunities, Challenges, Potential Impacts and Policy Options for Poverty Reduction and Climate Change"**

The AUC, in collaboration with the NEPAD Planning and Coordination Agency (NPCA) and the United Nations Economic Commission for Africa (UNECA) carried out an overview study on the state of biomass energy in Africa. The study identified a range of issues and key areas of intervention that need to be addressed in order to promote modern bioenergy applications on the continent. These include:

- Developing harmonised and appropriate policies and frameworks to integrate bioenergy development into wider development plans at the local, national and continental levels;
- Awareness creation amongst stakeholders on the potential benefits of developing a sustainable bioenergy market in Africa;
- Establishing frameworks that integrate critical issues in bioenergy including gender and land issues;
- Building the capacity and technical skills of African countries to develop the bioenergy sector;
- Designing strategies to enhance access to modern and efficient technologies to utilise bioenergy;
- Designing platforms to share best practices and experiences;
- Addressing the low levels of effective distribution infrastructure for bioenergy feedstock and fuels;
- Addressing the conflicting objectives and priorities in the energy-water-agriculture nexus; and
- Mobilising financing and private sector participation to addressing the high costs of modern bioenergy feedstock and fuels.

In order to understand the policy and regulatory environment for bioenergy development in Africa, as well as to identify the barriers and opportunities, the AUC and UNECA further commissioned two complementary studies that include: (a) *Biofuels Development in Africa: Technology Options and Related Policy and Regulatory Issues* and (b)



Sustainable Bioenergy Policy Framework and Guidelines: Toward Energy Security and Sustainable Livelihoods in Africa.

ii. **Study on "Biofuels Development in Africa: Technology Options and Related Policy and Regulatory Issues"**

This study focused on analysing the biofuels value chain, specifically in terms of available technologies and the policy and regulatory issues pertaining to developing the biofuels industry on the continent. The specific objectives include:

- Identifying the prospects and opportunities for sustainable biofuels industry in Africa;
- Identifying the appropriate feedstock and technology options for the development the African biofuels industry;
- Analysing the economics of improving electricity access through the biofuels industry; and
- identifying policies and regulations to create an enabling environment to create a biofuels industry in Africa.

iii. **Report on "Sustainable Bioenergy Policy Framework and Guidelines: Toward Energy Security and Sustainable Livelihoods in Africa"**

This Report focused on developing a harmonised bioenergy policy framework and guidelines for African countries based on a comprehensive assessment of opportunities, challenges and risks for bioenergy expansion in Africa, and lessons learned. The outcome of the study was used to develop the "**Africa Bioenergy Policy Framework and Guidelines**". The objectives of the Framework and Guidelines are to:

- Build consensus on a shared framework that inspires and provides guidance to individual countries and regions in developing bioenergy policies and regulations; and
- Enhance awareness among African policymakers and the civil society about the need for environmentally friendly and socially acceptable bioenergy development policies.

The Framework and Guidelines study specifically aims to provide policy options targeted at:



- Embedding bioenergy development within poverty reduction policies and strategies in African countries;
- Integrating bioenergy into energy mix strategies and national development plans to improve energy access, particularly in rural electrification.
- Integrating policies, measures, standards and actions with regional initiatives so as to achieve economies of scale, as well as preventing good measures in one country becoming compromised by the lack of similar supporting policies in surrounding countries.
- Develop structured cooperation with industrialized countries to benefit from knowledge and technology transfer, and facilitate South-South collaboration.

The "**Africa Bioenergy Policy Framework and Guidelines**" was endorsed by the Conference of Energy Ministers of Africa (CEMA) in Addis Ababa, Ethiopia, on 16 November 2012 and the Resolutions were adopted by the African Union Assembly of Head of States and Government in Addis Ababa, Ethiopia, in January 2013.

3. Implementation of the Africa Bioenergy Programme

Since the inception of the "**Bioenergy Development in Africa programme**", the AUC in collaboration with continental partners, UNECA and the NEPAD Planning and Coordination Agency (NPCA) have carried out a series of activities aimed at promoting and unlocking modern bioenergy markets in Africa. These include:

- Prepared the study on "Sustainable Development of Bioenergy in Africa: Opportunities, Challenges, Potential Impacts and Policy Options for Poverty Reduction and Climate Change" in 2010;
- Prepared the Report on "Biofuels Development in Africa: Technology Options and Related Policy and Regulatory Issues" in 2011;
- Prepared the Report on "Sustainable Bioenergy Policy Framework and Guidelines: Toward Energy Security and Sustainable Livelihoods in Africa" in 2011;
- Developed the "Africa Bioenergy policy framework and guidelines"; which was validated and adopted by stakeholders and African Ministers of Energy (CEMA) in 2012;



- Carried out a study to mainstream gender issues into the Africa Bioenergy Policy Framework and guidelines in 2014. The Report was validated at a Workshop in Kigali, Rwanda, in December, 2014;
- Commissioned and carried out seven (7) country case studies - Ethiopia, Kenya, Rwanda, Mauritius, South Africa, Burkina Faso and Cameroon - on Biofuels for Transport and Households in 2014;
- Organised three (3) "Regional Capacity Building Workshop on Biofuels Development for Transport and Household Sectors" for African countries from 2014 - 2015. The main objectives of the series of Workshops are to strengthen the capacities of African countries to promote the use of biofuels for sustainable energy access and poverty reduction.
- Organised three (3) additional "Regional Training Workshops on Biofuels Development for Transport and Household Sectors" for African countries in 2015. The main objectives of the series of Workshops are to share experiences and lessons learned from local, national and regional levels, and also to provide hand-on training on the requirement for developing sustainable biofuels markets in African countries.
- Organised a continental "Workshop on Bioenergy Projects Development and Packaging" for African countries from 26 - 28 October, 2016 in Addis Ababa, Ethiopia. The main objectives of this Workshop are to: (1) enhance the capacity of African Member States to develop bankable bioenergy projects; (2) provide a platform for African bioenergy project developers to interact with project financiers; and (3) exchange information and best practices related to bioenergy businesses.

4. Implementation Challenges

Although the "Bioenergy Development in Africa" programme continues to create interest amongst policy makers, project developers and other stakeholders in designing and developing sustainable bioenergy systems and markets in Africa, there are still huge challenges affecting the implementation of the programme. These include:

- Budget Limitations at the AUC level: The implementation of the Africa Bioenergy Programme is constrained by financial challenges, which has limited the AUC in



reaching out to a wider range of stakeholders including women, youth, project financiers; rural areas, civil society, etc;

- Low levels of financing for projects: Many African countries still face huge challenges in mobilising the required financing for projects;
- Limited Availability of Experts: Many of the bioenergy project developers at the national level, most especially public developers are faced with limited capacity to design and implement bioenergy programmes;
- Limited Participation of the private sector: Private sector participation in developing and scaling up investments in bioenergy in Africa is contributing to the low levels of financing for projects development;
- Low levels of awareness: Although there is currently a growing interest in developing bioenergy projects, the low levels of political will and awareness amongst stakeholders including policy makers, project financiers, community leaders, etc on the potentials, benefits and opportunities of developing modern bioenergy systems and markets pose challenges in the implementation of the programme.

5. Recommendations and Way Forward

The range of challenges facing the implementation of the "Bioenergy Development in Africa" programme could be addressed through the following recommendations:

- Funding for the programme needs to be substantially increased in order for the AUC to strengthen its efforts in providing support to African Member States in key areas that include:
 - Policy development and harmonisation;
 - Capacity building and skills development;
 - Awareness creation;
 - Project preparation facilities;
 - Mobilisation of stakeholders at the local, national, regional and continental levels, etc.
- The AUC also needs to develop mechanisms for ensuring that lessons and experiences in bioenergy development are shared amongst Member States;



- The AUC needs to continue advocating for strong political will and co-operation amongst Member States in the area of bioenergy development in Africa.