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THE AFRICAN UNION BIOENERGY DEVELOPMENT IN AFRICA PROGRAMME

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1 INTRODUCTION

The African Union Commission (AU) in partnership with the UN Economic Commission for Africa (ECA) and NEPAD Planning and Coordinating Agency (NPCA) initiated a Programme to modernize the bioenergy sector in Africa, through a consultative process spanning several years and involving a cross section of stakeholders and African member States. This culminated in the development of the *African Bioenergy Framework and Policy Guidelines* in 2013. The purpose of the Framework is to (a) build consensus on shared framework that inspires and provides guidance to individual countries and regions in developing bioenergy policies and regulations; and (b) enhances awareness among African policymakers and the civil society about the need for environmentally friendly and socially acceptable bioenergy development policies.

There are a number of outputs and generated by the Programme since 2011. These programmes were systematically implemented to build capacity and also expose some of the best practices on the African continent. The ultimate expected accomplishment was threefold:

a) To ensure that that bioenergy energy development is at the center of the policy development and that countries and regions put priority in modernizing the bioenergy energy sector.
b) Capacity is built across African stakeholders, particularly policy makers, civil society, local private sector, academia and community-based organizations
c) To deliver demonstration projects that are centered on improving bioenergy for the household and transport sectors.

The following table shows the outputs and activities between 2011 and 2016.

2011 – 2012	2013 – 2014	2015 – 2016
AUC/ECA Studies on bioenergy (Jan-Aug 11) • Technical/economic viability • Policy development	*Adoption of Bioenergy Resolution by AU Assembly (Jan 13)* • Endorsement by heads of state and governments	**Biofuels for Household and Transport Sectors (2015)** • Bioenergy case studies • Capacity development (Zulwini, Arusha & Accra) • Biofuels Training (Port Louis, Cairo & Dakar) • Technical visits (Gaborone, Mbabane, Dar es Salaam, Lilongwe, Kampala, Antananarivo)
Africa & International Expert Group Meeting (Addis Ababa, Nov 11) • Data validation	*Mainstreaming Framework in policy making (Apr 2013)* • Workshop in Nairobi, Kenya	*Project Packaging Workshop (Addis Ababa Oct 16)*

• Recommendations		
Bioenergy Framework & Policy Guidelines (2012) • Validation workshop of the Framework • Endorsement by CEMA • Bioenergy development resolution	*Gender mainstreaming in the Framework (2014)* • Mainstreaming gender in bioenergy development • Validation, Kigali (Nov 14 in Kigali, Rwanda	*Dialogue on Bioenergy (Nairobi, Kenya December 16)*

2 LESSONS LEARNED IN THE IMPLEMENTATION

While the projects achieved several important milestones, there were notable drawbacks that could influence its impacts at national and regional level. The first budget limitations at the Institutional level. There were noted financial limitations at the AUC and partners' level in reaching out to a wider range of stakeholders including project developers; rural areas, civil society, women and youth. As identified above the greatest setback was limited expertise in project development and packaging, as well as how to finance such capacity. Project developers, both public and private identified limited capacity to design and implement bioenergy programmes, and as such, their proposed projects were very small and difficult to finance.

Secondly, and related to the above, bioenergy projects are generally difficult to be attract normal financing or investment. The challenge is therefore how to mobilize required financing for projects, as well as attracting private sector participation. Lastly, there general lack of awareness at all levels about new and modern bioenergy projects. This prevents these projects getting full attention of the public and policy makers, like other renewable energy solutions such as solar and wind projects.

The following are the activities that would be carried forward to improve and accelerate bioenergy modern development in Africa.

1. Data availability and statistical requirements for policy making quality

Bioenergy forms the bulk of Africa's total final energy supply, but there is often lack of credible data in many African countries. In order to transform the bioenergy sector, accurate data set or baseline information should be made available. This focus areas will review lessons learned during the implementation of the project.

***ACTION**: Harmonize and standardize data gathering methodologies across African countries. This would be done through the African Renewable Energy Commission (AU) and the African Biomass Data Initiative (soon-to-be-launched).*

2. Assistance to local project developers and localization of technologies

The project interacted with a cross section project developers across the continents. Some of the project developers were from the public sector (mainly linked to government ministries and agency), others were public-private partnerships, while a significant number of project developers were private local investors. Significantly, there were also NGOs in the bioenergy space, but these were mainly in capacity building and marketing of bioenergy services and products. An important highlight from these developers was the lack of locally produced technologies to scale up modern bioenergy. These ranged from bioenergy cooking appliances to biogas digesters, or processing technologies for ethanol production. Some of the technologies existing from the market are unaffordable, inadequate and simply expensive for small producers. The lack of investments or knowledge about investment opportunities therefore locked these developers in a perpetual small-scale production and therefore lack of impacts.

***ACTION**: Create a finance and risk mitigation facility to assist private and public developers especially in the early stages of project development. Also, this facility should provide dedicated support for project developers to package their projects.*

3. Improved bioenergy appliances (e.g. improved cook stoves programmes)

Cooking is the major activity at the household level. More than 60 per cent of household, irrespective of electrification status, often used biomass stove for cooking. Oftentimes, this is an ignored area in bioenergy development, and in energy provision in general. Improved cook stoves programmes are often donor led, with very little local input both in terms of strategies for deployment as well as in design. The Project has interacted with NGOs and private sector companies that seek to deploy improved cook stoves to as wide as possible and thereby totally replaced the current dangerous cooking practices. It is widely known that the current cooking practices result in numerous premature deaths especially among small children and the elderly.

***ACTION**: There is an urgent need to support capacity building programmes for local private sector and/or project developers on locally designed efficient and modern cook stoves that promote investments. This should be done and led by the regional centers of excellence, supported by the AUC and its partners.*

4. Innovation and research and development in new technologies

It is globally appreciated that innovation is at the center of economic change, which often initiates a process of creative accumulation in industrial development. With its vast resources of biomass, sub-Saharan Africa needs to design and implement effective industrial development strategies to develop a sound industrial and technological base for the production and utilization

of biofuels. In this light, sub-Saharan African countries need to embark on capacity building of their human resource to enable it to contribute significantly to the development and efficient management of national systems of innovation on bioenergy.

***ACTION**: Support and mobilize for funding mechanisms for bioenergy R&D technology and innovation in universities, colleges, and other research agencies.*

5. Finance and investments in bioenergy deployment

Adequate financing or access to finance or knowledge about finance mechanism, constitutes the single most important impediment for the large-scale deployment of bioenergy in Africa. Unlike other renewable energy options, such as solar, wind and hydro, investments in bioenergy (with possible exception of ethanol production for fuel mixing) is very minimal and local investors are marginally interested. Moreover, this is perceived as an arena for development aid and small scale, rural enterprises. While recognizing the lack of adequate finance in this area, the Project found that the lack of finance is a symptom rather than the cause of lack of growth in bioenergy development in Africa. Most projects are not of sufficient quality and standards for the private sector investment because at the most they are not properly packaged and at the least risk mitigation has not been properly considered. In addition, the term "finance" is often poorly understood, or there levels therefore are not properly understood.

***ACTION**: Provide support to governments to design bioenergy-friendly policies, actions and measures that will facilitate private and public funding and investments, as well as assist developers to access and mobilize financial and technical resources from existing investment opportunities.*

6. Gender mainstreaming and productive work

Of the 1.2 billion people living on one dollar a day, 70 per cent are women, and the collection and use of biomass is mostly the responsibility of women and girl children. The use of low quality energy options and inefficient conversion devices pose health risks to women in particular. Policies for energy investments should target increasing access to energy for increased productivity and reducing drudgery for women, as a lack of investment in low-cost energy supply systems compels women to continue using firewood for cooking and lighting, with the associated health and safety problems. Bioenergy contributes to rural development and social equity, especially the creation of multifunctional platforms for lighting, water supply and small processing activities. In Tanzania, Mali and Senegal, the feedstock is grown by local communities and provides income for the rural poor. Women, in particular, are involved in the planting, seed collection, the management of the multifunctional platforms and the related small-processing activities. Modern bioenergy eliminates some of the widely observed negative social effects,

which have gender dimensions. Women play a central role in the traditional biomass chain: collection, transportation and utilization. In the Sahel countries, the daily gathering of fuelwood may take up to two hours (and between five to eight hours in the SADC), and constitutes the heaviest burden on women, preventing them from pursuing productive activities.

***ACTION**: Ensure gender equity in capacity building initiatives, skills development and project (business) identification and provide incentives for women in bioenergy business development and encourage Member States to address land ownership inequities in order to allow women feedstock growers*

7. Mainstreaming and integrating bioenergy implementation in energy development plans

The objective of mainstreaming and integrating bioenergy development in countries' policy agenda is at best to (a) reduce and/or eliminate poor/traditional practices in the use of biomass resources; (b) strike a healthy balance between existing bioenergy feedstock and the scale of operations (that is small scale bioenergy vis-à-vis large-scale development); and (c) integrate linked policy process, i.e. energy, agriculture, land, water, environment, etc. into a coherent nexus approach. Over and above, it ensures that sufficient attention is paid to bioenergy as an important energy sub-sector by addressing the lack of bioenergy regional markets and trade; increasing R&D and addressing lack of standards and regulation; and bringing up to speed countries that do not have dedicated modern bioenergy focus as well as investments.

***ACTION**: Enhance the capacity of member states to carry out bioenergy planning that takes into consideration cross-sectorial linkages as well as establishing bioenergy target.*

8. International support for bioenergy development and deployment

As part of the 2nd Annual Sustainable Energy for All (SE4ALL) Forum, a new multi-stakeholder coalition, co-chaired by the UN Food and Agricultural Organization (FAO) and the Roundtable on Sustainable Biomaterials (RSB), announced its intention to speed up the development and deployment of sustainable bioenergy in order to contribute to meeting the SE4ALL goals of doubling the global use of renewable energy and ensuring universal energy access by 2030. Other than in providing financial support international support falls broadly in these categories: (a) knowledge enhancement and information sharing, (b) policy and sustainability support, and (c) deployment support. A majority of interventions on modern bioenergy are in clean cooking solutions; increased agricultural productivity; energy from municipal waste; aviation fuels; cellulosic ethanol; to mention but few critical ones.

***ACTION**: There are number of initiatives broadly under the umbrella of African Union's Agenda 2063 that support the development and deployment of renewables, including the recently launched African Renewable Energy Initiative (AREI). However, it is important to advocate for the bioenergy strongly as it could be submerged under well-established renewable energy types, such as solar, wind, hydro and geothermal energy.*

3 ACCELERATING BIOENERGY PROJECT DEVELOPMENT AND PACKAGING (2018-19)

There is a commitment from the AUC and its partners to facilitate the development and modernization of the bioenergy sector across Africa. This is reaffirmed by the outcomes and resolution taken by the African ministers responsible for energy at the Specialized Technical Committee in Togo in March 2017. However, there should be concrete and quantifiable progress has to make to bring these biofuels/bioenergy projects to fruition. Therefore, concrete steps have to be devised so as to ensure that these projects reach financial close before the STC 2019.

3.1 INCREASED ROLE OF REGIONAL CENTRES OF EXCELLENCE

The Regional Centre of excellence in renewable energy and energy efficiency have been identified as the centers that will further provide grassroots and coalface assistance and facilitation. These centers need to be capacitated with skills and resources. Moreover, these centers should have a specific focus to bioenergy and be able to assist the already identified projects. These centers should make known their actions plans in so far as their specific roles are concerned. A workshop between the AUC and its partners, together with the regional centers, namely ECREEE (ECOWAS), RCREEE (North Africa), EACREEE (EAC), SACREEE (SADC) is planned for the early 2018 to provide mandate and roadmap on how they can assist in project development, as well as assisting countries to develop enabling environment for bioenergy investments.

3.2 DEDICATED INSTRUMENTS TO ASSIST PROJECT DEVELOPMENT

There are numerous sources of funding/investment in bioenergy in particular and renewable energy in general. All these instruments have their specific modalities that need to be adhered to, if projects are to be considered for assistance. There is a consensus that these modalities are either not transparent or are difficult to adhere to. A lot of assistance is needed to capacitate the project developers – from project development/conception to financial close. Therefore, there is need that the AUC and its partners to facilitate these continued interactions.

For bioenergy projects to move forward, there is a need to develop a specific instrument to help these projects. An example was made of the Geothermal Facility that assist in providing funding for exploration of potential sites and therefore providing de-risking mechanisms. A similar

instrument will be established to help bioenergy projects. However, this facility will not provide early project assistance or proof of concept. This will assist already existing and operational projects in terms of scaling up and managing other risks to allow them for private investment. Early project preparation and packaging assistance should be provided by the current AUC and its partners.

In order to maintain momentum, an informal Association of Bioenergy Project Developers should be established to champion for bioenergy initiatives as well as providing a platform to share information and best practices. The nature and form of this association will still need to be distilled and discussed. A proposal will be submitted on how this facility will look like in reality.

3.3 PRIORITIES FOR 2018-19

The following short-term action plan (2018) will be adhered to and will culminate in moving the projects and initiatives forward. This action plan was agreed upon at a workshop in September 2017.

	1st Quarter (2018)			2nd Quarter (2018)			3rd Quarter (2018)			4th Quarter (2018)			1st Quarter (2019)		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
1. Proposals or notes sent to EU partnership for consideration and assistance and feedback															
2. Report on progress and short- to medium-term action plans to the STC subcommittee															
3. Bilateral interactions with the regional centers of excellence with regard to the roles															
4. Workshop with the Regional centers to draft regional priorities and actions															
5. Feedback on individual project and additional assistance															
6. Workshop on review of progress on project development with project developers															
7. Selection of projects to be showcased during the STC 2019															
8. Demonstration of the outcomes of the Programme during STC 2019															

In summary the following actions will drive the agenda for the deployment and acceleration of the bioenergy energy development in Africa, both from projects' and policy perspectives.

a) Funding for the Programme needs to be substantially increased in order for the AUC and its implementation partners to strengthen their efforts in providing support to African Member States in key areas that include capacity building and skills development, awareness creation and mobilization of stakeholders at the local, national, regional and continental levels, etc. and project preparation.

b) Creating a finance and risk mitigation facility to assist private and public-sector project developers assist identified projects to reach bankability, as well as supporting high impact bioenergy projects that will demonstrate their bankability and investments locally and internationally.

c) Harmonize Regional Bioenergy frameworks and policy guidelines taking into consideration lessons learnt from the mainstreaming of Framework. The RECs should have their approach, tailored to region's distinct situations. The ECOWAS region has developed its own bioenergy strategy a few years ago. Other regions of Africa should have their own regionally-tailored framework and strategy that are harmonized with the continental bioenergy framework and policy guidelines.

d) Enhance the capacity of the regional organizations to mainstream bioenergy in their regions. This includes ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), Regional Centre for Renewable Energy and Energy Efficiency (RCREEE) based in Egypt, for the North Africa, SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) which is based in Windhoek, Namibia and the EAP Centre of Excellence in Renewable Energy and Energy Efficiency (EACREEE) in Kampala, Uganda.

e) Better coordination of all renewable energy programmes, and it is important that the implementation of the "Bioenergy Development in Africa" should be done within the overall African strategy aimed at increasing the share of renewables in Africa. This is will be achieved through cooperation with the Regional Economic Communities and other Institutions and Initiatives.

f) The AUC and partners will continue to advocate for strong political will and co-operation amongst Member States in the area of bioenergy development in Africa. This will ensure that bioenergy is prioritized like other sources of energy.