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**THE FIRST ORDINARY SESSION OF THE AFRICAN**

**UNION SPECIALIZED TECHNICAL COMMITTEE**

**ON TRANSPORT, TRANSCONTINENTAL AND**

**INTERREGIONAL INFRASTRUCTURES,**

**ENERGY AND TOURISM (STC-TTIET)**

**14 – 18 April 2019**

**Cairo, EGYPT**

**BIOENERGY DEVELOPMENT STRATEGY AND INVESTMENT PLAN FOR THE CENTRAL AFRICA REGION**

**TECHNICAL PAPER**

# **BACKGROUND AND JUSTIFICATION**

More than 80% of the population of Central Africa still depends on traditional wood fuels for their cooking and heating energy needs. The negative impacts of the use of this traditional biomass, in particular its impact on the health of women and children, are well documented by the WHO and other institutions. However, this sector can be modernised to play an important role in improving access to modern energy in Africa, through the development of clean fuels and technologies, while promoting income generation and sustainable development in general. The status quo is likely to accentuate the effects of climate change, aggravate poverty, threaten food security and lead to increased mortality from respiratory diseases.

It is in this context that the African Union Commission (AUC), in partnership with the United Nations Economic Commission for Africa (UNECA) and the NEPAD Planning and Coordination Agency (NPCA), launched a programme to modernize the bioenergy sector in Africa, through a multi-year consultative process involving the various stakeholders and African Union Member States. This resulted in the development of the Africa Bioenergy Policy Framework and Guidelines in 2013. The objective of the Framework is to (a) build consensus on a common framework that inspires and provides guidance to each country and region in the development of bioenergy policies and regulations; and (b) raise awareness among African policy-makers and civil society of the need for more environmentally friendly and socially acceptable policies for the development of bioenergy.

The bioenergy programme has produced a number of studies and capacity-building activities since 2011. These results have been systematically implemented to build capacity and promote the exchanges of experience on best practices on the African continent. Since its inception, the programme has developed studies to assist African countries in implementing bioenergy policies and a regulatory framework that support the modernization of the bioenergy sector. The studies conducted under this programme include the following:

1. Policy Options for Bioenergy Energy Development in Africa (2011);
2. Technical and Economic Assessment of Biofuels in Africa (2011)
3. Africa Bioenergy Policy Framework and Guidelines (2013);
4. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Ethiopia (2015);
5. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in South Africa (2015);
6. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Mali (2015);
7. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Cameroon;
8. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Mauritius;
9. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Rwanda;
10. A Case Study on Regulatory Reforms for Adoption of Biofuels Programmes in Kenya;
11. Mainstreaming Gender in Bioenergy Development;
12. Localization of Clean and Renewable Energy Technologies in Africa.

Although the bioenergy programme has achieved several important milestones, there are significant gaps that could influence its impacts at the national and regional levels. In this context, building on the achievements and lessons learned from the implementation of the programme, the AUC, in partnership with UNECA and NEPAD, plans to formulate bioenergy development strategies and associated investment plans for each region of Africa (North, West, Central, East and South). These bioenergy development strategies and investment plans should lead to the deployment of sustainable regional bioenergy projects that will accelerate the adoption of modern bioenergy technologies, practices that will have positive impacts on access to modern energy, local industrial development, job creation and the overall improvement of local livelihoods and rural economic development. The final deliverables are threefold: (a) ensuring that bioenergy development is integrated into policy development and that countries and regions prioritize the modernization of the bioenergy sector; (b) ensuring that the capacity of stakeholders, in particular policy makers, civil society, the local private sector, academia and community-based organizations, is strengthened; (c) ensuring that pilot projects focused on improving bioenergy for the household and transport sectors are being implemented.

# **OBJECTIVES OF THE STUDY**

The objective of this project is to develop the Bioenergy Development Strategy and Investment Plan for the Central African Region on the basis of the Pan-African Bioenergy Policy Framework and Guidelines and previous studies carried out in the context of the programme, as well as international programmes and best practices. In addition, the Development Strategy and Investment Plan should include an action plan for the measures needed to harmonize the sustainable development of bioenergy in the following countries: Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Rwanda and Sao Tome and Principe. It is also important to prioritize and focus on the relevant bioenergy resources for each region.

# **RESULTS OF THE STUDY**

The study identified the main constraints to the promotion of modern bioenergy in Central Africa and formulated a strategy for the development of modern bioenergy, as well as an investment plan. It also made it possible to adopt a plan for the implementation of the Strategy and for monitoring and evaluation.

The Strategy and its investment plan as adopted by the representatives of ECCAS Member States is presented below.

Vision

Transition towards sustainable production, marketing and use of bioenergy to ensure and contribute to universal access to modern energy services in order to create added value, jobs, increase food security and mitigate environmental impacts for sustainable development in all Central African countries.

Objectives

* Promote a modern, sustainable and dynamic bioenergy sector by creating an enabling environment to unleash potential through the removal of institutional, legal, financial, social, and environmental constraints;
* Address the needs of governments, the private sector and local communities in the use of existing resources (household waste and agro-industrial residues, etc.) in order to preserve forests and improve the living conditions of the population;
* Promote public and private investment in the sector.

**Bioenergy Penetration Target in 2030**

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| --- | --- | --- |
|  | **Penetration**  **Rate**  **in 2030** | **Number of Additional People with Access to Modern Bioenergy** |
| Electrification rate[[1]](#footnote-1) | 54% | 63,000,000 |
| Bioelectricity penetration in the mix[[2]](#footnote-2) | 16% | 18,500,000 |
| Access to improved cooking stoves[[3]](#footnote-3) | 100% | 90,000,000 |
| Use of LPG[[4]](#footnote-4) | 37% | 59,000,000 |
| Biodigesters[[5]](#footnote-5) | 3% | 5,000,000 |

**Number of Additional People with Access to Modern Bioenergy in 2030**



**Investment Needs**

The amount of investment needs (cumulative) by 2030 is US$ 9, 662 million. This amount corresponds to the investment needs to achieve a 10% penetration of bioelectricity into the Region's energy mix and to achieve the objectives set in terms of access to modern fuels and efficient equipment (improved stoves, butane gas equipment, bio-digesters, etc.).

**Steps for Operationalizing the Strategy**

**Pillars for the Implementation of the Strategy**

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| --- | --- | --- | --- | --- | --- | --- |
| **Policy Development** |  | **Capacity Building** |  | **Knowledge Management** |  | **Mobilization of Funding** |
| * Research and Forecasts * Legal and Regulatory Frameworks |  | * Technical Assistance Programmes * Knowledge and Technology Transfer |  | * Research & Development * Database * Mapping of Resources and Knowledge |  | * Facilitation of Funding * Creation of Facilities to Support Project Leaders |
| * Standards and Norms * Policy Dialogues * Awareness-raising * Monitoring and Evaluation Framework |  | * Training * Awareness-raising * Study Trip * Conferences and Workshops * Communication |  | * Knowledge sharing * Sub-regional and South-South Cooperation * Evaluation |  | * Training of Local Banks and MFIs * Communication |

**Estimated Budget for the Implementation of the Strategy**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Estimated Budget in EURO** | **2020** | **2021** | **2022** | **2023** | **2024** | **TOTAL** | **% of Total Budget** |
| Policy Development | 1,745,00 | 890,000 | 890,000 | 890,000 | 250,000 | 4,665,000 | 14% |
| Capacity-building | 730,000 | 1,000,000 | 1,000,000 | 1,500,000 | 1,500,000 | 5,730,000 | 17% |
| Knowledge Management | 1,540,000 | 700,000 | 500,000 | 250,000 | 150,000 | 3,140,000 | 9% |
| Mobilization of Funding | 2,100,000 | 3,000,000 | 3,000,000 | 3,000,000 | 3,000,000 | 14,100,000 | 41% |
| Administrative Costs, Salaries and Overheads of the Centre | 1,528,750 | 1,397,500 | 1,347,500 | 1,410,000 | 1,225,000 | 6,908,750 | 20% |
| **TOTAL BUDGET** | **7,643,750** | **6,987,500** | **6,737,500** | **7,050,000** | **6,125,000** | **34,543,750** | **100%** |

# **RECOMMENDATIONS FOR ECCAS/AUC**

1. Organize a series of consultations, workshops and events focusing on the specific proposed policies to share the Strategy Document with Member States and relevant partners;
2. Identify minimum standards for the entire bioenergy value chain;
3. Support Member States in their processes towards the development of a National Bioenergy Policy and Action Plan;
4. Support capacity building in Member States on technical, policy and regulatory aspects of bioenergy;
5. Research and documentation, feasibility studies, experience gathering, resource assessment and mapping, identification of appropriate supply chain models and definition of sustainable investment profiles and business models to promote the use of biomass resources to contribute to universal access to energy;
6. Organization of public-private partnership events for dialogue and business opportunities;
7. Technical assistance (awareness raising, training, capacity building) for all stakeholders, including private companies, cooperatives, associations, local experts/consultants on bioenergy technology, and businessmen;
8. Direct technical assistance for 50 (fifty) sustainable bioenergy projects to achieve bankable feasibility;
9. Promote at least 200 (two hundred ) community projects;
10. Establish with development banks appropriate financial mechanisms (e.g. a guarantee fund) to leverage EUR 1 billion of investments;
11. Evaluation and continuous monitoring of funded projects.

1. ECCAS-CEMAC White Paper [↑](#footnote-ref-1)
2. Extrapolation from IRENA 2018 [↑](#footnote-ref-2)
3. ECCAS-CEMAC White Paper [↑](#footnote-ref-3)
4. ECCAS-CEMAC White Paper [↑](#footnote-ref-4)
5. ECCAS-CEMAC White Paper [↑](#footnote-ref-5)