AFRICAN UNION

AFREC ENERGY

African Energy Commission
Commission Africaine de l'Energie

Strategic Framework

for the African Bioenergy Data Management (AFBIDM)

The African Energy Commission (AFREC) is a specialised energy agency of the African Union (AU), mandated to develop the African energy sector by facilitating the coordination, harmonization, protection, conservation, development and promotion of rational exploitation, commercialization and integration of energy resources in Africa. Working with an extensive network of partners and experts drawn from the 55 AU member states, we have the capacity and expertise to ensure all energy initiatives across the geographies of the AU respond to the future development of the African energy sector, in accordance with the AU's Agenda 2063 and the fundamental pursuit of building 'The Africa We Want'.

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Acknowledgements

The Strategic Framework for Bioenergy Data Management in Africa (AFBIDM) is a publication of the African Energy Commission (AFREC). Its inception was motivated by the decision of the 2nd Ordinary Session of the Specialized Technical Committee on Transport Transcontinental and Interregional Infrastructure Energy and Tourism (STC TTIIET) held in Cairo, Arab Republic of Egypt, in April 2019, at which AFREC's strategic pillars were approved, including the following 5 programmes:

- Bioenergy Monitoring and Reporting in Africa;
- African Energy Transition;
- African Energy Information System;
- African Energy Efficiency;
- Oil and Natural Gas.

This strategic document consists of inputs from industry experts, thought energy statisticians from AU member states and various international organisations, who were appointed to AFREC as key contributors. It was reviewed during the International Workshop on Bioenergy Monitoring and Reporting in Africa organised jointly by AFREC, the United Nations Statistics Division (UNSD) and the International Energy Agency (IEA) which took place from 22-24 June 2021. In addition to the organisers, the workshop most notably attracted participation from AUDA-NEPAD, UNECA, UNEP, AfDB, IRENA, FAO, Global Bioenergy Partnership (GBEP) and several other regional and international organisations.

The strategic framework was prepared under the general supervision of the Mr. Rashid Ali Abdallah, Executive Director of the AFREC and coordinated by Mr. Yagouba Traore, Head of Policy, Strategy and Support at AFREC, with contributions from Mr. Abdoulaye Oueddo, Senior Policy Officer at AFREC, Ms. Ndahafa Nakwafila, Communication Officer at AFREC, Dr. Smail Khennas, energy and climate change expert, Mr. Jean-Yves Garnier, experts on energy statistics, Mr. Leonardo Souza, Chief Energy Statistics at UNSD, Ms. Agnieszka Koscielniak, Statistician at UNSD, Ms. Zakia Adam, Statistics Manager at the IEA, Dr Maria Michela Morese, Executive Secretary at GBEP.

In addition, invaluable contributions during the international workshop were received from delegates from Benin, Central African Republic, Nigeria, Morocco, Kenya, South Africa, Senegal, Lesotho, Burkina Faso, Eswatini and Uganda. Collectively and individually, they shared their experiences with the management of data on bioenergy resources, consumption patterns, health and socio-economics as well as the use of data for decision-making purposes.

We are grateful for all the contributions received from key individuals associated with AFREC in all the AU member states as well as from colleagues in institutions across Africa who are working tirelessly to produce reliable energy data for the continent.

Foreword

Africa as a continent has one of the highest consumers of biofuels globally because Bioenergy remains one of the most accessible forms of energy fuel for households and end-users across the continent. These high levels of consumption are cause for concern in terms of sustainability.

For many years, the use of charcoal and firewood have impacted the environment negatively, causing a large upsurge of climate change events due to deforestation and land degradation across the globe. Though Africa contributes a mere 3 - 4% of CO2 Emission globally, it is the most vulnerable continent to climate change effects.. If we are to reduce climate impacts on the continent, we need to be mindful of biodiversity and plan for future energy transition to more sustainable and renewable energies.

Africa needs to look at innovative solutions, not only to curb the untenable use of biomass fuels, but solution-driven-actions which make use of sustainable bio-resources, whilst providing Africans with access to clean energy and energy products. This transition requires a clear, decisive and pragmatic approach. Our focus as a Commission is to work closely with our member states as well as regional and international institutions to improve bioenergy reporting, monitoring and sustainability in order to define energy transition in Africa and reach a low carbon development pathway which will meet the continent's energy demands.

Given the importance of bioenergy in Africa's energy systems, bioenergy data management will become a top priority in terms of energy statistics. This report outcome indicate that coverage, timeliness, quality and availability of bioenergy data need to be improved for the benefits of the AU member states and organisations dealing with bioenergy in Africa. Doing so will also help policy makers to make better use of bioenergy data in their decision-making process, as bioenergy statistics database will be an important tool for energy transition policies and for mid to long-term energy planning.

Therefore, better bioenergy data and better use of this data should lead to a more optimized energy transition, integrating better health, deforestation, environment, and other socio-economic sectors in the decision-making process.

The framework contained here, is essentially a core strategic pillar for how we can achieve and develop the bioenergy sector in Africa through the provision of guidelines on how to effectively coordinate bioenergy data management in Africa. The key pillar to realistic development is to undertake a thorough analysis of our bioenergy industry and devise policies and regulations which could potentially lead to the implementation of real-life programmes aimed at solving bioenergy challenges, seizing opportunities and attaining evidence-based results.

For that reason, I urge all African continental leaders, policy makers, national and international institutions, experts and the private sectors, to work collaboratively and share findings necessary for developing methodologies and strategies for bioenergy data management across the spectrum.

Dr Amani Abou-Zeid
Commissioner for Infrastructure and Energy
African Union Commission

Executive Director's Statement

Africa is the world's largest consumer of traditional biomass energy sources (firewood, charcoal and agricultural residues) calculated as percentage of overall energy consumption on the continent. According to the AFREC Energy Statistics Database, biomass accounts for as much as two-thirds of total final energy consumption in Africa, with the continent as a whole consuming 269 million tons of oil equivalent (Mtoe) of biomass and 295 Mtoe of conventional energy in 2019. The Sub-Saharan region accounts for 91.38% of the total biomass consumption in Africa, while Southern Africa accounts for 8.40% and North Africa for 0.22%. Firewood, including charcoal, is the most common and the most environmentally detrimental biomass energy source. Firewood accounts for about 45% of biomass energy consumption on the continent while charcoal accounts for about 3%. This shows clearly that many African countries rely on traditional bioenergy consumption to fulfil their energy demands, and the percentage of solid fuel (charcoal and firewood) use in the region is the highest in the world.

Production and consumption of bioenergy has direct impacts on biodiversity, water and soil quality, as well as on a number of social and economic aspects of primary relevance for developing countries. In Africa, household air pollution from traditional cooking stoves in particular has a negative impact on health. In addition, the production of solid biomass impacts natural forest ecosystems, and the lack of modern energy services negatively impacts social and economic development.

Though bioenergy represents more than half of the total energy mix on the continent, the reality is that historically this sector has not been considered significant. In view of this, AFREC was mandated by the Ministers in charge of Energy to work closely with the AU member states to ensure sustainable monitoring and reporting on the sector to allow for sound decision-making in energy policy development and to promote the clean cooking technologies which will improve the lives of vulnerable groups. This document demonstrates how AFREC can coordinate the efforts of AU member states, regional and continental organisations on the management of bioenergy data in Africa.

Through this strategic framework, our member states can solicit AFREC to improve national monitoring and reporting on bioenergy in a sustainable manner through regular surveys and institutional and human capacity enhancement. In addition, regional and international organizations are invited to collaborate with AFREC by providing the requisite technical support to AU member states to improve the bioenergy situation in Africa.

Mr Rashid Ali Abdallah
Executive Director
African Energy Commission (AFRE)

List of Abbreviations

AEIS	African Energy Information System
AFBIDM	African Bioenergy Data Management
AfDB	African Development Bank
AFREC	African Energy Commission
AU	African Union
AUDA NEPAD	African Union Development Agency
FAO	Food and Agriculture Organization
GBEP	Global Bioenergy Partnership
GDP	Gross Domestic Product
GHG	Greenhouse Gas Emissions
HEPA	Health and Energy Platform of Action
HIV	Human Immunodeficiency Virus
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
LPG	Liquefied Petroleum Gas
Mtoe	Million Tonnes of Oil Equivalent
RECs	Regional Economic Communities (RECs)
SDG	Sustainable Development Goal
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environmental Programme
UNSD	United Nations Statistics Division
WHO	World Health Organization

Table of Content

The main purpose of the Strategic Framework on the African Bioenergy Data Management (AFBIDM) is to provide guidelines including the roles and responsibilities of the key stakeholders, for an efficient and effective coordination of bioenergy data management in Africa. It encompasses six inter-linked sections:

- The first section relates to the rationale and the purpose of the AFBIDM.
- The second section is supplies context and shows why bioenergy is important on our continent.

while the third section provides the current status of bioenergy data in Africa. Based on these three sections, section 4 sets out the guidelines for designing and implementing the AFBIDM. Section 5 presents the institutional partnership for a sustainable data management operational framewor and finally the roadmap and the preliminary budget are developed in section 6.

I. RATIONALE AND PURPOSE OF THE BIOENERGY FRAMEWORK

In designing their energy transition strategies, it is crucial for African policy makers to adopt a holistic and systemic approach encompassing all the energy sub-sectors, particularly bioenergy, which is an important component in most African countries. All the dimensions, quantitative and qualitative, of the bioenergy sector, must be taken into consideration and mainstreamed into energy policies and strategies. This implies access to a wide spectrum of information related to bioenergy, from bioenergy potential and sustainable resources, to production, transformation, consumption, and cross-cutting issues such as health, economic impact and the related socio-economic indicators.

These vital statistics and information are lacking or not comprehensive enough. The Strategic Framework on the African Bioenergy Data Management (AFBIDM) is aimed at providing guidelines to improving the coverage, the quality, the timeliness and comprehensiveness of data required by policy makers in their bioenergy and energy decision-making process.

The framework encompasses directives on all aspects of bioenergy data management including:
i) training national experts to allow regular collection and processing of bioenergy data;
ii) collecting and validating timely and comprehensively bioenergy data;
iii) processing and centralising these data at national and regional levels and
iv) disseminating the data as widely as possible to policy makers and key stakeholders, considering all aspects linked to bioenergy consumption particularly, health, environment and other socio-economic dimensions.

It is paramount to set a high priority to the roadmap for a good quality bioenergy framework and statistics in Africa. Ultimately this information will not only inform current, mid and long-term policies to address the sustainable use of bioenergy in Africa but also strategies to access modern and low carbon energy fuels for African populations which still rely on traditional and often non-sustainable bioenergy resources. This can only be achieved through coordinated partnerships, participation and commitment from AU member states and key institutions involved in bioenergy in Africa.

II. CONTEXT: WHY BIOENERGY MATTERS IN AFRICA

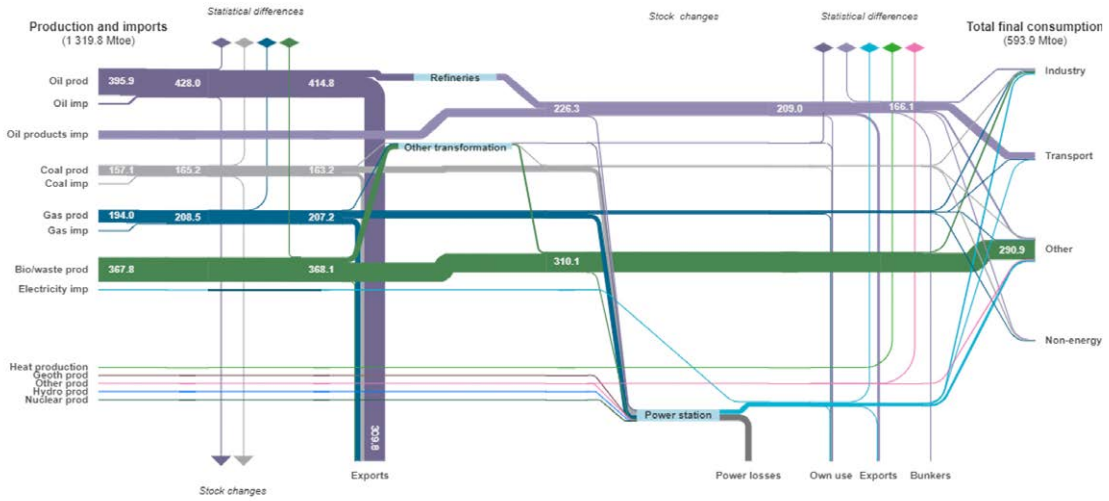
Analysis of Africa's energy balances illustrates the importance of bioenergy in the main three parts of a balance namely primary energy supply, transformation and final consumption. Moreover, bioenergy also has an impact on myriad other issues including the economy, the environment, climate change and the health of hundreds of millions of African people, particularly the most vulnerable communities.

Bioenergy and energy in Africa: a quantitative and systemic approach

Bioenergy is an important and useful energy source in Africa, which is primarily used for household cooking but also for productive end uses in the economic sense. Bioenergy, mainly fuelwood and charcoal, is vital for most African countries because it accounts for almost half of the national energy consumption, according to the 2020 African Energy Balance published by AFREC. Africa

is by far, the world's largest consumer of traditional biomass energy despite the weight of some large consuming countries, like North African countries and Southern Africa which present a much lower share of solid biofuels in their energy consumption. Two thirds of African countries depend on biomass for more than 50% of their total final energy consumption; one third depend on it for more than 80% and a few countries for over 90%. The following diagram shows the weight of bioenergy in the whole African energy system.

Figure 1 Bioenergy and Africa energy system



Source: IEA, world energy balances

Bioenergy and cooking

Cooking is by far the largest end-use in terms of residential consumption in almost all African countries. The share of cooking could be as high as 90% in several countries. For example, for large countries like Ethiopia, the Democratic Republic of Congo and Nigeria, the share of bioenergy in residential areas ranges from 85% to 95%. These high percentages can be explained by limited access to modern low carbon affordable alternative cooking fuels such as Liquefied Petroleum Gas (LPG) in rural areas and urban areas. Africa is the only continent which has experienced an increase in the share of traditional use of biomass, particularly charcoal, over the last past years. Moreover, Africa is marked by considerable disparities between rural and urban areas. Only 10% of the rural African population has access to modern forms of energy for cooking.

Bioenergy, health and gender: a persistent and alarming trend

The predominance of traditional and often non-sustainable use of biomass (wood and charcoal) in the structure of final energy consumption, particularly for the household sector, has a significant impact on the supply and demand of energy, as well as the livelihoods of hundreds of millions of African households, most of which are located in rural areas. Poor combustion properties cause indoor pollution with serious health consequences, especially for women and children who are more exposed to smoke from inefficient cooking devices.

Exposure to indoor air pollution from fuelwood, charcoal and agricultural residues has been linked to many different diseases, including acute and chronic respiratory diseases, tuberculosis, asthma, cardiovascular disease and prenatal health outcomes. For Ethiopia alone, the World Health Organization (WHO) estimates that over 55,000 deaths per year are directly attributed to indoor air pollution due to the use of solid biofuels. This is over 150 deaths per day, more than 90% of these are women and children under 5 years of age. For Africa as a whole, the WHO estimates the total number of deaths at over 400,000. This is more deaths than occur from diseases such as HIV, malaria and tuberculosis.

Adding to this problem, women and children are generally responsible for collecting fuelwood for use in cooking, heating and lighting in dwellings facing energy poverty. This activity puts them at risk for suffering violence or physical harm, as well as occupying time that could be better spent studying and/or other productive activities.

Bioenergy, deforestation and climate change

It is generally accepted that growing demand of bioenergy has an impact on the over exploitation of forests and other biomass resources. Although there are no official figures for the whole of Africa, countries which have conducted in-depth studies on the impact of fuelwood consumption on resources, have clearly highlighted that the growing demand for biomass in these countries cannot be met without a risk of accelerating forest degradation and therefore jeopardizing the sustainability of forest resources. Firewood harvesting, charcoal production and biomass burning, are also responsible for greenhouse gas emissions (GHG). Deforestation and land degradation are some of the increasingly visible impacts of unsustainable household energy consumption from biomass in rural Africa.

III. STATUS OF BIOENERGY STATISTICS IN AFRICA

Data is the basis for any sound energy policy-making process. Despite the vital role of bioenergy in the energy and economy of most African countries, there is no sufficient knowledge to assess the situation with good quality bioenergy data to inform decision-making processes. For instance, there is a sharp variation according to the sources on bioenergy data. Based on AFREC statistics, the biomass final energy consumption for Africa was around 330 Mtoe in 2017. The International Energy Agency estimated this consumption at 305 Mtoe and UNSD at 277 Mtoe. This huge gap of 53 Mtoe between the highest and the lowest estimates is equivalent to the overall electricity consumption of Africa, or to the coal and natural gas consumption combined.

In most countries there is an obvious lack of data on the whole spectrum of information needed to properly cover the bioenergy situation on the country. Data on bioenergy consumption is a result of surveys carried out more than 10 to 20 years ago. Even older data provides only a partial picture of the biomass situation with little information on cross-cutting issues such as health, employment, and many other socio- economic aspects related to bioenergy.

In many countries, data collection is still marred by several problems, including inadequate institutional frameworks, and lack of human and financial resources. Bioenergy statistics management in most African countries is not considered as a key sub-sector, which negatively impacts the energy decision-making process given the weight of biomass in primary supply, transformation and final consumption.

Data availability and quality: AFREC's brief survey and findings

To improve the quality of bioenergy statistics, AFREC conducted a short survey at the beginning of 2020 to better understand how countries collect biomass data through their annual energy balance questionnaires prepared by AFREC. The survey also enquired about the availability in the country of studies covering the potential of biomass resources to meet the biomass demand. The survey did not address issues regarding health and major socio-economic data linked to biomass. Over a month-long period, 36 countries provided their feedback which was a rather good turnout. The analysis of the answers to the AFREC survey clearly highlighted that:

- Almost all countries estimate their data based often on more than 20-year-old surveys. There is therefore an urgent need to improve the data quality and their relevance;
- Very few countries have conducted a countrywide biomass potential study. It is therefore almost impossible to have a precise idea of the demand-resources balance in the country and the impact of the growing demand on the land and water uses as well as on the environment.
- All the countries that have conducted a detailed demand-resources analysis highlight the urgency of acquiring high-quality data for better policies to monitor biomass consumption and its impact on health, social and environmental issues.

The findings clearly demonstrate the urgent need for countries to strengthen data collection for both biomass demand and resources. It should be noted however that some countries are planning comprehensive biomass surveys in several sectors including households and enterprises. These initiatives are important and a shared methodology and results dissemination will lend far greater reliability to the surveys.

Consequently, it is crucial to improve bioenergy data management to monitor the environmental, social and economic performances of bioenergy, with a view to ensuring efficient and sustainable use of bioenergy in Africa since good data is a pre-requisite for sound energy strategies, policies and interventions. However, the impact of the whole process will be dramatically limited if it is not conveyed to policy makers and other key stakeholders, including multilateral and bilateral organizations and then translated into policies and actions. Actions include dissemination of improved stoves, clean technologies, training of charcoal producers, substitution of wood and charcoal by other fuels such as Liquefied Petroleum Gas (LPG), etc. Fortunately, in a limited number of countries there were some initiatives underway to improve the quality of data management. It is therefore important to extract lessons from these experiences.

IV. GUIDELINES TO IMPROVE BIOENERGY DATA IN AFRICA

Improving data collection and analysis is key to monitoring bioenergy sectoral trends over time, evaluating sustainability, and developing sound energy policies. This requires use of the most innovative data science methodologies, to collect direct and indirect data, develop case studies, and produce relevant and robust analyses of biomass demand and supply and resource availability. Cross-cutting issues related to energy - mainly health and socio-economic data are also essential for a comprehensive overview of biomass energy in Africa.

Outcome and lessons from 2020 AFREC survey

This survey has allowed the Commission to gather sound information and data from a limited number of countries and above all to mainstream this information in the decision-making process. This is the case, for instance, in Nigeria which conducted a study on fuelwood consumption in the Federal City Town of Abuja. Understanding fuelwood consumption patterns has enabled the study to draw key recommendations for the formulation of energy policies and strategies. The same Nigerian study stressed the fact that "the continuous reliance on firewood and charcoal in both rural and urban areas has resulted in serious depletion of the nation's forest resources with the resultant effect on the environment in the form of deforestation, soil erosion, flooding, soil infertility etc".

Other countries such as Ethiopia, Benin and Burkina Faso have also conducted surveys recently on biomass consumption. These studies, based on various approaches and methodologies, stress the importance of biomass data to support energy policies and the impact on health and environment. A recent study in the Democratic Republic of Congo arrives at a similar conclusion: "If proper measures are not implemented, the population growth will increase the pressure on forests, especially in forests close to peri-urban concentrations".

Burkina Faso conducted two studies on demand and resources respectively. From the compilation of the two studies, Burkina Faso built tables and drew maps of biomass coverage by region and the fuelwood and timber potential per hectare. The findings of the two studies highlight the regions with a supply deficit of biomass. In many countries, however, there is no recent data on the availability of wood resources which consequently limits the available information on biomass use and its impact on deforestation.

Regional and international organisations have also developed methodologies to collect and estimate data on biomass consumption. Sharing the findings within African countries and institutions, is crucial to establishing best practice, particularly regarding the methodology, the impact of the surveys and the follow-up strategies.

The impact of biomass use on health constitutes another set of data which is critical to the bioenergy data management framework. Indeed, fuel switching to modern and low carbon energy fuels to limit the impact of indoor air pollution, must be backed by detailed data. Some countries have started collecting or estimating data (diseases, death) related to poor indoor air quality. Data collections include the types of cooking stoves used to better assess the impact of biomass use. Ultimately, it is the whole bioenergy value chain which must be investigated for short and long-term energy planning and it must take place in the broader context of energy balance, so that drivers of the fuel switch can be fully monitored and understood. Indeed, bioenergy is an important sector of employment and contributes to some extent to the formation of a country's Gross Domestic Product (GDP). For instance in Togo, the fuelwood and charcoal value chain accounts for 5% of the GDP and each employs over 650,000 and 200,000 people respectively - a large share of the active population. This underline,s the importance of lessons learned and communication within African countries. Bioenergy also has a significant impact, directly and indirectly on household expenditures and lost opportunities for a better livelihood. Information and data to be considered include structure of fuelwood and charcoal markets, impacts on household budgets, alternative fuel options etc.

Challenges and practical implementation guidelines

Even if a few countries have recently made some progress in improving their bioenergy reporting, most of the AU member states face severe challenges in bioenergy data management. These challenges were highlighted and discussed during the International Workshop on Bioenergy Monitoring and Reporting organized by AFREC and its partners in June 2021. The following table summarizes the challenges faced in terms of bioenergy data management and guidelines to be implemented to resolve these challenges. AFREC has already developed questionnaires to address some of the challenges presented in the table.

Challenges and guidelines to AFBIDM implementation

Challenges	Guidelines
Lack of support and interest in bioenergy statistics from policy makers.	Development of communication tools (leaflets, others) and high-level workshops for policy makers.
Non-conducive institutional framework.	▸ Designation of formal focal points within the ministries in charge of energy (ME) ▸ Coordination between ministries and departments involved in energy (Ministry of forests, environment etc.) through a coordination mechanism, with one designated agency leading the mechanism. ▸ Coordination with other ministries impacted by bioenergy consumption (health, economy, etc.) through the same mechanism.
Biomass is an informal sector.	▸ Methodology including targeted and regular surveys, to better understand the biomass value chain from production to consumption.
Data collected limited in quantity.	▸ Design questionnaires including technologies (types of stoves, kilns) economics (prices and their structure, market, value chain including charcoal makers).
Health data and cross-cutting data such as gender, not captured.	In a limited number of countries, particularly in East Africa, a great deal of in-depth studies have been carried out on indoor air pollution and gender impact. The methodology and instruments for monitoring processes and gender mainstreaming in bioenergy policies, are well known. With regard to health impact, the key constraints are awareness, communication, capacity building, data management strategy and to a lesser extent, financial resources.
Limited financial resources and cost of surveys too high.	Several bilateral and multilateral agencies willing to finance biomass research particularly in the context of transition and climate change. Financial resources planning is crucial. For instance, a national household biomass survey must be carried out only every 5 to 6 years. Best practices to reduce the cost of the surveys without impacting their quality. Methodologies needed to extrapolate data between two surveys.

Lessons learned and experience sharing

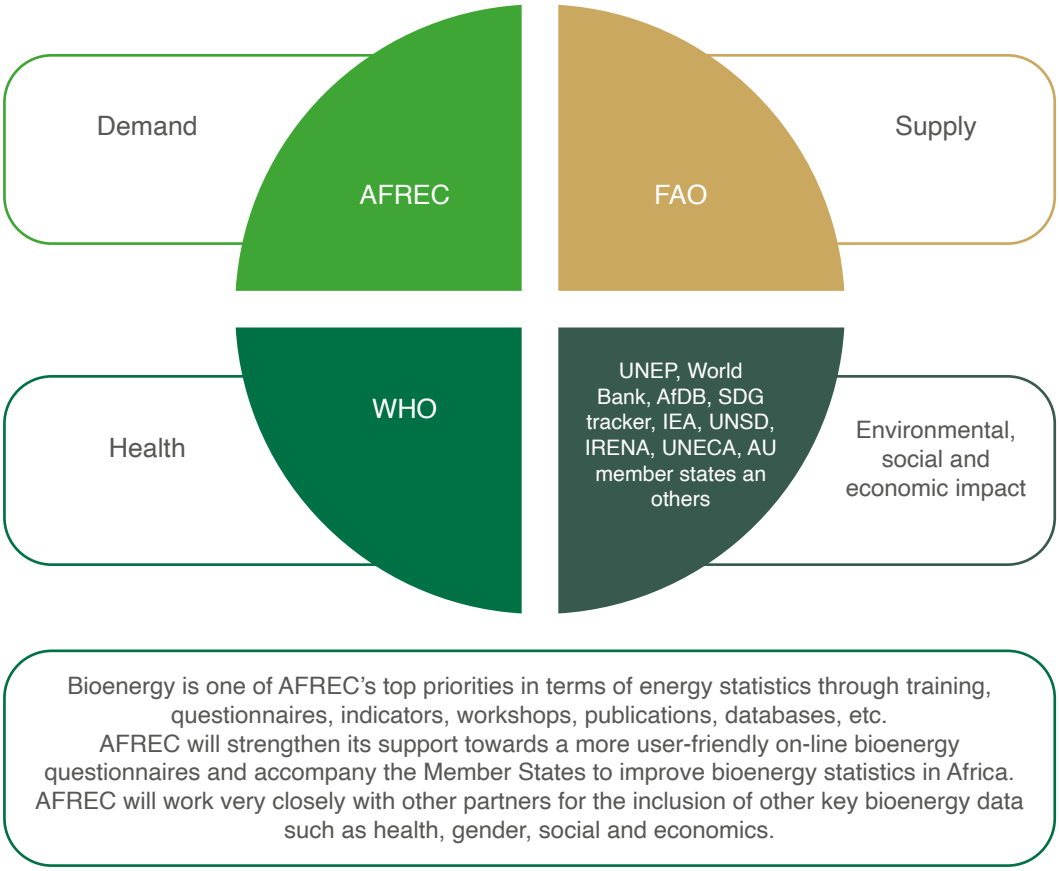
A few countries have presented their experiences in improving the quality, coverage and timeliness of their data, particulalry on bioenergy consumption. However, very little was presented on best practices to collect data on availability of resources, and on health and socio-economic aspects of the bioenergy consumption. There is an obvious need to share more experiences on these essential topics including on the use of all types of data for better assessing a country's situation for better policy making.

A database of best practices linked to all aspects of bioenergy could be prepared in line with what the International Energy Agency (IEA) and the United Nations Statistics Division (UNSD) have presented on best practices in relation to energy indicators. This database would be open to all countries in order to identify best practice in data collecting, processing, releasing and use of preparing indicators and other relevant information. The surveys would be supported by data science to monitor resources (satellite images and mobile phone data) to drive meaningful results from local surveys.

V. INSTITUTIONAL PARTNERSHIP AND OUTCOMES

Setting up a good quality, up-to-date and permanent database requires a strong partnership among the organisations involved in bioenergy. The partnerships and responsibilities could be guided by the current involvement of international and regional organisations and their respective field of expertise. For instance, FAO has extensive experience in data management regarding wood resources and the supply of bioenergy. The Global Bioenergy Partnership (GBEP) has a great deal of experience in the monitoring of data and sustainability performances of bioenergy value chains. Similarly, AFREC has been working very closely for many years with countries in setting up energy balances and has gained a great deal of expertise in the management of statistics. The World Health Organization (WHO) has a great deal of experience in all issues regarding the impact of biomass on health. There are also a range of other organizations, including IEA, IRENA, UNEP, UNECA, UNSD, which are involved in several of the precedent fields as well as in the institutional partnership. The partnership will be effective if partners are formally committed, responsibilities clearly defined and budget assigned. The following diagram provides guidelines on the institutional partnership to capture all the biomass value chain i.e. supply (potential and resources), demand (production, transformation and final consumption) and cross-cutting issues mainly health, gender, social and economic impact.

Figure 2 Institutional partnership and AFREC's commitment



Bioenergy data and the health energy nexus: Health and Energy Platform

Access to affordable clean fuels particularly for cooking such as LPG and probably electricity in the long term are essential to a fuel transition compatible with the livelihoods and health of poor people, mainly in rural areas. Major stakeholders, particularly the WHO, the World Bank and UNDP launched a new global Health and Energy Platform of Action (HEPA) in 2019. The HEPA aims to ensure universal access to clean and sustainable energy to protect health. Its initial focus is on clean cooking and health care facility electrification.

Addressing the global lack of clean cooking and achieving SDG3 and SDG7 by 2030, is one of the HEPA's main goals and to this end, they have developed a strategic roadmap to promote healthier populations through clean and sustainable energy. AFREC will liaise with HEPA to ensure that AU member states have access to the most relevant and up to date information on energy and health.

The African Energy Commission (AFREC)

AFREC will further increase its cooperation with regional and international organizations working on issues related to bioenergy, while ensuring effective coordination of their efforts in Africa. AFREC will ensure continuous sharing of best practices on bioenergy data collection, analysis and dissemination, as well as on the use of data for policy making processes and measures for clean cooking programmes in Africa.

AU Member States

- The AU member states recognise the importance of having timely and exhaustive data for proper monitoring of the bioenergy situation in Africa with the objective to better inform energy policy makers in their decision-making processes. Consequently, member states will strive to improve the coverage, quality and timeliness of their bioenergy data collection, analysis and dissemination. With the support of AFREC, they will mobilize the human resources required to establish a comprehensive bioenergy statistics database within the member states.
- Bioenergy data managed at national level should encompass consumption data by type of bioenergy (fuelwood, charcoal, and other types of biomass), by sector, end-use, transformation data (mainly charcoal production), resources, health and socio-economic data. The complete list of data that member states will collect and provide will be based on AFREC data collection questionnaires and tools.
- In terms of quality and timeliness, member states will increase the frequency and the coverage of their surveys and studies on consumption, transformation, and resources in order to base their reporting on more current and reliable data.
- Member states will also improve the transmission, diffusion, and use of their data at national, regional and continental levels. In particular, data, studies and reports will be transmitted in good time and in the appropriate format, to policy makers.

Regional and international organisations

- Regional and international organisations including the Regional Economic Communities (RECs) will work closely with AFREC to assist AU member states in their efforts to improve their bioenergy data quality. This can be done in several ways, including close coordination in establishing an ‘ideal’ list of bioenergy, health and socio-economic data to be collected by countries, organization of workshops and training courses on bioenergy data, preparing manuals and tutorials, improving the user-friendliness of questionnaires, supporting them in conducting surveys and other data collecting campaigns as well as facilitating the exchange of best practices between countries.
- AFREC will coordinate the collaboration between regional and international organizations to facilitate the exchange of data, regular meetings to compare data, identifing and fixing potential differences, informing each other of training, survey and studies conducted within any country or group of countries, to avoid redundancy and increase synergy.
- In terms of dissemination, organisations will improve and facilitate access to their data in order to help any interested party in improving the bioenergy situation in Africa.

Outcome

- Given the importance of bioenergy in Africa’s energy systems, bioenergy data management will become a top priority in terms of energy statistics.
- The coverage, timeliness, quality and availability of bioenergy data shall be improved for the benefits of the AU member states and organisations dealing with bioenergy in Africa.
- Policy makers will make better use of bioenergy data in their decision-making process. The bioenergy statistics database will be an important tool for energy transition policies and mid to long-term energy planning.
- Better bioenergy data and better use of this data should lead to a more optimized energy transition, integrating better health, deforestation, environment, and other socio-economic sectors in the decision-making process.
- To achieve this outcome, the following road map with estimated budget is proposed for implementation in the next five years and shall be updated on a regular basis.

VI. COMPONENT OF THE SUPPORT

The strategic framework is structured around three workstreams which represent the areas of support AFREC and its partners will provide to the AU member states.

1. **Bioenergy guide: situation in Africa and methodological guide**

- This study will analyse the current bioenergy situation in selected countries and regions in Africa.
- The study shall consider a number of issues, including (i) economic, social, environmental, political and cultural dynamics; (ii) civil society organisations and institutional coordination; (iii) regional and global cooperation on energy trade and investment; and (iv) development finance, stakeholders' participation as well as technical issues such as sound methodologies, R&D and availability of reliable data.
- The study shall provide recommendations on methodologies to improve bioenergy monitoring in Africa in a sustainable manner.

2. **Support countries data collection efforts in member states**

- AFREC will first focus on conducting surveys at national level;
- Assess the household and small businesses bioenergy data situation in member states. The findings will serve as important inputs in bioenergy energy strategy and implementing concrete measures to ensure clean cooking access in urban and rural areas.
- The household surveys will encompass urban and rural areas and key regions in countries which are representative of the energy consumption in the respective countries.
- The business surveys shall focus on small businesses in specific regions in both urban and rural areas. The survey will be based on data from the National Institute of Statistics and departments in charge of forest, agriculture, energy, industries, and other key national stakeholders. The sample (restaurants, bakeries etc.) will be finalised according to the importance of biomass consumption by these businesses.

3. **Capacity building**

- Identifying monitoring questions and aims;
- Identifying the key components, functions, and processes to monitor;
- Identifying the most suitable monitoring methods for these elements, carrying out monitoring activities;
- Managing the resultant data;
- Interpreting monitoring data;
- Additionally, bioenergy monitoring should use multiple approaches including extensive and intensive monitoring through volunteers and professional practitioners but also harnessing new technologies;
- Finally, we call on the international community to share bioenergy monitoring data, knowledge and tools to ensure the accessibility, interoperability, and reporting of bioenergy data at continental level.

VII. ROADMAP/ACTION PLAN

	2022	2023	2024	2025	2026	Total (USD)
A. Analysis of the situation						
a - Energy bioenergy guide: situation in Africa and methodological guide.	20,000	20,000				40,000
International consultant 40 days/year.						
b - International validation workshop.		50,000				50,000
Total A	20,000	70,000	0	0	0	90,000
B - Support to country offices						
a - Bioenergy surveys (5 countries per year* USD 75,000)	375,000	375,000	375,000	375,000	375,000	1,875,000
b - National workshops in selected countries.	15,000	15,000	15,000	15,000	15,000	75,000
Total B	390,000	390,000	390,000	390,000	390,000	1,950,000
C - Capacity building						
a - Regional training workshop (health, socio-economic, bioenergy systems), 2 workshops per year for 10 to 12 countries per year.	75,000	75,000	75,000	75,000	75,000	375,000
b - Coaching	15,000	15,000	15,000	15,000	15,000	75,000
Total C	90,000	90,000	90,000	90,000	90,000	450,000
Grand total A+B+C	500,000	550,000	480,000	480,000	480,000	2,490,000

AFRICAN UNION ENERGY
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