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**AUC Programme on
Harmonised Continental Regulatory Framework for the Energy
Sector in Africa: The Case of the Electricity Sector**

1 INTRODUCTION

The energy sector in Africa faces huge challenges that include low generation capacity and efficiency, high costs, unstable and unreliable energy supplies and low access rates, amongst others. These challenges have adversely affected socio-economic development on the continent. With the demand for modern energy consistently on the rise, there is critical need to address policy, investment, market and technical barriers to energy sector development on the continent. The development of regional energy infrastructure and market is one of the key strategies to address these gaps and barriers.

The development of a sustainable regional infrastructure and the promotion of regional integration and intra-African trade require the development of effective, comprehensive and harmonised continental regulatory frameworks, which will enhance regional co-operation and co-ordination of stakeholders including Member States as well as Regional Institutions.

In the energy sector, a harmonised regulatory framework at the continental and regional levels will facilitate the creation of an African energy market, enhance private sector participation in the energy sector and mobilise the huge financial and technical resources required to provide modern energy access to all Africans as stipulated in the African Union Agenda 2063 and UN Agenda 2030 on Sustainable Development.

Recognizing that a harmonised regulatory framework of the energy sector in Africa will facilitate the creation of an energy market, enhance private sector participation and mobilise the financial and technical resources required to provide modern energy, African Energy Ministers, in the Maputo Declaration of 05 November 2010, committed to "harmonise regulations and promote good governance with a view to creating a conducive climate for increased direct investment, both national and foreign, and especially public-private partnerships". The African Energy Ministers recommended to the African Union Commission (AUC) to "strengthen and harmonize legal and regulatory frameworks in the African energy sector".

In 2015, the AUC established a programme on Energy Regulatory Frameworks in order to identify gaps, recommend best practices and design action plans to harmonise continental and regional regulatory frameworks in the African energy sector, focusing specifically on the electricity sector.

2 PROGRAMME ON "HARMONISED REGULATORY FRAMEWORKS FOR THE ELECTRICITY MARKET IN AFRICA"

The AUC in collaboration with the European Union (EU) under the EU Technical Assistance Facility (EU-TAF) designed the programme on "Harmonisation of Regulatory Framework for the Electricity Market in Africa".

The first phase of the programme, carried out from 2015 – 2016, produced a Strategy and Action Plan. The process included extensive consultations with stakeholders, namely AU Member States, Regional Economic Communities (RECs), power pools, regional regulatory associations and specialised Pan African institutions, among others. The main purpose of the Strategy and its Action Plans is to identify and detail the various interventions that will support the policy and legislative instruments and the measures to be taken at the national, regional and continental levels in ensuring the development of regional electricity markets on the continent.

The Strategy and Action Plan were adopted by the Specialised Technical Committee (STC) on Transport, Transcontinental and Interregional Infrastructure, Energy and Tourism (STC-TTIET) in March 2017 in Lomé, Togo and by the AU Heads of State and Government in July 2017.

2.1 Strategy for the development of a Harmonized Regulatory Framework for the Electricity Market in Africa

The Vision of the Strategy for the harmonization of the regulatory frameworks for the electricity market in Africa is to achieve a fully integrated, competitive and harmonized electricity market in order to accelerate Africa's development and improve access for the benefit of African citizens. The Strategy was designed to contribute to the following six (6) strategic objectives:

- i) Develop effective regional and continental electricity markets through legislative and regulatory measures and changes;
- ii) Improve the operational efficiency and performance of the Electricity Supply Industry (ESI);
- iii) Create stable, transparent and predictable environment to attract investments;
- iv) Enhance electricity markets frameworks to increase access;
- v) Enhance Renewable Energy Frameworks; and
- vi) Establish norms, standards and frameworks for energy efficiency.

2.2 Action Plan for a Harmonized Regulatory Framework for the Electricity Market in Africa

The purpose of the detailed Action Plan is to identify the actions, as well as the key actors required at the national, regional and continental levels to achieve continental regulatory harmonization. The Action Plan recognizes that individual markets are at different stages of development and hence the development and liberalization of these markets will also vary. The Action Plan is, therefore, structured to be implemented as a set of phased activities, starting from the short term to the long term. It is structured

into Short (3-5 years: 2017-2021), Medium (6-8 years: 2022-2024) and Long (9-14 years: 2025-2030) terms. The Action Plan identifies the required resources and recommends programmes for implementation as flagship projects. Implementation of the Short Term Activities, which are aimed at setting the stage for full harmonisation over the medium and long terms, is estimated to require Euro 12.3 Million. This cost covers preparation of key instruments for economic and technical regulation, creation of enabling environment and framework for renewable energy.

The Action Plan also identified five (5) key pillars at the national, regional and continental levels, around which the regulatory harmonization process will revolve including:

- i) Creating a robust Economic Regulatory Framework;
- ii) Establishing a solid Technical Regulatory Framework;
- iii) Creating an Enabling Electricity Market;
- iv) Enhancing Renewable Energy Framework; and
- v) Establishing the norms, standards and frameworks for energy efficiency.

2.3 SECOND PHASE: IMPLEMENTATION OF THE STRATEGY AND ACTION PLAN

The programme secured financial and technical resources from the EU-TAF to commence implementation of the Strategy and Action Plan. The agreed activities under this phase are:

- Carry out a study on Harmonized Transmission System Tariffs guidelines which will serve as the basis for developing regional harmonized transmission system tariffs, including wheeling charges and loss allocation approaches, to be applied by African Power Pools;
- Carry out a scoping study to establish a Coordination and Support Unit within AUC for implementation and follow-up of the Strategy and Action Plan. The Unit will focus on mobilising and ensuring strong co-ordination and political commitment among all stakeholders as well as human and institutional capacity development; and
- Institutional and policy model to perform technical and economic regulation for micro/mini-grids.

The second phase commenced in May 2017. The team of consultants to carry out the assignment and their Terms of Reference was agreed upon between AUC and EU as well as the programme of activities. The activities include technical meetings at different stages of the work for input and validation from stakeholders.

The first part of the work covered technical preparation. The consultants analyzed various transmission system tariff methodologies applied in different parts of the world and ranked them for suitability in the African context based on the following criteria:

- i) economic efficiency;
- ii) cost recovery;
- iii) transparency;
- iv) correct price signal;
- v) simplicity of application; and
- vi) Impact on transmission network.

The consultants analyzed key aspects of micro/mini-grids by exploring institutional and policy models. They also reviewed various coordination models for the regional electricity markets. The consultants produced working documents on transmission system tariff methodologies, institutional and policy model for micro/mini-grids and models for continental coordination as well as a template for gathering data from regional regulators and national stakeholders. The working documents formed the basis for consultation with stakeholders.

The first technical meeting was held 14 – 15 September 2017 in Harare, Zimbabwe. The participants included AUC, Regional Economic Communities (RECs), Power Pools, Regional Regulators, Regional Centres for Renewable Energy and Energy Efficiency and specialised Pan African institutions including AFREC and AFUR. The meeting sought the stakeholder's comments on the working documents and their input on the following issues:

- recommendations for transmission tariffs models;
- recommendations for the Institutional and policy model for mini-grids/micro grids; and
- Recommendations for the model for Continental Coordination Unit.

In addition, the Consultants held individual bilateral meetings and consultations with some stakeholders.

The key messages and recommendations from the Workshop include:

- The transmission tariff methodology "MW-km with Load Flow" was selected as the most appropriate. In this method the tariff is based on transmission distance supported by load flow studies. It emerged as the best methodology based on the selected criteria of: economic efficiency, cost recovery, transparency, correct price signal, simplicity of application and impact on transmission network.
- With respect to the mini-grid models, it was concluded that there is no one-size-fits-all model. It was agreed that the consultant will develop guidelines that will assist Member States to prepare policies and adopt models in line with their

unique situations. The key factors to be considered include: distance from the grid; plans for grid extension; available resources for generation; policy, legal and institutional arrangements with regard to private sector participation and tariff regime.

- On the Coordination Unit, it was agreed that the unit should be embedded in the Energy Division of the AUC and its Terms of Reference should ensure that it does not duplicate or conflict with coordination mandates of other institutions, including the NEPAD Agency.

It was agreed that the team of consultants will consider all the comments from the participants and use them in developing the detailed reports and guidelines. Stakeholder's consultation would be carried out before the reports are finalised and submitted to the AU policy organs for adoption and subsequent application.

The final workshop will be held on 27 – 28 February 2018 at the AU Headquarters in Addis Ababa, Ethiopia to consider the draft final reports on Transmission Tariff Guidelines and Monitoring Plan; Institutional and Policy Models for Micro/Mini Grids; and the Continental Coordination Unit Business Plan and One-Year Work Plan. The participants included AUC, Regional Economic Communities (RECs), Power Pools, Regional Regulators, Regional Centres for Renewable Energy and Energy Efficiency and specialised Pan African institutions including AFREC and AFUR. The workshop recommendations will be incorporated into the final reports that will be presented to the STC-TTIET at its next meeting for adoption.

3 RECOMMENDATIONS AND WAY FORWARD

- (a) Taking into account the roles and mandates of Continental and Regional organizations, the strategy to reach the objective of a harmonized regulatory framework in the electricity sector in Africa, requires Strong Coordination, Strong Political Commitment; Allocation of Responsibilities; and Human Capacity development. In that regard, operationalisation of the Continental Coordination Unit including its Business Plan is crucial. The AUC has initiated recruitment of the Coordination Unit Team leader; however, additional human capacity is needed to make it fully operational. It is, therefore, recommended that the EU-TAF support be maintained until the capacity of the Coordination Unit is enhanced.
- (b) Given that the Transmission System Tariff Methodology and its guidelines have been developed with wide consultation of stakeholders, it is recommended that implementation of the proposed methodology of “MW-km with Load Flow” commences on a pilot basis among willing power pools before later continent-wide roll out. During the pilot phase, power pools, RECs, specialised Pan African institutions and EU-TAF consultants involved in the development of the guidelines

will closely monitor the progress and record lessons learnt, identify gaps and make recommendations for the continental roll out.

- (c) Funding for the implementation of the Action Plan needs to be available in order for the AUC to strengthen its efforts in providing support to African Member States, power pools and RECs in the implementation of the programme. Therefore, AUC in collaboration with EU and other partners should mobilise resources to continue implementation of Action Plan.