



# Strategy for the Development of a Harmonised Regulatory Framework for the Electricity Market in Africa



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**ATKINS**

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## Abbreviations

<b>AEEP</b>	Africa -EU Energy Partnership
<b>AfDB</b>	African Development Bank
<b>AFREC</b>	African Energy Commission
<b>AFSEC</b>	African Electrotechnical Standardization Commission
<b>AFUR</b>	African Forum for Utility Regulators
<b>APUA</b>	Association of Power Utilities
<b>AU</b>	African Union
<b>CAPP</b>	Central African Power Pool
<b>CEN-SAD</b>	Community of Sahel -Saharan States
<b>COMELEC</b>	Maghreb Electricity Committee
<b>COMESA</b>	Common Market for East and South Africa
<b>DSM</b>	Demand Side Management
<b>EAC</b>	East African Community
<b>EAPP</b>	East African Power Pool
<b>ECCAS</b>	Economic Commission of Central African States
<b>ECOWAS</b>	Economic Community of West African States
<b>ECREEE</b>	ECOWAS Centre for Renewable Energy and Energy Efficiency
<b>EE</b>	Energy Efficiency
<b>EREA</b>	Energy Regulator’s Association of East Africa
<b>ERERA</b>	ECOWAS Regional Electricity Regulatory Authority
<b>ESCO</b>	Energy Services Company
<b>ESI</b>	Electricity Supply Industry
<b>EU</b>	European Union
<b>IGAD</b>	Intergovernmental Authority on Development
<b>IRB</b>	Independent Regulatory Board, East Africa
<b>NEPAD</b>	New Partnership for Africa’s Development
<b>NPCA</b>	NEPAD Planning and Coordinating Agency
<b>PIDA</b>	Programme for Infrastructure Development in Africa
<b>RAERESA</b>	Regional Association of Energy Regulators for Eastern and Southern Africa
<b>RCREEE</b>	Regional Centre for Renewable Energy and Energy Efficiency
<b>RE</b>	Renewable Energy
<b>REC</b>	Regional Economic Community
<b>RERA</b>	Regional Electricity Regulator’s Association for SADC
<b>SADC</b>	Southern African Development Commission
<b>SAPP</b>	Southern African Power Pool
<b>SE4All</b>	Sustainable Energy for All
<b>UMA</b>	Arab Maghreb Union
<b>UNECA</b>	United Nations Economic Commission for Africa
<b>WAPP</b>	West African Power Pool



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## Executive Summary

The electricity sector in Africa still faces huge challenges that include low capacity factors and reserve margins, high transmission and distribution system losses, low operating and availability factors and high operating costs, as well as high duration and number of outages and low access rates, amongst others. These challenges have adversely affected the socio-economic development on the continent. With the demand for modern energy consistently on the rise, there is no doubt that huge energy infrastructure is required at the continental, regional and national levels to meet current and future demand. One of the means to overcome these numerous challenges is through the development of a regional and continental energy infrastructure and market.

The EU Technical Assistance Facility - East and South Africa in close cooperation with the African Union Commission/Department of Infrastructure and Energy supports the development of the Continental Harmonization Agenda with the respective Action Plan, along with its validation process. This calls for *the harmonisation of policies, legislation, regulatory and institutional frameworks at the regional and continental levels* to enhance greater coordination and cooperation, as well as remove barriers to facilitate cross-border energy trade and investments.

Specifically, the harmonization of the electricity regulatory framework is expected to bring about the following benefits, inter alia:

- Ensure long-term stability of the power sector and catalyze investments through commitments at both the regional and continental levels;
- Increase cross-border trading and power pooling, as well as enhance access to electricity;
- Enhance continental initiatives and influence, in terms of network regulation, electricity market design and coordination;
- Improve learning from 'best practice' regulation through pooling of regulatory resources;
- Improve transparency of tariff methodology towards achieving cost reflectivity;
- Enhance quality of service monitoring and enforcement;
- Introduce "workable" competition and determine the minimum requirements, general principles and rules, for effective operation of the generation, transmission, distribution and sale segments of the electricity supply industry (ESI)
- Establish rules for non-discriminatory and third-party access to the transmission and distribution networks;
- Ensure market structure reforms and indicate the rules for legal and functional unbundling of transmission and distribution systems;
- Provide justification for countries to establish and designate a regulatory authority which meets the minimum requirements of operational, organizational and financial independence;

It is in the light of the above that this Strategic document has been developed to pave the way for harmonization of the regulatory frameworks for the electricity market in Africa, to achieve a fully integrated, competitive and harmonized electricity market. This is expected to accelerate Africa's development and improve access to electricity vis-à-vis the *following six (6) strategic objectives*:

- Developing effective Regional and Continental Electricity markets;
- Improving the operational efficiency and performance of the Electricity Supply Industry;
- Creating stable, transparent and predictable environment to attract investment;
- Enhancing electricity markets frameworks to increase access;
- Enhance Renewable Energy Frameworks;
- Establish norms, standards and frameworks for energy efficiency;

One of the key outputs emerging from the Strategic Plan document is the development of an Action Plan for achieving the harmonization process. The proposed Action Plan identifies the ***main stages and***



**pillars** of the harmonization process. This is followed by identification of the following key phases which are required to achieve the harmonization at the National, Regional and Continental levels:

- **Initial Phase of Harmonization Process:**
  - ✓ Identification of following **Key Areas or Pillars** for achieving regulatory harmonization;
    - Economic Regulatory Framework;
    - Technical Regulatory Framework;
    - Enabling market environment;
    - Enhancing Renewable Energy Frameworks;
    - Establishing the norms, standards and frameworks for energy efficiency.
  - ✓ Identification of main activities, particularly establishment of key institutions and development of important documents;
- **Market Opening Phase:**
  - ✓ The aim of the market opening phase is to implement or operationalize the actions from the initial phase of the harmonization process;
  - ✓ Identification of activities to achieve market opening at the National, Regional and Continental levels;
- **Harmonized Electricity Market and Progress Monitoring.**
  - ✓ Identify the roles of various agencies and institutions;
  - ✓ Monitor progress of harmonization of regulatory framework towards achieving the set objectives at the country, regional and continental levels.

Going forward, it is recommended that a **detailed action plan** which **revolves around the three phases of the regulatory harmonization and which is anchored on the five pillars** should be developed. The **detailed Action Plan** should at least cover the following:

- ✓ A roadmap for implementing the various activities for each of the pillars of harmonization. The roadmap should describe the horizon for the activities with respect to the short, medium and long terms;
- ✓ Detailed action plan should be developed based on three distinct, time frames: Short -term (3 - 5 years), Medium -term (6 -8 years); and the long -term (9 -15 years)
- ✓ Identification of specific activities and actions which must be undertaken during the short, medium and long terms;
- ✓ The budgetary requirements or financial implications of each activity. The Plan should also identify the roles of national government and development partners;
- ✓ Identify the implementing agencies for the activities;
- ✓ Develop details of a monitoring and evaluation framework at the national, regional and continental levels, to monitor the progress of implementation of activities under each harmonization pillar;
- ✓ Identification of priority activities for implementation as a follow-up to the action plan at the national, regional and continental. These activities should be selected to reflect a good balance of RECs, and subject to financial or budgetary constraints, this should cover each of the five pillars of the harmonization process.

## 1 Introduction

The energy sector in Africa still 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 a need to develop huge energy infrastructure at the continental, regional and national levels to meet current and future demand. The development of the regional and continental energy infrastructure and market is one of the key strategies to address the energy challenges.

The EU Technical Assistance Facility - East and South Africa in close cooperation with the African Union Commission / Department of Infrastructure and Energy supports the development of the Continental Harmonization Agenda with the respective Action Plan, along with its validation process.

There are various regional, continental and global initiatives for Africa aimed at addressing the challenges in the electricity sector and at accelerating access to modern and sustainable electricity services including in particular the Programme for Infrastructure Development in Africa (PIDA), the Sustainable Energy for All (SE4All) Initiative, the Africa Clean Energy Corridor, the Africa-EU Energy Partnership (AEEP), the US supported "Power Africa", the African Renewable Energy Initiative (AREI), the Regional Geothermal Programme for Eastern Africa and its Geothermal Risk Mitigation Facility (GRMF), amongst others. The continuing and gradual successes of these initiatives suggest that regional and cross-border infrastructure will be a major component of the future African electricity system.

Regional energy markets transcend multiple jurisdictions. This calls for the harmonization of policies, legislation, regulatory and institutional frameworks at the regional and continental levels to enhance greater coordination and cooperation, as well as remove barriers to facilitate cross-border trade and investments.

Specifically, the harmonization of the electricity regulatory framework is expected to bring about the following benefits:

- Ensure long-term sustainability of the power sector and catalyze investments through commitments at both the regional and continental levels;
- Increase cross-border trading and power pooling, as well as enhance access to electricity;
- Enhance continental initiatives and influence, in terms of network regulation, electricity market design and coordination;
- Improve learning from 'best practice' regulation through pooling of regulatory resources;
- Improve transparency of tariff methodology towards achieving cost reflectivity;
- Enhance quality of service monitoring and enforcement;
- Introduce "workable" competition and determine the minimum requirements, general principles and rules, for effective operation of the generation, transmission, distribution and sale segments of the electricity supply industry (ESI)
- Establish rules for non-discriminatory and third-party access to the transmission and distribution networks;
- Ensure market structure reforms and indicate the rules for legal and functional unbundling of transmission and distribution systems;
- Provide robust justification for countries to establish and designate a regulatory authority which meets the minimum requirements of operational, organizational and financial independence;

In attempting to harmonize the regulatory framework, it is also important to take note of the following limitations:

- The potential to create stranded investments which have already been implemented, due to regulation at the national level;
- Risk of stalling innovative regulation both at the country and regional levels;
- Possible contradictions with national electricity and regulatory Acts or Laws;

It is therefore imperative that in harmonizing the regulatory framework, *a balanced level of optimization* should be sought, as defined by the following features:

- Need to highlight the “principles of regulation” required for harmonization, in order to gain the support and commitment of all stakeholders;
- Define a harmonized set of guidelines to improve quality of service monitoring and minimize information asymmetry between regulators and utility companies;
- Identify methods and models to incentivise investment in the electricity sector and increase electricity accessibility;
- How to ensure efficient operation of the electricity sector both at the national and regional levels.

An optimal level of harmonization should not seek to limit national priorities unnecessarily, or compel countries to create arbitrary institutional reforms or sacrifice rational national adaption to operating conditions, just for the sake of trying to achieve common standards. *Harmonization should seek to effect an approximation and ensure coordination of different legal provisions or systems, by eliminating major differences and creating minimum requirements or standards.*

The present Strategy and its Action Plan are in line with the Maputo Declaration of 5 November 2010 where the African Energy Ministers 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" and form an integral part of the implementation of the PIDA and of the African Union Agenda 2063.

This strategy and its action plan are aimed at accelerating the process of integration and harmonisation of continental and regional electricity markets. The strategy focuses on electricity, including generation from renewable energy (RE) sources, as well as related energy efficiency (EE) measures.

The Strategy is piloted by the African Union Commission Department of Infrastructure and Energy with the support of the European Union SE4All Technical Assistance Facility.

## 2 Vision

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.

Considering the situation and the goals for the development of the African electricity market, the reforms/ actions needed for creating an enabling regulatory environment for electricity markets development in Africa have been selected in order to contribute to six (6) strategic objectives, which are in accordance with the objectives of the main related continental programmes.

## 3 Purpose of the Strategy

The purpose of harmonizing the regulatory framework for the electricity market in Africa is to accelerate the transformation of the sector, which is a potential catalyst for stimulating the desired socioeconomic development and poverty reduction, by creating an enabling environment for facilitating trade and investment. It entails the adoption of common rules for the development of both





internal and external markets and the creation and strengthening of regulatory institutions so as to oversee the developments in the sector at the national and regional levels. It will also involve resourcing and strengthening the executive and coordination roles of the sector continental bodies and positioning them to ensure that the implementation of decisions and guidelines issued at the continental and regional levels are given legislative effect so as to create binding obligations on the regional and national levels, in particular the Regional Economic Communities (RECs) and their member states.

Finally, the main purpose of this Strategy and its Action Plan is to identify and detail the various interventions that will support these objectives, such as the policy and legislative instruments and the measures to be taken at the national, regional and continental level. In so doing due cognizance will be given to the various levels of development within the states and the regions and the transitory issues pertaining in them.

## 4 Current Situation, Gaps and Barriers

Most African countries have pursued electricity sector reforms. The legislative and institutional models for electricity markets which differ for each jurisdiction and the states are at different levels of progress and development. The enormity of existing challenges has been a major constraint to achieving the sector objectives.

At the regional level, sector policy and development is defined by the Regional Economic Communities (RECs). Eight RECs are recognised by the AU (UMA, COMESA, ECCAS, ECOWAS, SADC, CEN-SAD, IGAD and EAC). Some of these have established various specialised agencies for regulating the power pools and the promotion of Renewable Energy (RE) and Energy Efficiency (EE).

The continental level institutions tasked with managing the development of regional and continental electricity markets and their regulations are the African Union Commission (AUC), the Specialised Technical Committees (STCs, in particular the STC on "Transport, Transcontinental and Interregional Infrastructures, Energy and Tourism", the New Partnership for Africa's Development Planning and Coordinating Agency (NEPAD-NPCA), the African Energy Commission (AFREC), the African Electrotechnical Standardization Commission (AFSEC), the African Development Bank (AfDB), the United Nations Economic Commission for Africa (UNECA) and the African Forum for Utility Regulators (AFUR).

Some achievements have been made at continental level. NEPAD/NPCA is promoting a continental harmonisation of regulatory policies as a strategy for fast tracking achievement of the Sustainable Development Goals (SDGs), in particular the SDG 7 on energy, with support from UNECA; AUC, NEPAD/NPCA and AfDB are driving the PIDA; AFSEC/AFREC are developing technical standards in collaboration with the Association of Power Utilities of Africa (APUA); AFUR is supporting its members with framework principles on utility regulation in Africa.

Each region has a framework 'Energy Protocol' which guides sector development at the regional and member states levels. Most of the RECs have established power pools and centres for promoting renewable energy and energy efficiency.

Political drive for change remains a major challenge at all levels. The gaps and barriers at the national level include inadequate policies, legislation, institutional and governance structures, including procurement and dispute resolution frameworks and lack of transparency. This has resulted in an unattractive environment for investment. The strategic plan therefore identifies a Strategic Objective (iii) relating to the *Creation of a stable, transparent and predictable environment to attract investments* to obviate this challenge.



The development of second tier regulations which spell out the rules of the game remains a challenge. Technical rules for the conventional electricity, mini and off-grid systems are not in place in several jurisdictions. Apart from the efforts in SADC, no region has the relevant IPP (Independent Power Producer) and model contracts framework in place. The accelerated development and rollout of guidelines common rules is urgently needed, hence a Strategic Objective (iv) relating to the *Enhancement of electricity markets frameworks to increase access*.

The Electricity Supply Industry (ESI) also lacks robust quality of service standards, regulatory benchmarks for monitoring performance. Low infrastructure development coupled with poor operational and managerial efficiency means high costs and low access. A Strategic Objective (ii) relating to the *Improvement of operational efficiency and performance of the Electricity Supply Industry (ESI)* addresses this barrier.

Each REC and its specialised institutions generally require strengthening in all areas and infrastructure development has been lagging. An area requiring special attention relates to the Renewable Energy (RE) and Energy Efficiency (EE) sectors. Frameworks for RE and EE development and the technical standards for Renewable energy and energy efficiency have been embraced in principle through specific centres but apart from RCREEE<sup>1</sup> and ECREEE<sup>2</sup> which are operational, the other regions need to be encouraged to speed up their processes. To address these gaps, Strategic Objective (v) relates to the *Enhancement of renewable energy frameworks*; and Strategic Objective (vi) relates to the *Establishment of norms, standards and frameworks for energy efficiency*.

Apart from the resource and capacity barriers, most of the RECs lack the legislative powers necessary to enforce decisions. A similar situation pertains at the continental level as the AUC and other continental organisations also lack the legislative powers that would bind the RECs and member states. Mechanisms are needed for enforcement, greater coordination and dialogue between the different levels. This challenge is addressed in Strategic Objective (i) on Developing Effective Regional and Continental Electricity Markets.

The benefits and successes from best practices have been instructive in preparing the strategy and action plan and will assist the states, the RECs and the AUC in achieving the harmonisation agenda as well as the sector objectives, including attracting investments for infrastructure development.

## 5 Strategic Requirements

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:

- A. **Strong Coordination:** reinforce the political and technical coordination role of AUC in order to coordinate the recommendations and changes, to be confirmed as Directives at Regional level, and get commitments at National level;
- B. **Strong Political Commitment:** create awareness/convince African Countries' Governments about the advantages of a harmonized regulatory framework and help them to reinforce / create independent and transparent Regulators; and develop compatible and effective continental and regional policies through long term strong commitments.
- C. **Allocation of Responsibilities:** share out and allocate adequate responsibilities from national to regional authorities and from regional to continental levels, respecting the general principle of subsidiarity when strategies and plans can be efficiently implemented at the adequate level.

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<sup>1</sup> Regional Centre for Renewable Energy and Energy Efficiency

<sup>2</sup> ECOWAS Centre for Renewable Energy and Energy Efficiency



- D. **Human Capacity and Resources:** Support the operation of strong continental and regional institutions with sufficient human and financial resources to support the objectives and actions set by the African Union energy and climate change policies;
- E. **Effective Review Mechanism and Progress Monitoring:** Establish a mechanism using the existing structures and organs at continental and regional levels to monitor the progress and challenges, if any, which might have occurred during the implementation phase of any of the activities.

It is important to note that the Review and Progress Monitoring framework would leverage on the existing structures as approved and mandated by the AUC, instead of creating new and parallel institutions. In that regard, the Energy Department of AUC is expected to assume the responsibility of doing the follow up and monitoring the progress made, as well as identifying any challenges under all the continental and regional initiatives, so that the necessary corrective actions can be taken as soon as possible, to ensure that the regulatory harmonization agenda and roadmap indicated in the Action Plan, are not derailed.

## 6 Strategic Objectives and Approach

The following **strategic objectives** have been identified:

### i) Developing effective Regional and Continental Electricity markets

Legislative and regulatory changes for facilitating the development of the electricity markets and access to affordable and sustainable electricity for the African economies requires strong political commitment. The leaders will ensure that the responsibilities are allocated at the right level, from national to regional and from regional to continental. Such commitment must be supported by the reinforcement of the political and technical coordination role of STC (in particular the Ministerial conferences of energy Ministers) and the AUC, particularly with respect to the RECs in implementing harmonisation decisions, guidelines or directives.

This also implies the creation and maintenance of effective national and regional regulators, the establishment of new or reinforcement and alignment of policies and legislation as necessary to upgrade regulatory practices to the level of international best practices and standards. At the same time, synergies between RECs and regional institutions should be strengthened.

### ii) Improving the operational efficiency and performance of the Electricity Supply Industry (ESI)

The overall target is to make the Electricity Supply Industry (ESI) financially viable and ensure that it is able to attract investment by implementing such measures as corporatisation of the utility companies, separation of accounts, transfer of assets, establishing cost reflective tariffs, transparent management and monitoring by the National Regulator.

It will entail the oversight by autonomous or independent regulators over sound Power Purchase Agreement (PPA) regimes, ensuring transparency and accountability and instil private investor confidence in the sector.

The establishment of effective technical standards and codes as well as market rules and their enforcement will improve sustainability and stability of the ESI and promote cost reflective rates, increase the number and availability of power plants, reduce technical and commercial losses, improve quality of supply and support social interventions relating to the deprived.



Planning of interconnection infrastructure at continental level, in particular, regional interconnections will require the coordination of the African Union in cooperation with the RECs in order to focus on priorities, taking into account the limited financial resources.

### **iii) Creating stable, transparent and predictable environment to attract investments**

Conditions for attracting private investors include the existence of national regulators which must be designated as the main or sole licensing authority for energy infrastructure, monitoring the performance of operators as well as the design, implementation and supervision of retail and wholesale markets. Stable and transparent institutional and contractual frameworks and transparent operation of the market facilitate and attract private investments for electricity generation, transmission and distribution (including for rural electrification and decentralised electricity systems).

The regulator's independence must be specified by the electricity law and supported by transparent appointments procedures and independent funding procedures. The national pre-conditions such as environmental requirements may have to accommodate regional and continental commitments such as in cases of cross-border interconnection or regional hydropower projects.

The creation of an enabling environment also requires that solutions be provided for the other industry related factors and barriers such as high investment costs, inadequate technological skills or implementation capacities.

### **iv) Enhancing electricity markets frameworks to increase access**

Achievement of increased electricity access for public services, households, industry and the commercial sector of the continent would be facilitated by common rules, guidelines and directives for on-grid and off-grid solutions. Electrification remains the main responsibility of national governments and utilities. The Council of Energy Ministers of the RECs should scale up efforts in facilitating access to electricity through regional initiatives supported by directives and common market rules for on-grid and off-grid solutions, promoting the organization of electricity markets and cross-border electricity infrastructure development. The actions at the national and REC level should be supported by AUC guidelines backed by a monitoring mechanism.

### **v) Enhance Renewable Energy Frameworks**

New reforms, legislations and regulations have to support and promote the development of the huge African renewable energy potential for electricity generation to:

- support large scale renewable energy systems for electricity generation projects of regional interest (mainly hydropower);
- allow grid extension to remote areas, as well as mini grids using local RE resources, such as mini-hydro, wind, solar, biomass and geothermal;
- provide an affordable and better quality of service (reduce the duration and number of interruptions and voltage drops);
- provide, on a small scale, electricity through off-grid, mini grid and stand-alone systems (rural electrification);
- support common technical standards at regional and continental levels for the RES would be necessary and beneficial;
- support to ensure the development of harmonized tariffs.



## vi) Establish norms, standards and frameworks for energy efficiency

The savings from improved energy efficiency measures can create additional opportunities for access within the existing energy infrastructure. In Africa significant efforts are needed to improve policies and plans promoting energy efficiency at national, regional and continental levels, and to accelerate the implementation of programmes and actions. The promotion of strategies, policies and plans to improve energy efficiency depends on national decision but regional and continental cooperation and technical harmonization of (minimum performance obligations, norms, labelling and standards) are essential to ensure the transfer of expertise.

Among expected results are reducing shortages of power, increasing quality of supply and more efficient services to consumers.

The improvement of the efficiency of electric power sectors at the generation, transmission or distribution segments at national, regional and consequently at continental level have to be a priority.

Legislation and regulation at national level can be used to promote Energy Efficiency at consumers' level through mandatory measures (involving very low public costs), specific norms and standards for EE technologies and support to Energy Services Companies (ESCOs).

## 7 Main Responsibilities

With regard to the subsidiarity principle, the main responsibilities have to be carried out on the basis of building a common sustainable future. In order to meet the strategic objectives, the following main responsibilities are identified:

### A. African Union

- Formulation and coordination of a Continental Strategy and Harmonized Regulatory Framework for the development of electricity supply and transmission systems.
- Guidelines and monitoring of regional and national policy makers and electricity harmonization actors;
- Monitoring of market rules and grid codes (emphasis on interconnections) recommended at continental level, defined and implemented at regional and national levels;
- Development and promotion of technical harmonization, e.g. of contracts and tariffs, norms and standards, RE and EE.

**Potential implementing actors:** Heads of States and Governments, AUC, STCs/CEMA, AFREC/AFSEC, NEPAD/NPCA, AfDB, UNECA, APUA, AFUR

### B. Regional Economic Communities

- Coordination and monitoring of national legislation, regulatory frameworks, establishment of National Regulators and enhancement of power sector organization (including public service standards) at regional level;
- Coordination and monitoring of large scale interconnections and large scale power plants
- Coordination and monitoring of the development of Renewable Energy and Energy Efficiency (both supply and demand side) regional policies, plans and programmes.

**Potential implementing actors:** RECs, Regional Regulators and Associations, Power Pools, Regional RE and EE centres.



### C. States

- Establish and update sector policy and legislation
- Establish and strengthen autonomous national regulatory agencies (electricity/RE/EE)
- Establish simple, clear and transparent licensing, procurement and permits procedures
- Create competitive market with non-discrimination and open access to networks
- Facilitate infrastructure development, national and transnational
- Establish independent system operation
- Establish and enforce codes, technical and quality of service standards
- Improve technical and operational efficiency of Utilities
- Establish sustainable tariff regime
- Ensure financial viability of sector through corporatisation and commercialisation of State owned Enterprises
- Undertake targeted capacity building and skills training
- Allocate resources to R&D
- Establish framework for increasing access

**Potential implementing actors:** Governments, Ministers, Ministries, National Regulators and Agencies.

## 8 Alignment with other Continental and Regional Initiatives

The Action plan on Harmonising Regulatory Reform shall be in alignment with other initiatives existing at continental and regional levels. Specifically, the focus on the relevant thematic areas and the progress made thus far by the following initiatives shall be taken into account;

### 8.1 Continental Initiatives

#### i. Governance and Structures for implementing the Regulatory Framework

##### ✓ AU Specialised Technical Committees (STCs)

At the policy level, and especially on the Governance aspect, the STC responsible for energy shall be considered in the structures to be proposed for the implementation purposes of this initiative.

#### ii. Technical and Resource Mobilization alignment

For technical and financial engagement and resource mobilization, aligning to the following institutions and initiatives is paramount to achieve total harmonised efforts at both continental and regional levels.

##### ✓ NPCA - NEPAD Planning & Coordination Agency

Due to the core mandate of the NPCA which is to facilitate and coordinate the implementation of continental and regional priority programmes, push for partnerships and projects and to mobilize resources and partners in support of their implementation. This makes it imperative for building on the existing initiatives of NPCA and avoid duplication of efforts. Other existing initiatives under NEPAD for example the progress made under UNECA support to NEPAD on energy regulations shall be observed and aligned to.

##### ✓ African Development Bank (AfDB)

The AfDB Energy, Environment and Climate Change Department is hosting the **SE4ALL Africa Hub** working with AUC, NEPAD-PCA and UNDP, following key principles including the supporting of a



balanced approach in the design, integration and implementation of centralized and decentralized/bottom up solutions appropriate to meet SE4ALL 2030 targets. At the level of Continental and Regional initiatives, this Department shall be reflected especially for continued financial resource mobilization and support

✓ **PIDA - (Programme for Infrastructure Development in Africa)**

PIDA which aims at accelerating socio-economic development and poverty reduction through improved access to integrated regional and continental among other energy infrastructure and services, has in place an action plan that covers different initiatives at continental and regional levels. Where relevant the aspects undertaken by PIDA shall be aligned to. At the governance level, PIDA has a Steering Committee, a Council for Infrastructure Development (CID), committee of members of the AUC Technical Committees of the focal areas), and Infrastructure Advisory Groups for which the proposed governance of this Regulatory Reform initiative shall align to the PIDA existing one.

- ✓ **Other Continental Initiatives undertaken by different Continental Organizations and Institutions**
- ✓ **APUA and AFUR**

Given their mandate within the context of this initiative, they shall be part of the Governance but equally form part of the the technical and strategic engagement partners in the course of implementing the Action Plan.

## 8.2 Regional Initiatives

✓ **Regional Economic Communities (RECs)**

The developed Action plan suggests aligning the initiatives to similar existing ones in the 8 RECs namely;

- a) The Arab Maghreb Union (AMU/UMA) in the north,
- b) The Economic Community of West African States (ECOWAS) in the west,
- c) The East African Community (EAC) in the east,
- d) The Intergovernmental Authority on Development (IGAD) also in the east,
- e) The Southern African Development Community (SADC) in the south,
- f) The Common Market for Eastern and Southern Africa (COMESA) in the southeast,
- g) The Economic Community of Central African States (ECCAS) in the centre, and
- h) The Community of Sahel-Saharan States (CENSAD) in the north.

It is imperative to note that several of the RECs overlap in membership: for example, in East Africa, Kenya, Burundi, Uganda and Rwanda are members of both the EAC and COMESA, whereas Tanzania, also a member of the EAC, left COMESA and joined SADC in 2001. This multiple and confusing membership creates duplication and sometimes competition in activities.

Moreover, there are additional regional economic cooperation bodies not officially recognized by the African Union as RECs, but carrying out some initiatives that assist the member countries including:

- a) Economic and Monetary Community of Central Africa (CEMAC)
- b) West African Economic and Monetary Union (UEMOA/WAEMU)
- c) Economic Community of the Great Lakes Countries (CEPGL)
- d) Indian Ocean Commission (IOC)
- e) Mano River Union (MRU)

f) Southern African Customs Union (SACU)

✓ **Regional Power Pools**

Power Pools engage in several cross border initiatives that call for harmonization. Where relevant the Regulatory framework action plan shall align to the relevant existing initiatives. As far as regions are concerned, there are primarily five power pools acting as specialized agencies of their respective RECs:

- a) The Central Africa Power Pool (CAPP) for the Economic Commission for Central Africa States (ECCAS),
- b) The Comité Maghrébin de l'Electricité (COMELEC) for the Union of Maghreb Arab (UMA),
- c) The Eastern Africa Power Pool (EAPP) for COMESA,
- d) The Southern Africa Power Pool (SAPP) for SADC, and
- e) The West Africa Power Pool (WAPP) for ECOWAS.

✓ **Regional Renewable Energy and Energy Efficiency Centres**

Other areas to look at especially in terms of capacity enhancement at the regional and national levels involve initiatives undertaken by the following centres;

- a) The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE);
- b) The Regional Centre for Renewable Energy and Energy Efficiency (RCREEE);
- c) The SADC Centre for Renewable Energy and Energy Efficiency (SACREEE);
- d) The East Africa Community Centre for Renewable Energy and Energy Efficiency (EACREEE).

## 9 Development Process for the Harmonized Continental Regulatory Framework

Bottom-up assessment approach and consultations have allowed for the identification of priorities. Top-down approach is used for the formulation of the strategy. The validation process of the Draft Strategy and outline of the Action Plan has followed various stages with the last one being the regional and continental *stakeholders dialogue organized in Cape Verde from 01-03 June 2016*. The validation of the detailed Action Plan of the Strategy will take place in the final regional and continental stakeholders dialogue planned to be organized in Egypt from 27-29 September 2016. After the final validation and based on the decision making procedures of the African Union, adoption will follow.

## 10 Action Plan for Implementing the Harmonized Regulatory Framework

The proposed Action Plan identifies the **main stages** of the harmonization process. This is followed by identification of the key **areas or pillars** from the strategic objectives, which are required to achieve the harmonization at the National, Regional and Continental levels. The final stage of the process identifies the main batch of activities under each strategic policy area for implementation. The process is summarised below:

- **Initial Phase of Harmonization Process**

- ✓ Identification of **Key Areas or Pillars** for achieving regulatory harmonization;
- ✓ Identification of Main Activities: Establishment of key institutions and development of important documents;





- **Market Opening Phase**
  - ✓ The aim of the market opening phase is to implement the actions from the initial phase of the harmonization process;
  - ✓ Identification of activities to achieve market opening at the National, Regional and Continental levels;
  
- **Harmonized Electricity Market and Progress Monitoring**
  - ✓ Identify the roles of various agencies and institutions;
  - ✓ Monitor progress of harmonization of regulatory framework towards achieving the set objectives, at the country, regional and continental levels.

In deciding on the Batch of Activities that would form the ingredients for regulatory harmonization in Africa, certain critical issues were taken into consideration. These issues are summarized below in Table 1.



**Table 1** Critical Issues for Consideration for Batch Activities

Themes	Critical Issues Considered
1. Access to electricity	<ul style="list-style-type: none"> <li>Impact of incumbents' investment in electrification during and after reforms</li> <li>Identification of factors that are likely to drive investment decision making during and after reforms, vis-a-vis the role of the regulator</li> <li>Emergence of new agents that invest in access to electricity, especially in off-grid and mini grid systems</li> <li>The extent to which these new agents engage in energy services to the poor and in off-grid systems</li> <li>Available mechanisms to incentivize new agent and IPPs to invest in the market</li> <li>Reforms and the establishment of special access supporting mechanisms, and their effectiveness</li> </ul>
2. Price of electricity supply	<ul style="list-style-type: none"> <li>Reforms and impact on costs of supply during and after power sector reforms.</li> <li>Identification of factors which have prevented the attainment of cost reflective tariffs in most African countries</li> <li>Tariff reforms and its impact on cross subsidies, including introduction of special "lifeline" tariff for the poor and the vulnerable</li> <li>Difficulties identified in moving tariff levels and tariff structures to cost reflective levels</li> <li>Approaches of introducing transparent subsidies as part of the tariff reforms</li> <li>Observation of the trend in price changes from power sector reforms and the impact on household expenditure</li> </ul>
3. Impact of Tariff Reforms	<ul style="list-style-type: none"> <li>Observation of the trend in costs measured against the tariffs</li> <li>Observation of the trend in average tariffs for each customer class</li> <li>Impact on cross-subsidies</li> <li>Impact of tariff reforms on implementation of special tariffs such as "line tariffs", to protect the poor and vulnerable</li> <li>How to achieve the balance between cost reflectivity and affordability of tariffs</li> </ul>
4. Quality of supply and customer services	<ul style="list-style-type: none"> <li>Impact of reforms on quality of supply to households</li> <li>The role of the regulator to improve quality of service</li> <li>Impact on quality of supply to businesses and industries changed</li> <li>Effect of quality of supply on small businesses' expenditures</li> </ul>
5. Socio-economic impact of Reforms	<ul style="list-style-type: none"> <li>Reforms and impact on access to health and education</li> <li>Reforms and impact on quality of supply to health and education facilities</li> <li>Impact of the power sector reforms on the health and education of the poor</li> <li>Impact on telecommunications services, especially the ability to extend telecommunication services</li> </ul>
6. Economic and Business Development	<ul style="list-style-type: none"> <li>Trend in energy costs of businesses due to the power sector reforms and impact on the cost of doing businesses, employment and business expansion</li> <li>Electrification programs and effect on expanded electricity access to small business</li> <li>Coordinated or linkage of electricity sector expansion with other infrastructure services</li> <li>Power sector reforms and the incentive to invest in the sector, and identification of the key drivers for investment</li> </ul>
7. Impact on Public sector Finances	<ul style="list-style-type: none"> <li>Reforms and effects on subsidy payments to utilities</li> <li>Reforms and changes in tax-take and dividend payments by the power companies</li> <li>Utilization of tax receipts to release funds for increased expenditure on social programs</li> </ul>



The Batches of Activities reflect the current situation and describe the progress where countries present various levels of progress in different harmonization fields. With regard to the peculiarity of the situation at the national and regional levels, it is important to agree upon and commit on achieving specific Energy Batch objectives within a precise time horizon, following a proposed implementation sorting.

The time horizon is set at **2030** in line with programmes of the AUC and with the implementation of the 2030 Agenda for Sustainable Development/Sustainable Energy for All.

The outline of the Action Plan is presented below in Tables 2, 3, 4 and 5, includes main policies and actions needed at national, regional and continental levels broken down into the main pillars or areas required for electricity sector regulatory harmonisation.

After the adoption of the Strategy and the finalization of the Action Plan, under the coordination of the African Union Commission and the RECs, and in cooperation with financial institutions and donors, the cost and needed financial resources will be specified for its implementation in order to estimate its outcomes and results.



Table 2 Phases and Pillars of Regulatory Harmonization - Phase 1: Initial Phase

Key Areas/Pillars of Harmonization	Batch of Activities		
	National Level	Regional Level	Continental Level
<b>1. Economic Regulatory Framework</b>	<ul style="list-style-type: none"> <li>Establish and designate a national regulator which meets the requirements of <i>financial, operational and organizational independence</i></li> <li>Adoption of Electricity Sector Law and/or Regulatory legislations</li> <li>Corporatization of state-owned utilities</li> <li>Develop Tariff Guidelines and Methodology: Grid Connection, including Feed-In Tariffs (FIT)</li> <li>Develop Tariff Guidelines and Methodology: Off Grid Systems and Mini Grids</li> <li>Develop/define the Market Structure Reforms for market opening</li> <li>Accounting Separation of cost</li> <li>Develop Integrated Resource Planning</li> </ul>	<ul style="list-style-type: none"> <li>Establish and operationalize Regional Regulatory Authorities for the Power Pools</li> <li>Establish and operationalize Regional Regulatory Associations</li> <li>Develop regional transmission pricing guidelines, including principles of determining wheeling charges and cost allocation of network losses</li> <li>Develop principles for pricing ancillary services and balancing services</li> <li>Develop and operationalize regional coordination and dispatch centres</li> <li>Development of regional Master Plans</li> </ul>	<ul style="list-style-type: none"> <li>Develop Strategy and Action Plan for Harmonized Continental Regulatory Framework</li> <li>Develop rules and guidelines for performance assessment of both regulatory authorities and power pools</li> </ul>
<b>2. Technical Regulatory Framework</b>	<ul style="list-style-type: none"> <li>Develop Licensing Framework: Large and Small Power Plants</li> <li>Develop Grid Codes</li> <li>Develop System Operations or Technical Operations Manual</li> <li>Rural Electrification Technical Standards</li> <li>Develop Connection and transmission service agreements</li> </ul>	<ul style="list-style-type: none"> <li>Develop harmonized codes of practice and technical standards for system operators to facilitate regional electricity trading</li> </ul>	<ul style="list-style-type: none"> <li>Develop rules and guidelines for monitoring and surveillance of power pools</li> <li>Develop protocol for monitoring and evaluation of grid operation</li> <li>Develop protocol for monitoring and evaluation the progress of the integration of the market</li> </ul>
<b>3. Stable, transparent and conducive market environment</b>	<ul style="list-style-type: none"> <li>Develop model PPAs</li> <li>Develop market models for market opening, to promote non-discriminatory third party access</li> <li>Develop Market Rules</li> <li>Develop dispute resolution Procedures</li> <li>Establish national investment funds for infrastructure development</li> <li>Develop local capacity in project finance, project development monitoring and implementation</li> <li>Create Project Preparation Bureau to package bankable Projects to facilitate funding</li> <li>Establish guidelines for domestic funding mobilization</li> </ul>	<ul style="list-style-type: none"> <li>Develop model contracts to facilitate regional electricity trade and power pooling</li> <li>Develop regional capacity in project finance, project preparation, implementation and monitoring for regional projects</li> <li>Provide financial assistance for covering Project development risk</li> <li>Strengthen procedures for proving counterpart funding for energy infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Frequent consultative activities of regional regulators and AFUR;</li> <li>Establish an “Association of Power Pools” to facilitate coordination of activities</li> <li>AfDB and other development partners to provide technical assistance to facilitate regional electricity market integration</li> </ul>
<b>4. Enhancing Renewable Energy Frameworks: Enhance scale and scope of RE utilization</b>	<ul style="list-style-type: none"> <li>Develop Technical Connection Guidelines for Renewable Energy technologies</li> <li>Technical and quality of service standards</li> </ul>	<ul style="list-style-type: none"> <li>Establishment and operationalisation of a Regional RE and EE center</li> </ul>	
<b>5. Norms, standards and frameworks for energy efficiency</b>	<ul style="list-style-type: none"> <li>Develop minimum performance standards and labelling for appliances</li> <li>Develop DSM Monitoring Guidelines and Standards</li> </ul>		



**Table 3 Phases and Pillars of Regulatory Harmonization - Phase 2: Market Opening**

Key Areas/Pillars of Harmonization	Batch of Activities		
	National Level	Regional Level	Continental Level
<b>1. Economic Regulatory Framework</b>	<ul style="list-style-type: none"> <li>Operationalize a National Regulator to meet the following levels of independence: Financial, Operational and Organizational</li> <li>Implement cost reflective tariffs and tariff unbundling</li> <li>Implement Feed-In tariffs and other incentives, to promote RE integration</li> </ul>	<ul style="list-style-type: none"> <li>Implement regional transmission system and wheeling charge pricing, including principles for network loss allocation</li> <li>Implement guidelines for dispute resolution procedures</li> <li>Implement rules and guidelines for monitoring and surveillance of operation of power pools</li> <li>Develop harmonized pricing rules for Balancing Services and Ancillary Services</li> <li>Increase authority of Regional Regulators organizations</li> <li>Advanced technical monitoring of the regional market by the regional regulator</li> </ul>	<ul style="list-style-type: none"> <li>Develop mechanisms to review performance of regulators: Regulatory Peer Review Mechanism</li> <li>Monitor the operation of power pools</li> <li>Develop and implement performance monitoring of power utilities</li> <li>Preparation of continental standards and codes</li> </ul>
<b>2. Technical Regulatory Framework</b>	<ul style="list-style-type: none"> <li>Implement Grid Code</li> <li>Implement the Licensing Frameworks for Large Power Producers and Small Power Plants</li> <li>Implement Technical Connection Guidelines for Renewable Energy technologies</li> <li>Develop and implement Quality of Service enforcement guidelines</li> <li>Develop and implement rural electrification technical standards</li> </ul>	<ul style="list-style-type: none"> <li>Implement harmonized Codes of practice and Technical Standards</li> <li>Operationalize regional coordination and dispatch centres</li> <li>Guidelines for Rural Electrification</li> <li>Development of Basic power grid infrastructure to allow cross-border trade and regional coordination / dispatching centres to secure stability of regional grids</li> </ul>	<ul style="list-style-type: none"> <li>Monitor the operation of the coordination and dispatch centres of the power pools</li> </ul>
<b>3. Stable, transparent and conducive market environment</b>	<ul style="list-style-type: none"> <li>Implement reforms to open up market, using any of following approaches:</li> <li>Model 1 (vertically integrated utilities): Accounting separation required. Functional separation of generation, transmission and distribution segments and access rules to transmission network</li> <li>Model 2: Single Buyer Model. Legal separation of transmission system/market system operator. Separate transmission system tariff required</li> <li>Model 3: Wholesale Competition Model. Legal separation of distribution companies. Distribution companies can buy electricity from generators under PPAs.</li> <li>Model 4: Retail Competition Model: Bulk/Big Customers can buy electricity from generators of their choice under PPAs. Separate access tariffs for transmission and distribution system required.</li> </ul>	<ul style="list-style-type: none"> <li>Develop basic power grid infrastructure to facilitate cross border trading and power pooling</li> <li>Development banks to support the development of needed capacity in project finance, including how to develop common guarantee instruments</li> </ul>	<ul style="list-style-type: none"> <li>Capacity Building: Identify and develop Centres of Excellence</li> <li>Development of Dispute resolution procedures at continental level</li> <li>Measures for support of continental integration of the power system through flagship projects</li> <li>DBs to design and promote acceptable common guarantee instruments for mobilizing investments in Africa</li> <li>DBs to promote mobilization of African Institutional Investors in electricity sector and look inwards for financing</li> </ul>



Key Areas/Pillars of Harmonization	Batch of Activities		
	National Level	Regional Level	Continental Level
4. <b>Enhancing Renewable Energy Frameworks: Enhance scale and scope of RE utilization.</b>	<ul style="list-style-type: none"> <li>Implement Market Rules</li> <li>Implement Technical Connection Guidelines for Renewable Energy technologies</li> <li>Implement Technical and quality of service standards for RE</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines for Renewable Energy</li> </ul>	
<b>Norms, standards and frameworks for energy efficiency</b>	<ul style="list-style-type: none"> <li>Implement minimum performance standards and labelling for appliances</li> </ul>	<ul style="list-style-type: none"> <li>Harmonization of energy efficiency and labelling standards</li> <li>Guidelines for Energy Efficiency</li> </ul>	

Table 4 Phases and Pillars of Regulatory Harmonization -Phase 3: Harmonized Electricity Market and Progress Monitoring

Key Areas/Pillars of Harmonization	Batch of Activities		
	National Level	Regional Level	Continental Level
1. <b>Economic &amp; Technical Regulatory Frameworks</b>	<ul style="list-style-type: none"> <li>Operationalize tariff unbundling</li> <li>Operationalize ancillary services pricing</li> <li>Operationalize separate distribution system pricing for network and sale segments</li> <li>Implement monitoring mechanism for power utilities for operational efficiency using Key Performance Indicators (KPIs)</li> </ul>	<ul style="list-style-type: none"> <li>Full power system integration</li> <li>Cross border transaction frameworks accepted and implemented</li> <li>Implement projects to facilitate regional power trade and power pooling</li> <li>Monitor market opening by member countries</li> <li>Dispute Resolution appeals via an independent appeal structure at the regional level</li> <li>Cross-border transactions framework accepted and enforced</li> <li>Develop grid "corridors" to allow continental power transfers</li> </ul>	<ul style="list-style-type: none"> <li>Benchmark the performance of regulators: Regulatory Review Mechanism</li> <li>Monitor the operation of power pools for market review</li> <li>Benchmark the performance of power utilities</li> <li>Coordinate regular meetings of Association of Power Pools and regional regulatory authorities</li> <li>Coordinate regulator meetings of regional regulatory associations</li> <li>Monitor Dispute resolution procedures at continental level</li> <li>Operationalize mechanism for continental certification of standards</li> <li>Implement and monitor Model contracts for continental trade</li> <li>Implement enhanced Compliance Monitoring Framework</li> <li>Implement grid "corridors" for continental power transfers</li> </ul>
2. <b>Enhancing Renewable Energy and Energy Efficiency Frameworks</b>			<ul style="list-style-type: none"> <li>Coordinate regular meetings of RE and EE Centres</li> </ul>

**Table 5 Implementing Agencies**

National	Regional Level	Continental
<ul style="list-style-type: none"> <li>National Regulatory Authorities, in consultation with the sector Ministry, power utilities and major stakeholders</li> <li>National Regulatory Authorities working with National Competition Authorities</li> <li>National standards authority/agency</li> </ul>	<ul style="list-style-type: none"> <li>Regional Regulatory Authorities, working in consultation with the Regional Regulatory Associations and the coordinating body for "Association of Power Pools"</li> <li>Regional Renewable Energy and Energy Efficiency Centres</li> <li>National standard Authorities/Agencies, working in consultation with the regional regulatory associations.</li> </ul>	<ul style="list-style-type: none"> <li>AUC and AU in consultation with the Pan African institutions including AFUR and APUA.</li> </ul>

## 11. Conclusion and Recommendations

The strategy for developing a harmonized continental regulatory framework for the electricity market, is aimed at achieving a fully integrated and competitive electricity market, as well as creating a conducive and an enabling electricity market environment, which would catalyse the socio-economic development of the African continent. In order to achieve the set objectives for a harmonized regulatory framework, the following strategic requirements were identified:

- **Need for strong and effective coordination** at the national, regional and continental levels to complement the political and technical coordination role of the AUC
- **Need for strong political commitment** for governments to be aware of the benefits of creating a harmonized regulatory framework, particularly in the areas of economic and technical regulation.
- **Effective Allocation of responsibilities** which requires that the responsibilities for achieving a harmonized regulatory framework, are allocated to the key actors which possess the required capacity and resource
- **Building the required human capacity and resource.** Lack of regulatory economists and regulatory engineers and other experts in various areas of economic and technical regulation, has affected the work of most regulatory Authorities on the continent. It is therefore crucial that as part of the harmonization process, the core competencies in the key areas of electricity sector regulation are developed through comprehensive capacity building programmes, to operate and manage whatever systems are put in place
- **Establishment of effective review and Progress Monitoring mechanism,** which is crucial for measuring the success or otherwise of the regulatory harmonization process. This can be achieved by using existing structures at the national, regional and continental levels.

Based on the above strategic needs, the following strategic objectives were identified to guide the continental regulatory harmonization process:

- Developing an Effective Regional and Continental Electricity Markets;
- Improving the Operational Efficiency and Performance of the ESI;
- Creating a Conducive and an Enabling environment to attract investments from the private sector;
- Enhance Electricity Markets Frameworks to increase Access to electricity;
- Enhance Renewable Energy Frameworks to increase the scale and scope of utilization of RE technologies;
- Establish Norms, Strategy and Frameworks to increase the application of EE and other DSM practices



The above objectives served as the basis or the foundation for identifying the following **three phases** of the harmonization process;

- Initial Phase:
  - a) This phase identified the **Key Pillars** required for anchoring the regulatory harmonization process;
  - b) This phase also identified the main batches of activities at the national, regional and continental levels. This phase basically involves the establishment of key institutions and development of important documents which are vital for the commencement of the harmonization process. The activities which are required at this stage and the other two phases of the process, were categorized into three levels namely: the *national, regional and continental levels*.

In order to ensure effective take-off of the process, the various activities at the national, regional and continental levels, were anchored on the following **five pillars** required for electricity sector regulatory harmonization:

- Economic Regulatory Framework;
- Technical Regulatory Framework;
- Enabling Market Environment;
- Enhancing Renewable Energy Framework to increase the scale and scope of utilisation of RE technologies;
- Establish norms, standards and frameworks for EE to facilitate adoption of EE and DSM practices in the electricity sector.

✓ **Market Opening Phase:**

This stage involves implementing and operationalizing the actions which were developed in the initial phase of the process. The market opening stage of the harmonization process is very critical because it is the “implementation phase”. In order to ensure effective implementation, the various activities at the national, regional and continental levels, were also anchored on the **five pillars** of electricity sector regulatory harmonization:

✓ **Harmonized Electricity Market and Progress Monitoring.**

This stage of the process involves monitoring the progress of the harmonization process by the various agencies at the national, regional and continental levels, with the AU and AUC serving as the coordination bodies.

Going forward, it is recommended that a **detailed action plan** which **revolves** around the three phases of the regulatory harmonization, and **anchored** on the five pillars of the harmonization should be developed. The **detailed Action Plan** should at least cover the following issues:

- A roadmap for implementing the various activities for each of the pillars of harmonization. The roadmap should describe a time horizon with respect to the short, medium and long terms;
- Detailed action plan should be based on three distinct, time frames: Short -term (3 - 5 years), Medium -term (6 -8 years); and the long -term (9 -15 years)
- Identification of specific activities and actions which must be undertaken during the short, medium and long terms;
- The budgetary requirements or financial implications of each activity. This should identify the roles of national government and development partners in meeting the financial requirements of the various activities;
- Identify the responsible or implementing agencies;





- Details of a monitoring and evaluation framework at the national, regional and continental levels, to monitor the progress of implementation under each harmonization pillar. For the purposes of high level continental monitoring of the progress registered in the implementation of energy activities, there is need to strengthen the AUC Energy Department with mandate and capacity to undertake overall coordination of the implementation of all relevant continental activities and advocate for backstopping support, adjustments, and provision of advisory role accordingly, in order to ensure smooth progress of all the initiatives being undertaken on the continent.
- Identification of priority activities for implementation or piloting as a follow-up to the action plan at the national, regional and continental. These activities should be selected to reflect a good balance for the various RECs, and subject to financial or budgetary constraints, this should cover each of the five pillars of regulatory harmonization.

## Annex 1: Mandatory Roles at the Continental and Regional Levels, Including Limitations and Constraints.

### Annex 1A. AU and AUC

Mandatory Role	Limits
<b>1. Main mandates relevant to Harmonised Energy Regulatory Framework</b>	
AU	
<ul style="list-style-type: none"> <li>Accelerate political and socioeconomic integration</li> <li>Promote cooperation to raise living standards</li> <li>Coordinate and harmonise policies between RECs</li> </ul>	<ul style="list-style-type: none"> <li>Political will</li> <li>Legislative effect of decisions/operates by consensus/enforcement</li> <li>Lack of mechanism for resolving investment disputes</li> <li>Dialogue</li> </ul>
AUC	
<ul style="list-style-type: none"> <li>Administration and coordination of AU activities (as above)</li> <li>AU Energy Policy development</li> <li>Coordination activities for creation of continental energy market and harmonisation of legal and regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>Multiple jurisdictions indirect relationship with state but deals with states through RECs</li> <li>Capacity</li> <li>Dialogue</li> <li>Human and financial resources</li> </ul>



### Annex 1B. Specialised Sector Continental Institutions

Institution	Role	limits
<b>Conference of Energy Ministers (CEMA)</b>	<ul style="list-style-type: none"> <li>Approves AFREC programmes</li> <li>Monitoring implementation of the programmes</li> </ul>	<ul style="list-style-type: none"> <li>Frequency of meetings</li> <li>Legislative effect of decisions</li> </ul>
<b>Specialised Technical Committee (STC)</b>	<ul style="list-style-type: none"> <li>Collaborates with AUC departments to ensure harmonisation of projects and programmes</li> <li>Detailed consideration of thematic areas</li> <li>Coordination of programmes with RECs</li> </ul>	<ul style="list-style-type: none"> <li>Legislative effect of recommendations</li> <li>Capacity and resources</li> <li>Dialogue</li> </ul>
<b>African Energy Commission (AFREC)/AFSEC</b>	<ul style="list-style-type: none"> <li>Develop trade and transit in energy through identification and removal of barriers</li> <li>Recommend use of harmonised standards</li> <li>Establish mechanism for optimum utilisation of energy resources of the continent</li> <li>Harmonisation and rationalisation of energy development and utilisation programmes</li> <li>Promote value addition to energy resources</li> <li>Development and utilisation of RE</li> <li><i>Develop new standards and harmonisation of existing electromechanical standards</i></li> </ul>	<ul style="list-style-type: none"> <li>Lack of a continental level protocol for defining the legal basis for recognising guidelines, legal and standards frameworks for implementation by the RECs and States</li> <li>Capacity</li> <li>Human and financial resources</li> <li>Dialogue</li> </ul>
<b>NEPAD Planning and Coordinating Agency (NPCA)</b>	<ul style="list-style-type: none"> <li>Management oversight of Regional Integration and Infrastructure</li> <li>Framework mechanism for the development of the continent</li> <li>Implementation arm of AU Decisions</li> </ul>	<ul style="list-style-type: none"> <li>Dialogue and visibility</li> <li>Capacity</li> <li>Resources</li> </ul>
<b>African Development Banks (AfDB)</b>	<ul style="list-style-type: none"> <li>PIDA for enhancing Africa's Integration/Connectivity/Competitiveness</li> <li>New Deal for Energy in Africa for solving the continent's energy problems</li> <li>Host of SE4ALL Africa Hub</li> </ul>	<ul style="list-style-type: none"> <li>Political will of states</li> <li>Lack of urgency from states</li> </ul>
<b>APUA (Association of Power Utilities of Africa)</b>	<ul style="list-style-type: none"> <li>Promotion of development of integration through interconnections</li> <li>Pooling resources</li> <li>Exchange of experience and expertise</li> <li>Harmonisation of Master Plans</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary organisation/decisions non-binding</li> </ul>
<b>Africa Forum for Utility Regulators (AFUR)</b>	<ul style="list-style-type: none"> <li>Facilitation of harmonisation and lesson sharing to enhance effectiveness</li> <li>Capacity building</li> <li>Promotion of autonomous regulation and good governance</li> <li>Development of guidelines and facilitation of dialogue on</li> <li>Regulatory Transparency</li> <li>Regulatory Independence and Accountability</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary with limited coverage</li> <li>Membership is regulatory commissions and no formal state involvement</li> <li>Capacity and resources</li> <li>Multi-sectoral focus</li> </ul>



### Annex 1C. Regional Economic Commissions (RECs)

Institution	Role	Limits
<b>Arab Maghreb Union (UMA)</b>	<ul style="list-style-type: none"> <li>• Uniting the people for progress</li> <li>• Developing common policies</li> <li>• Free movement of persons and trade</li> </ul>	<ul style="list-style-type: none"> <li>• Activities seem to have stalled</li> <li>• Decisions by consensus and not binding</li> <li>• Does not have full complement of sector institutions (regional regulator)</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Common Market for East and Southern Africa (COMESA)</b>	<ul style="list-style-type: none"> <li>• Promoting harmonious and joint development in various economic areas</li> <li>• Cooperation for achieving cross border and domestic investment</li> </ul>	<ul style="list-style-type: none"> <li>• Decisions by consensus</li> <li>• Multiple membership of RECs by some members</li> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>East African Community (EAC)</b>	<ul style="list-style-type: none"> <li>• Deepening economic cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple membership of RECs by members</li> <li>• Decisions by consensus</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Economic Commission of Central African States (ECCAS)</b>	<ul style="list-style-type: none"> <li>• Liberalisation of trade and freedom of movement</li> <li>• Cooperation in various fields including energy and natural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Decisions by consensus</li> <li>• Inadequate complement of institutions</li> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Economic Commission of West African States (ECOWAS)</b>	<ul style="list-style-type: none"> <li>• Harmonisation of policies and promotion of integration and adoption of harmonisation measures</li> <li>• Facilitation of trade and removal of barriers</li> <li>• Creating enabling environment for investment</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Southern Africa Development Community (SADC)</b>	<ul style="list-style-type: none"> <li>• Enhancing living standards through integration</li> <li>• Evolving common systems and institutions</li> <li>• Sustainable utilisation of natural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Intergovernmental Authority on Development (IGAD)</b>	<ul style="list-style-type: none"> <li>• Promote joint development strategies and gradually harmonize macro-economic policies and programmes</li> <li>• Harmonize policies with regard to trade, customs, transport, communications, agriculture, and natural resources, and promote free movement of goods, services, and people within the region.</li> <li>• Create an enabling environment for foreign, cross-border and domestic trade and investment</li> <li>• Develop and improve a coordinated and complementary infrastructure, in the areas of transport, telecommunications and energy in the region;</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> </ul>
<b>Community of Sahel Saharan-States (CEN-SAD)</b>	<ul style="list-style-type: none"> <li>• Establish a comprehensive economic union based on a strategy implemented in accordance with a developmental plan</li> <li>• Eliminate all obstacles impeding the unity of its member states through adoption of appropriate measures that would guarantee a number of pro-regional strategies</li> <li>• Harmonise Sectoral Policies in Infrastructure, Natural Resources, Climate, Food and Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Decisions by consensus</li> <li>• Inadequate complement of institutions</li> <li>• Capacity and resources</li> <li>• Political will, dialogue and coherence</li> <li>• Multiple membership of RECs by some members</li> </ul>



### Annex 1D.Regional Regulatory Authorities and Associations

Institution	Role	Limits
ECOWAS Regional Electricity Regulatory Authority (ERERA)	<ul style="list-style-type: none"> <li>• Oversight of development of cross border trade</li> <li>• Establish technical standards</li> <li>• Assist in harmonisation of legislation and regulatory practices based on principles of competition, autonomous regulation and good governance</li> </ul>	<ul style="list-style-type: none"> <li>• Political will at the state level</li> <li>• Inadequate infrastructure</li> <li>• Capacity and resources</li> <li>• Dialogue</li> </ul>
Energy Regulators Association of East Africa (EREA)	<ul style="list-style-type: none"> <li>• Harmonise energy policies, legislation and regulation</li> <li>• Technical standards and codes of practice</li> <li>• Regulatory capacity development</li> </ul>	<ul style="list-style-type: none"> <li>• Political will of states</li> <li>• Inadequate infrastructure</li> <li>• Capacity and resources</li> <li>• Dialogue</li> <li>• Decisions not binding</li> <li>• Inadequate rules</li> </ul>
Independent Regulatory Board of East Africa (IRB)	<ul style="list-style-type: none"> <li>• Regulate regional electricity market</li> <li>• Ensure implementation of transparent and non-discriminatory principles</li> <li>• Facilitate sustainable development of regional market and regional trade</li> </ul>	<ul style="list-style-type: none"> <li>• Political will of states</li> <li>• Resources and capacity (hosted by EAPP)</li> <li>• Dialogue</li> <li>• Decisions not binding</li> <li>• Inadequate rules</li> </ul>
Regional Association of Energy Regulators for Eastern and Southern Africa (RAERESA)	<ul style="list-style-type: none"> <li>• Capacity building and information exchange</li> <li>• Development of sector policies and regulatory guidelines</li> <li>• Promotion of interregional cooperation in energy regulation</li> </ul>	<ul style="list-style-type: none"> <li>• Political will of states</li> <li>• Inadequate infrastructure</li> <li>• Capacity and resources</li> <li>• Dialogue</li> <li>• Decisions not binding</li> <li>• Inadequate rules</li> </ul>
SADC Regional Electricity Regulators Association (RERA)	<ul style="list-style-type: none"> <li>• Facilitation of ESI and defining principles</li> <li>• Regulatory policy</li> <li>• Legislation</li> <li>• Standards and practices</li> <li>• Platform for regional cooperation among national regulators</li> <li>• Capacity building and information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Political will of states</li> <li>• Capacity and resources</li> <li>• Inadequate infrastructure</li> <li>• Inadequate dispute procedures</li> </ul>



### Annex 1E. Power Pools

Institution	Role	Limits
Central African Power Pool (CAPP)	<ul style="list-style-type: none"> <li>Regional planning and development</li> <li>Increase access to electricity</li> <li>Improve regulatory and contractual framework for electricity exchanges</li> </ul>	<ul style="list-style-type: none"> <li>Political will and buy-in</li> <li>Low infrastructure development</li> <li>Capacity and resources</li> <li>Lack of rules</li> </ul>
Maghreb Electricity Committee (COMELEC)	<ul style="list-style-type: none"> <li>Interconnect region and for exchanges</li> <li>Harmonisation of standards</li> </ul>	<ul style="list-style-type: none"> <li>Constitutive act/established as a committee</li> <li>Different technical requirements within network</li> </ul>
East African Power Pool (EAPP)	<ul style="list-style-type: none"> <li>Optimum development of regional energy resources</li> <li>Regional planning and development</li> <li>Facilitating power supply to peoples through interconnections</li> </ul>	<ul style="list-style-type: none"> <li>Political will and buy-in</li> <li>Low infrastructure development</li> <li>Capacity and resources</li> <li>Lack of rules</li> </ul>
Southern Africa Power Pool (SAPP)	<ul style="list-style-type: none"> <li>Development of interconnected system</li> <li>Establish and enforce common technical standards and quality of service benchmarks</li> <li>Capacity building for member utilities</li> <li>Increased access for peoples</li> </ul>	<ul style="list-style-type: none"> <li>Capacity constraint</li> <li>Political will and buy-in</li> </ul>
West African Power Pool (WAPP)	<ul style="list-style-type: none"> <li>Regional power system integration</li> <li>Realisation of regional market</li> </ul>	<ul style="list-style-type: none"> <li>Political will and buy-in</li> <li>Low infrastructure development</li> <li>Capacity and resources</li> </ul>

### Annex 1F. Renewable Energy and Energy Efficiency Centres

Institution	Role	Limits
East Africa Centre for RE & EE (EACREEE)	<ul style="list-style-type: none"> <li>Promoting RE for the regional Clean Energy Agenda</li> <li>Implementing EE programmes</li> </ul>	<ul style="list-style-type: none"> <li>Technical</li> <li>Financial</li> <li>Legal</li> <li>Institutional</li> <li>Economic</li> <li>Capacity</li> </ul>
ECOWAS Centre for RE & EE (ECREEE)	<ul style="list-style-type: none"> <li>Sustainable development</li> <li>Improving the investment environment</li> <li>Promote cooperation for infrastructure development</li> <li>Promote provision of reliable energy services</li> <li>Promote access to affordable energy</li> </ul>	
Regional (Arab) Centre for RE & EE (RCREEE)	<ul style="list-style-type: none"> <li>Promoting RE and EE practices</li> <li>Facilitating clean energy dialogue, strategies and technologies</li> <li>Capacity development</li> </ul>	
SADC Centre for RE & EE (SACREEE)	<ul style="list-style-type: none"> <li>Increase adoption of clean energy technologies</li> <li>Promote market based RE and EE technologies</li> </ul>	