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**AFRICAN ENERGY COMMISSION (AFREC)
REPORT ON AFREC ACTIVITIES TO THE STC**

AFRICAN UNION COMMISSION
DEPARTMENT OF INFRASTRUCTURE AND ENERGY (IED)
AFRICAN ENERGY COMMISSION (AFREC)
REPORT ON AFREC ACTIVITIES TO THE STC

1. BACKGROUND

- The African Energy Commission (AFREC) was created by Decision AHG/Dec.167 (XXXVII) of the 37th Summit of the O.A.U. African Heads of States and Governments which was held in Lusaka, Zambia, on 11th July 2001. The main objective for the creation of AFREC is to fill the gap in a continental management of the African energy sector, implement the objectives of the AU in developing the energy resources of the member states and represent a leadership in promoting the energy sector of Africa. AFREC has a Convention which has ratified by the African member states.
- AFREC is endeavouring to implement, at continental level, the following functions as stated by its Convention:
 - (a) **Map out** energy development policies, strategies and plans based on sub-regional, regional and continental development priorities and recommend their implementation;
 - (b) **Design, create and update** an energy continental data base and facilitate rapid dissemination of information and exchange of information among Member States, as well as among the Regional Economic Communities (RECs);
- The AFREC's activities and programs are based on the AUC Strategic Plan 2004-2017 and its Convention in addition to various resolutions and declarations adopted by AU Summits and Energy Ministers with regard to energy development in Africa.
- AFREC receives its annual budgets for operation and program from the AUC.
- AFREC execution rate of the programme budget has averaged 100% as all activities approved and funded by the AUC have been implemented.

2. Major Activities and Programs

AFREC adopted numerous activities for the development of energy resources in Africa, due to limited funding and personnel not all activities were implemented but the achievements were still considerable. Following is summary of the achievements:

I. African Energy Information System and Database (AEIS)

- The objective of the creation of an African Energy Information System and Database (AEIS) as instructed by the AFREC's Convention is to "Design, create and update an energy continental data base and facilitate rapid dissemination of information and exchange of information among Member States, as well as among the Regional Economic Communities (RECs).
- Since the creation of such system will be the first ever in Africa AFREC collaborated with the International Energy Agency (IEA), which is famous globally in the operation of energy statistics database to support AFREC with technical knowledge, know-how and training of its National Focal Points in the Member States. AFREC also collaborated with the Ministers in-Charge of Energy in Africa to establish a network of National Focal Points in the ministries in-charge of energy around the continent to collect the energy data of their countries and assist in the creation of the system.
- While AFREC adopted the creation of a series of energy databases it started in 2012 with the creation the "African Energy Statistics Database" and since then it published annual editions for 2012, 2013, 2014, 2015 and 2016.

- In 2014, AFREC started creation of addition African energy databases including the following 8:
 - African Energy Infrastructure Database
 - African Energy-related Socioeconomic Database
 - African Energy Efficiency Indicators Database
 - African Solar Energy Radiation Database
 - African Wind Energy Resources Database
 - African Hydropower Resources Database
 - African Geothermal Energy Resources Database
 - African Bioenergy Resources Database
- In addition to the above databases AFREC also planned to create the following databases:
 - African Hydrocarbons Resources Database (Oil, Gas, Oil/Gas-Shale, Refineries, Pipelines/Interconnections)
 - African Coal Resources Database (consumption rates, total reserves, power plants)
 - African Electricity Sector Database
 - African Energy Prices Database (Crude Oil, Oil Products, Electricity, Gas, Coal, Wood fuel, Charcoal)
 - African Energy-related Environmental Database (Carbon Emission, Climate Change)
 - African Nuclear Energy Database (power plants, prospects, uranium deposits)
- In order to undertake this program AFREC in collaboration of the Energy Ministers established National Focal Points for collecting national data on energy statistics in most Member States and there is process for establishing another group of National Focal Points for collecting national data of energy efficiency indicators of which 19 countries have already nominated their experts.
- The African Development Bank (AfDB) established a data Portal to AFREC free in its system which is also managed by its technical experts. The cost of such a system is US\$100,000.
- AFREC in collaboration with the IEA provided the National Focal Points with continuing regional and continental training and capacity building session in energy statistics and database. AFREC/IEA provided training to 446 energy statistics experts in the Member States as follows:

Summary of Total Trainees in Energy Statistics

N°	Training Location & Year	Number of Trainees
1	Total Trainees in 2011	90
2	Total Trainees in 2012	83
3	Total Trainers of Trainees in 2012	29
4	Total Trainees in 2013	72
5	Total Trainers of Trainees in 2013	38
6	Invitees to other statistics-related workshops in 2014	46
7	In-house (country visit) Training 2013-14	3
8	Total Trainees 2015	70
	Total Trainees in 2016	15
	Total	446

Major Achievements:

AFREC has achieved the following successes in this program:

- It successfully created the first-ever African energy statistics database to the extent that it warmly welcome and strongly supported by international energy-related organizations including IEA, WEC, UN, World Bank, AfDB, UNIDO, FAO, UNEP, IRENA, AUC, UNECA, RECs and African Member States.
- Creation of such information system has fill a gap in the global energy statistics database as each continent in the world enjoys a database including Europe (IEA, OECD, Oslo Group), Asia (APEC), North America (EAI/DOE), Latin America (OLADE), and Middle East (OPEC, AOAPEC).
- The training and capacity building provided to the National Focal Points has improved the competency of hundreds statistician experts in the Member States which helped to produce reliable energy data and information.
- AFREC has become the focus of the world when African energy statistics is needed and in addition to its website it established several tools for energy data dissemination including Online Data Portal, Printed reports, Pocket Size booklets, CDs and Quarterly Newsletters.
- AFREC provided Africa's energy statistics data and contributed to the preparation of the IEA's Africa Energy Outlook 2040.
- AFREC provided Africa's energy statistics data and contributed to the preparation of the 2015 African Statistical Year Book which prepared jointly between AUC, AfDB and UNECA.
- In the continuation to support African member states AFREC in collaboration with the IIEA will organize a training workshop on "Energy Statistic, data collection and construction of the energy balance' for the new focal points 21-23 November 2016 in Algiers Algeria

Main Challenges:

- Funding of training workshops and seminars of the experts of Member States represent a major challenge due to the need for financing travels, accommodations and workshop expenses.
- Retention of Focal points is another challenge which needs continuing training to the replacements of departed experts.

Way Forward and Recommendations:

- Once an energy database is established and became operations it must be updated annually and indefinitely. This requires availability of funding and training of the National Focal Points continuously.
- Publish 2016 African Energy Statistics Database at the beginning of 2017.
- Commitment of and support of the Energy Ministers of the Member States to this and other energy activities is crucial and AFREC created open channels with them. It communicates directly with them and connects them with various activities undertaken. AFREC updates the Directory of African Ministers continually.

II. Renewable Energy Development

- AFREC has developed an active program for training, capacity building and technical facilitation for the benefit of the African energy sector with a special focus on sustainable energy development.
- The objective of this activity was instructed by the AFREC's Convention which states: "Assist in the development and utilization of new and renewable sources of energy."
- The Program for Renewable Energy Development in Africa constitutes the following activities:
 - Support the managing, coordination and monitoring of the implementation of the policies and development in Africa;
 - Elaborate capacity development for project preparation through training and sharing good practices;
 - Promote renewable energy applied research, development and technology transfer;
 - Strengthen renewable energy industry and market in Africa;
 - Implement renewable energy policies and measures
 - Facilitate grid integration of renewable energy;
 - Mobilize existing and new financial instruments to support renewable energy in Africa; and
 - Market focused research, development, demonstration, education and technology transfer.
- AFREC organized four technical training workshops which were attended by 117 energy experts from Member States as shown in the following table:

N°	Workshop Title	Location	Date	Number of Participant
2012				
1	Training Workshop in the CSP Technologies in Africa.	Tunis, Tunisia	19-22 December 2012	35
2014				
1	Workshop on the Assessment of Bioenergy Statistics in Africa & Creation of the African Renewable Energy Statistics Database	Addis Ababa, Ethiopia	03-06 November 2014	31
2	Workshop on the Validation of two Technical Guides on the Design and Installation of PV Power Plants for Rural Electrification and Grid-Connected Small Wind Farms for Electricity Generation in Africa	Nairobi, Kenya	01-05 December 2014	30
2015				
1	Workshop on Grid Connected Wind Farms, PV and CSP for Electricity Generation	Cairo, Egypt	20-23 December 2015	21
	Total			117

Major Achievements:

- AFREC technical training program created a platform for supporting the capacities of African energy experts in renewable energy technologies and therefore supports the efforts of the Member States to harness their endowed alternative resources.
- For implementing this program AFREC identified Centres of Excellence in the continent which can provide decent and meaningful technical training in various energy technologies.

Main Challenges:

- Funding of training workshops and seminars is a major challenge due to the need for financing travels, accommodations and workshop expenses.
- Training in some technologies needs recruitment of consultants and resource persons to prepare technical studies and lead the training discussion. However, the process of recruiting such consultants is very slow through Procurement Office at the AUC which should be expedited to avoid delays during the implementation period.

Way Forward and Recommendations:

- AFREC will pay a special focus in technical training in renewable energy technologies especially solar PV and small wind turbines for rural electrification.
- In the wake of the outcome of COP21 global conference AFREC will advise the Member States to reform their national energy strategies to accommodate for the inclusion of renewably-generated electricity in their national energy mixes.

III. Clean Energy and Climate Change

- This is a new activity initiated by AFREC in 2015 and it was instructed for implementation by its Convention.
- The Convention instructed: 'Promote among Member States the identification and the adoption and implementation of effective measures to prevent environmental pollution particularly in the exploitation, transportation, storage, distribution, and utilization of the continent's energy resources the control of the system and mechanism for energy pricing.
- In order to addressing the interconnections between clean energy, climate change and sustainable development, AFREC adopted the following activities:
 - Scaling up understanding of the interaction between clean energy and climate change;
 - Promotion of policies and strategies for renewable energy development in Africa;
 - Adoption of institutional frameworks dedicated to renewable energies;
 - Promotion of policies adaptation to combat negative impacts of climate change;
 - Organization of workshops and seminar with objective to promote awareness of the negative impacts of global warming on the climate and how to mitigate those impacts through national policies;
 - Design holistic strategies to integrate different mechanisms against climate change including Sustainable Energy for All (SE4ALL) Africa Renewable Energy Initiative (AREI), and good practices in clean energy policies;
 - Adoption of energy efficiency measures (energy-saving lamps of distribution, distribution of improved stoves program);
 - Promote the outcome of COP21 recommendations for Africa.
- In December 2015 and parallel to the COP21 Conference in Paris, AFREC organized a seminar in Accra, Ghana, for senior policy makers in clean energy and environment in

Africa which was strongly supported by African Ministers in-charge of Environment. The seminar presented and discussed the draft outcome of the COP21 and recommended further action and annual meeting to monitor the implementation of the Paris meeting.

- The seminar which was organized by AFREC in Accra has the following information:

N°	Workshop Title	Location	Date	Number of Participant
2015				
1	Senior Policy Makers' Seminar on Clean Energy and Climate Change Policies in Africa	Accra, Ghana	14-16 December 2015	35

Major Achievements:

- AFREC initiated the first attempt within the AUC to address the linkage between clean energy and climate change policies in Africa. The seminar was warmly welcomed by both Energy and Environment Ministers thus there is strong political response especially that the timing of the seminar has coincided with the COP21 event.
- AFREC has started preparation to the creation of the “African Energy-related Environmental Database (Carbon Emission, Climate Change). AFREC will collaborate with Member States, UNEP, FAO and IEA to collect and manage the information.

Main Challenges:

- Funding of training workshops and seminars is a major challenge due to the need for financing travels, accommodations and workshop expenses.

Way Forward and Recommendations:

- Analysis of clean energy and climate change in Africa is a continuing activity and therefore annual meetings at various levels in necessary for information update and policy assessment.
- AFREC will collaborate with related institutions to organize side meetings at other events in 2016 and 2017 since there is no budget allocated for such meetings.