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**African Energy Commission (AFREC)  
Technical Paper  
On  
African Energy Information System and Database (AEIS)**

**African Union Commission**  
**Department of Infrastructure and Energy**  
**African Energy Commission (AFREC)**  
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## **1. Background**

Energy is essential for human development and reliable energy information is imperative for formulating sound energy policies and designing strategic development and investment plans. However, the quality and depth of energy information and statistical databanks available in Africa are either absent or fall below the required level of international standards.

Therefore, one of the prime responsibilities of the African Energy Commission (AFREC) is to create and manage a comprehensive energy database and Information System for Africa through the establishment of the “African Energy Information System and Database” (AEIS) and make it available for use by the end-users in the African Member States and world energy communities. AFREC has to demonstrate this task in most effective manner in order to be recognized and supported by the highest levels of African governments and specialized institutions. It is evident from the daily practices that reliable information is fundamental to decision making process associated with all energy activities. No policies can be developed without careful analysis of the situation under consideration and that requires information and perfect data. The implication though is that data and information must be collected and prepared in a usable format, continually updated and disseminated through various channels to the end users. AFREC has to undertake such a task through a framework of networking and partnership with various African and international partners and stakeholders.

On the other hand, while data and information is but one piece of the larger range of energy development process, provision of adequate training and capacity building to energy experts and energy statisticians in the African Member States remains essential to the overall development practices.

It is within this context that AFREC has taken all measures to establish and manage the AEIS and to provide training on data collection and energy balances to its Focal Points and energy statisticians in the African ministries in charge of energy. The information and inter-linkages with good training in data energy collection, refinement and delivery to a central databank at the AFREC’s Headquarters represent a central issue in the establishment of the energy databank upon which the Information System will be structured around.

## **2. Implementation of the AEIS**

- I. 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).
- II. 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.
- III. 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.
  - IV. 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
  - V. 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)
  - VI. 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 18 countries have already nominated their experts.
  - VII. 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.
  - VIII. 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**

<b>N°</b>	<b>Training Location &amp; Year</b>	<b>Number of Trainees</b>
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 in 2015	70
9	Total Trainees in 2016	15
	<b>Total</b>	<b>446</b>

### 3. 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, AOAPC).
- 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

### 4. 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.

### 5. 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.

#### **6. Issue to be discussed:**

- Installation of AFREC server
- Connect AFREC with SAP
- Connect AFREC with Telephone
- Connect AFREC with VSAT
- Availability of AFREC programme budget
- Recruitment AFREC staff