

African Energy Information System & Database (AEIS)

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On Transport, Intercontinental and Interregional
Infrastructures, Energy and Tourism**

Lome, Togo
13-17 March 2017



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I. AFREC's Presentation

The African Energy Commission (AFREC) is an organ of the African Union in charge of ensuring, coordinating and harmonizing development and integration of energy resources on the African continent.

AFREC was created in July 2001 in Lusaka by the African Presidents, and hosted by People's Democratic Republic of Algeria.

AFREC officially launched in February 17th, 2008 in Algiers at the end of a conference of African Energy Ministers in charge of Energy



II. African Energy Database (AED)

Mandate and Legal Framework

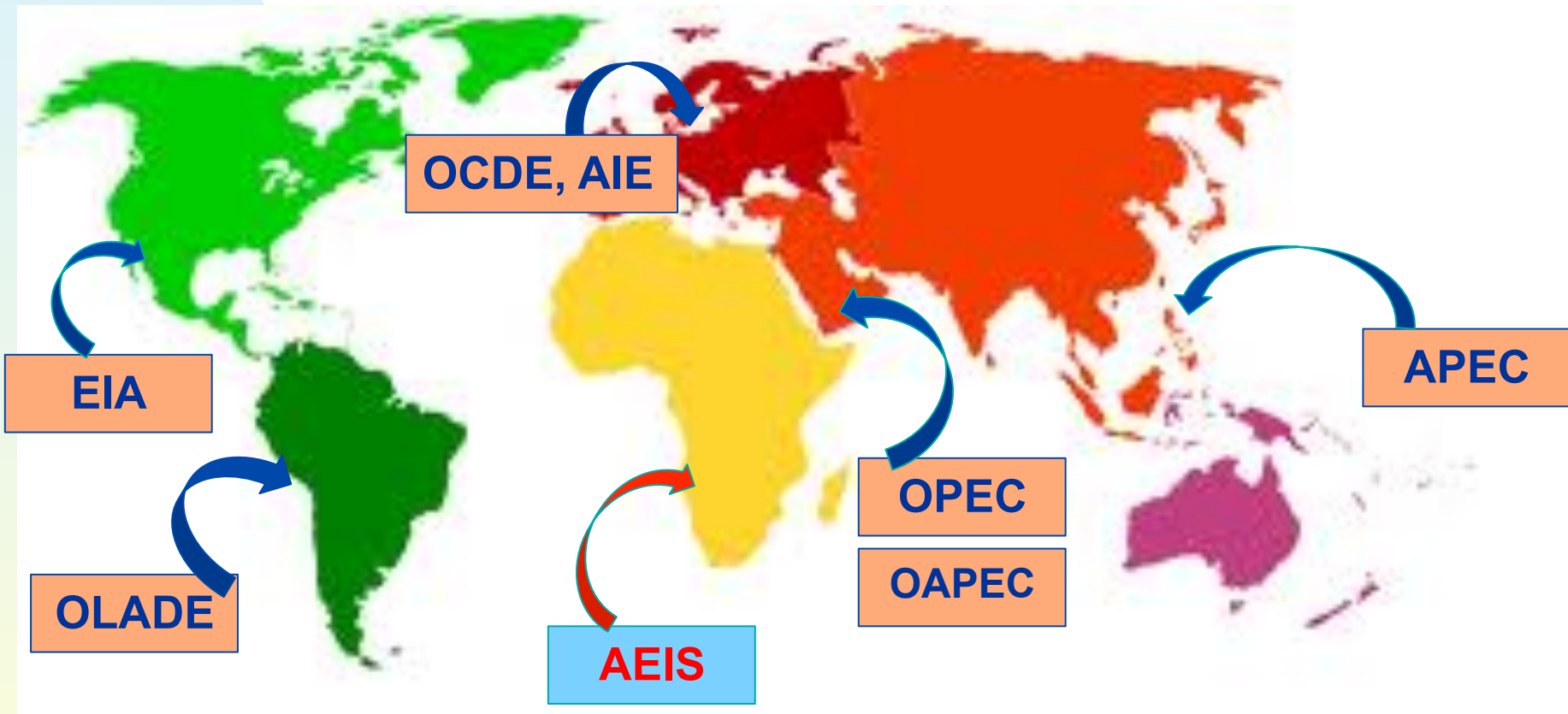
AFREC Convention:

- **AFREC mandated to « Design, create and set up 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) and Regional Power Pools (RPPs) around Africa ».**

II.1 Why an African Energy Information System and Database?

- **Reliable energy data and information is crucial for setting energy policies and designing good strategies for investment and decision making;**
- **The quality of energy databanks and information systems available in Africa is disappointing and below the level of international standards;**
- **Lack of professional database developers and providers, poor interest, shortage of expertise and absence of perception about importance of energy databases;**
- **Institutional weaknesses and lack of coordination among different parties in this area;**
- **Shortage of funding for a sustained training and capacity building and shortage of skilled people with relevant statistical and analytical qualifications to create and correlate the data at national level.**

II.2 World Energy Information Systems and Databases



II. 3 Objectives of the AEIS

Elaborate, construct, operate and manage a continental energy database for all types of energy forms produced and consumed by all African countries as well as to facilitate rapid transfer and exchange of information among them and disseminate the final data to various end-users around Africa and fulfill the overall objectives of the African Union in this area.



Provide reliable data and information for the implementation of **PIDA** , **SE4ALL** and **AREI** projects

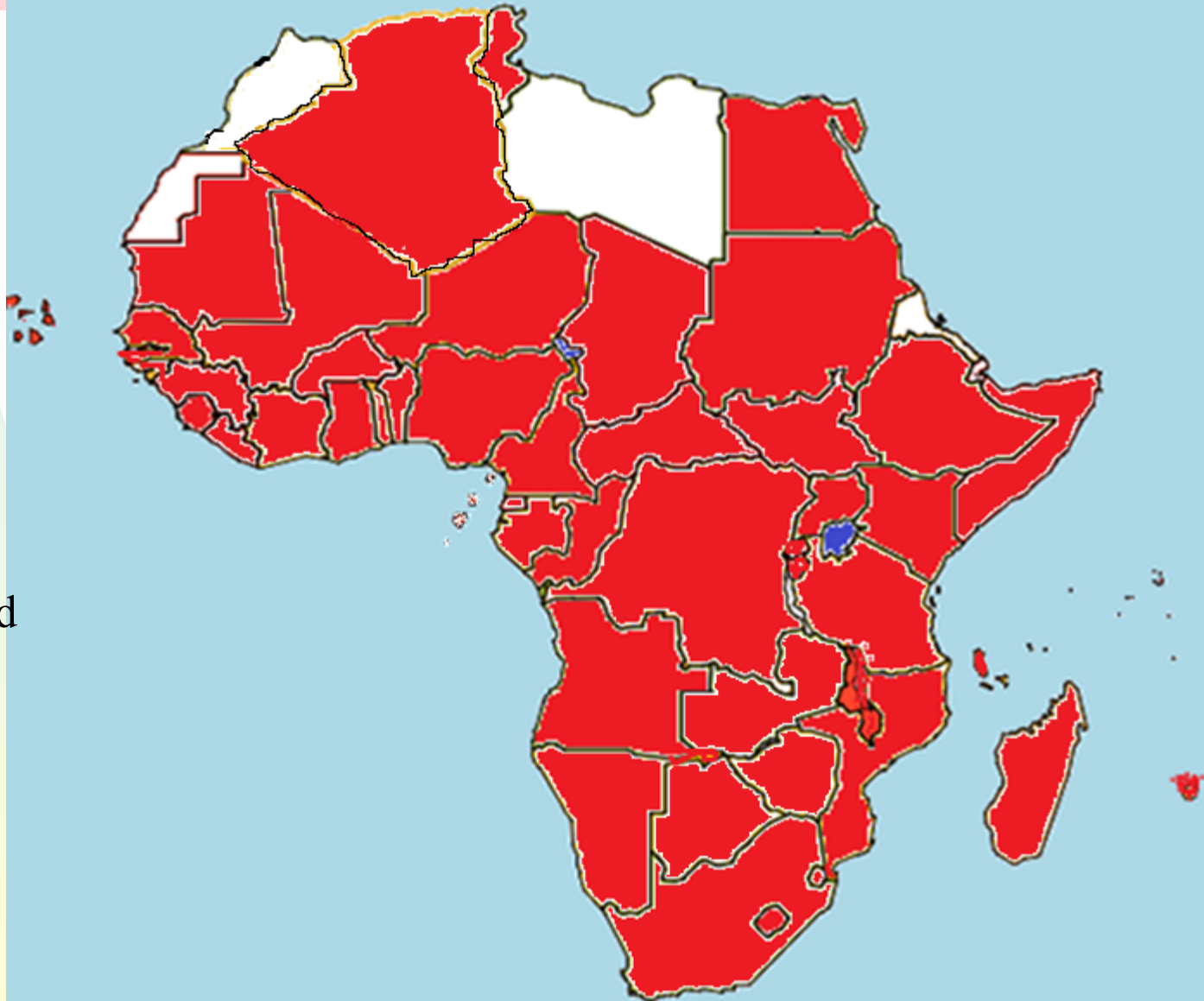


II.4 The Road Map to the 1st Edition of the AEIS

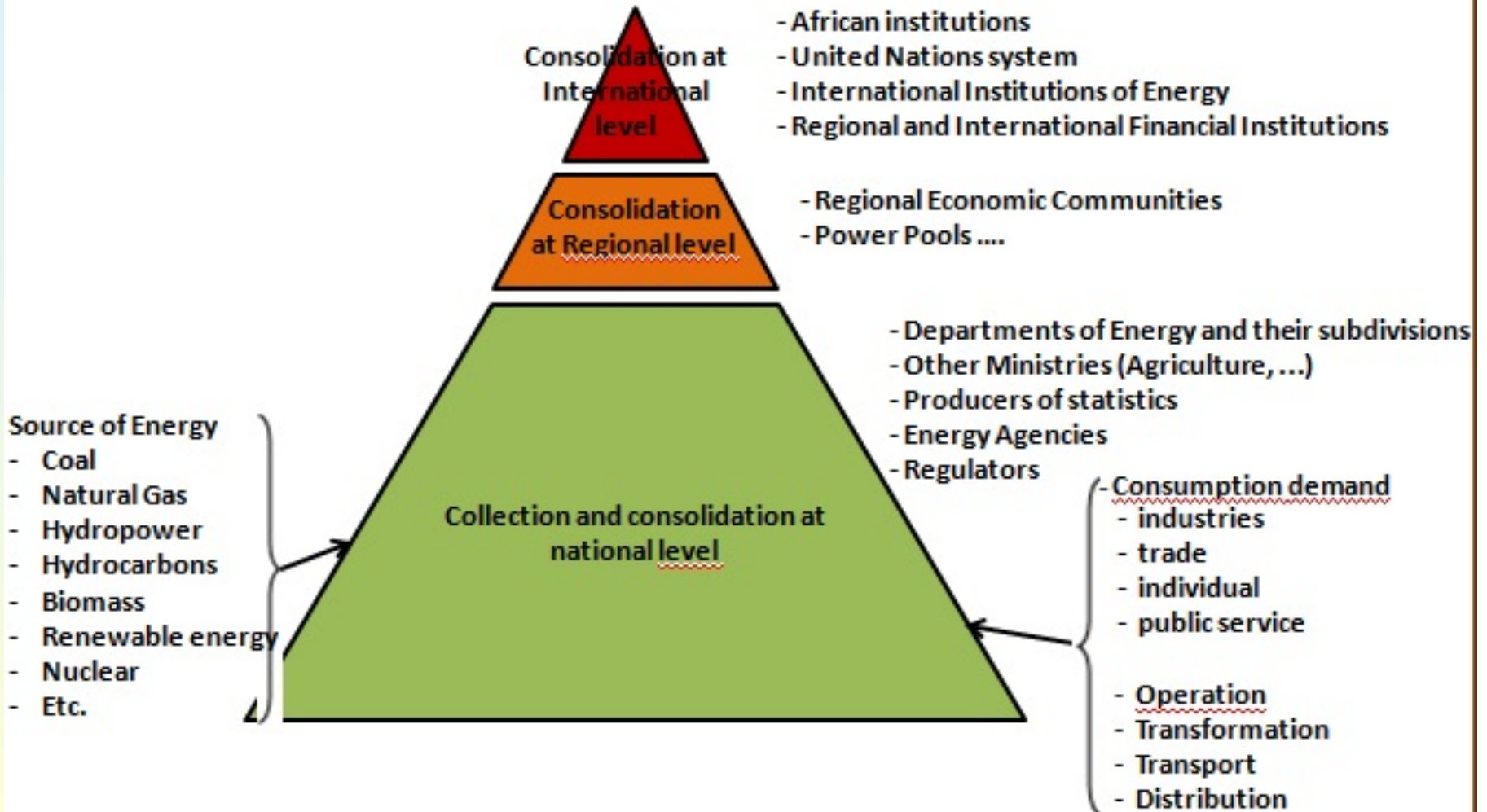
- Preparatory Activities and Setting a Road Map.
- Organization of 4 African/International Seminar.
- Appointment of National Focal Points.
- Field Survey on the Situation of the Energy Database in the African Member States.
- Organization of the Regional Training Workshops for the National Focal Points in the Member States.
- Collection of Energy Data from Member States.
- Compilation & Validation of the Collected Data.
- Preparation of the 1st Edition Report in 2012.
- Publishing of Reports and Dissemination Process.

II. 5 Participating African Countries of Africa Energy Databases (AED)

-  FPs Appointed
-  To be nominated



II.6 Architecture of the AED



II.7 AFREC Energy Data Collection Questionnaire

(Originally developed by WEC and updated by IEA and AFREC in 2011)

AFREC Energy Reporting Format

country **Country:**

Year **Year:**

Instructions

Background Information

Comments

Exit

Same structure as the Eurostat/IEA/UNECE questionnaires with one module for each energy form

Oil

Gas

Coal

Biomass

Electricity

A built-in module allows the user to have its energy balance automatically prepared when all forms are completed

Unit Converter

Extended Balance

Balance

II. 8 Sources of African Energy Data & Information

Primary Sources:

- Member States
- African Specialized Institutions

Secondary Sources:

- International Energy Database Providers (IEA, EIA, WB, UN, OPEC, IAEA, etc.)

Specialized African Renewable Energy Institutions:

1. Solar Energy: Member States
2. Wind Resources: Member States
3. Geothermal Energy: Member States (Kenya: GDC)
4. Bio-Energy & Bio-Fuels: Member States
5. Hydropower Resources: Member States

II. 9 Outcome

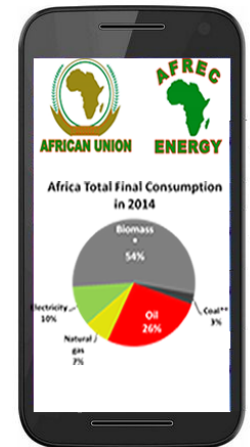
Annual release of updated edition of the African Energy Database in the different formats:

- Main report which contains tables of national energy balances for national, regional and continental levels, glossary and unit conversion charts.
- Simplified pocket-size pamphlets as quick references
- Socioeconomic and environmental indicators.
- Data analysis.
- Energy products supply and demand projections.
- Glossary and definitions.
- Unit conversion tables.

II. 10 Energy Data Dissemination Tools



www.afrec-energy.org



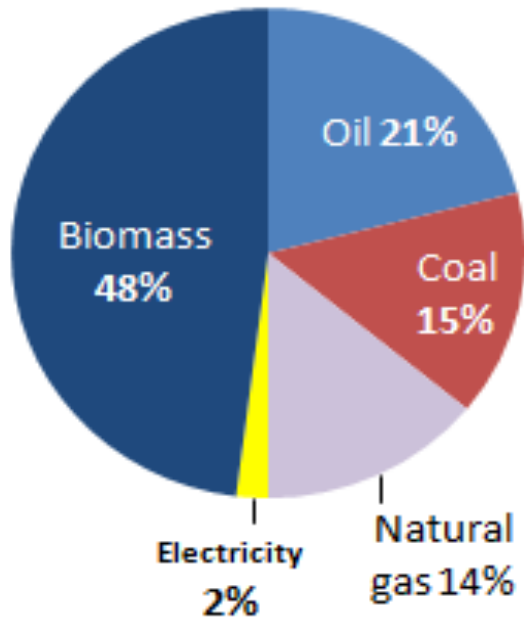
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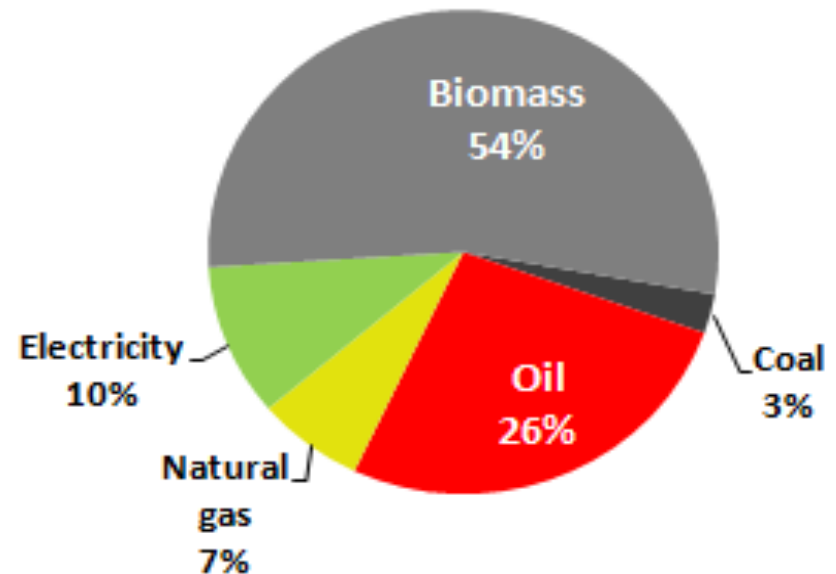
II. 11 Current situation of data collection on Africa Energy Database

- AFREC collected Data serial of 1990 to 2014 and Built :**
- Africa Energy Statistics Databases (Version 2012 to 2016) ;
 - Energy Balance of All African Countries ;
 - Energy Balance of Africa.

Africa Total Primary Energy Supply in 2014



Africa Total Final Consumption in 2014



III. Training and Capacity Building

AFREC Convention

AFREC is mandated by its convention to:

- undertake training and capacity-building programs in various energy sectors in Africa to develop their political, managerial and technical capabilities and decision-making.
- advise and encourage the development of human resources in the energy sector,
- provide technical assistance to Member States, regional economic communities and other actors involved in the African energy sector".

III. 1 Regional Training Workshops on Africa Energy Databases (9)

Cameroon, South Africa, Senegal, Ethiopia in 2012
 Republic of Congo, South Africa, Ghana, Ethiopia in 2013
 Algiers, Algeria in 2016



IV. African Energy Efficiency Indicators Database (AEED)

IV. 1 Objectives

Activities in 2017

- The main objective of the project at this stage is to **create new group of National Focal Points** to collect EE Indicators data and provide them training and guidance.
- **Building capacities and understanding** of the National Focal Points in energy efficiency concepts, indicators and data collection methodologies and questionnaires through training and applied exercises;
- **Capitalizing on the knowledge base acquired by the international institutions** in energy efficiency data collection and validation including the evaluation of the impact of energy efficiency policies and measures on the actual energy efficiency performance in national economies, industries and other economic activities and various consumer groups

IV. 2 Project Description

- Develop the concept of EE indicators and data in Africa and define the targeted energy sectors for data collection;
- Create new group of National Focal Points for indicators data collection (19 FPs);
- Provide reasonable training and capacity building to the National Focal Points as a prerequisite for energy efficiency data collection (4th AFREC Seminar 19-22 October, Addis Ababa, and beyond).
- Start modest with simple questionnaire and adopt a gradual complexity as the competencies of the National Focal Points improve (Further regional training in small groups).
- Start with only one sector (Residential and expand to other sectors afterward).
- Prepare modest questionnaire for EE data collection in the residential sector (Workshop 28 -30 March 2017 Cairo | Egypt).





IV. 3 Residential Energy Efficiency Indicators Data for Africa

The questionnaire for residential sector should collect at least the following data for each of electricity, biomass, gas, kerosene:

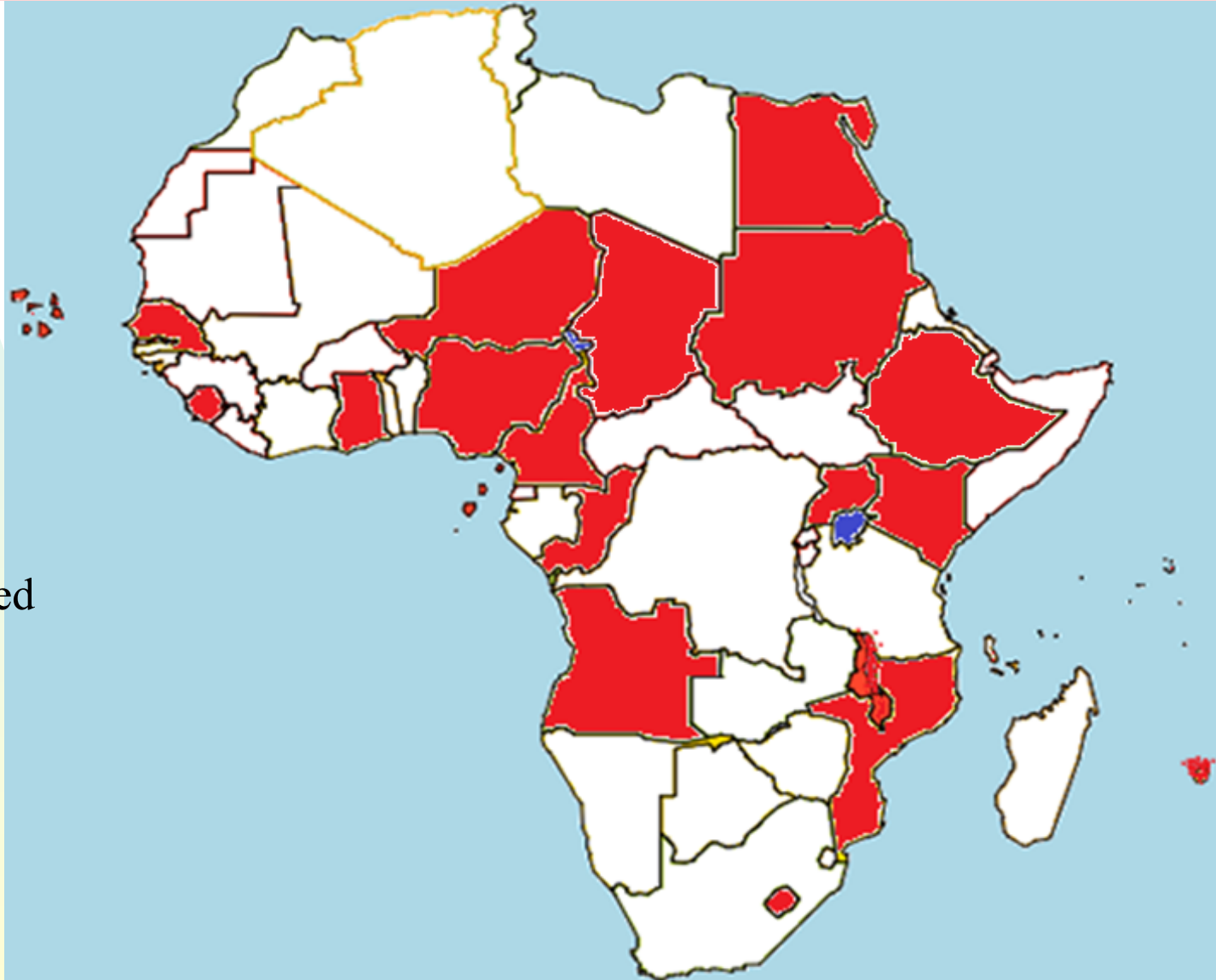
- **Average consumption of households per capita.**
- **Average consumption of electrified households.**
- **Households consumption for electrical appliances and lighting.**
- **Per capita installed capacity of solar water heaters.**
- **CO₂ emissions of residential sector per household.**



IV. 4 Participating African Countries of Africa Energy Efficiency (AEED)

-  FPs Appointed
-  To be nominated

Total: 19



V. Conclusion

- **Once the African Energy Information System and Database (AEIS) is established and went into operation, it has to stay operational and updated indefinitely !!!**
- **Provide technical support to all African Member States to establish their individual energy databases which will be connected to the central AFREC Database;**
- **Appropriate short and long-terms training sessions are essential to improve and maintain high quality standards for the African energy experts.**
- **A comprehensive Energy Information System and Database for Africa requires a collective effort of a networking partnership among various African Member States, RECs, RPPs, specialized institutions and international organization.**
- **Appointment of competent National Focal Points and provision of adequate funding are essential for the management and development of the database system.**

Thank you for your kind attention



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