



**African Energy Commission
Commission Africaine de l'Energie**



2016 InterEnerStat Workshop : Energy Efficiency and End-use data and Meeting of Organisations

Energy end-use data collection And Challenges faced by African countries

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**13, 14 December 2016
IEA, Paris France,**



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AFREC's Presentation

The African Energy Commission (AFREC) is an organ of the African Union in charge of ensuring, coordinating and harmonizing the protection, conservation, 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 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 ».

AFREC Energy Data Collection Questionnaire

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

AFREC Energy Reporting Format

Country

Year

Select A Country

Select A Year

Country:

Year:

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

Instructions

Background Information

Comments

Exit

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

AFREC Energy Information Forum Questionnaires

Biomass Questionnaire:

Thousand tonnes (kt)

	Commercial Firewood	Non Commercial Firewood	Charcoal	Biogas (TJ net)	Agro Residues and Waste	Others
SUPPLY						
	0	0	0	0	0	0
Statistical Difference	0	0	0	0	0	0
Charcoal Production: - Input (Observed)						
- Output						
	0	0	0	0	0	0
TRANSFORMATION						
Total Final Consumption	0	0	0	0	0	0
CONSUMPTION						
Default Net Calorific Values (GJ/tonne)	14.00	14.00	30.80		16	16

Same basic approach as in the Eurostat/IEA/UNECE questionnaires

Biomass Questionnaire:

Thousand tonnes (kt)

	Commercial Firewood	Non Commercial Firewood	Charcoal	Biogas (TJ net)	Agro Residues and Waste	Others
Production						
Imports						
Exports (-)						
Total Supply	0	0	0	0	0	0
Statistical Difference	0	0	0	0	0	0
Charcoal Production: - Input (Observed)						
- Output						
Transformation (excluding charcoal plants)	0	0	0	0	0	0
Input to Electricity Production						
Input to Other Transformation Processes						
Energy Sector Own Use						
Distribution Losses						
Total Final Consumption	0	0	0	0	0	0
Industry						
Transport						
Households						
Com. & Public						
Agriculture/Forestry						
Others (Non Specified)						
Default Net Calorific Values (GJ/tonne)	14.00	14.00	30.80		16	16

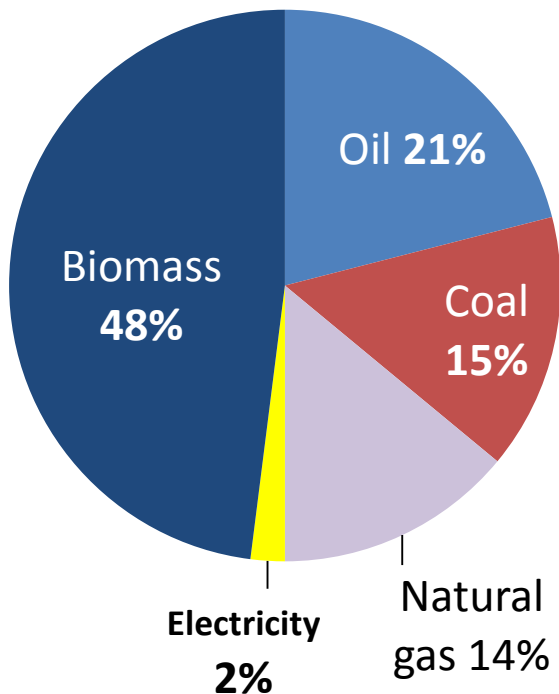
Charcoal Plant Efficiency Check	Reference %
No charcoal production	15 40

Various built-in checks on, for, instance, efficiency or statistical differences

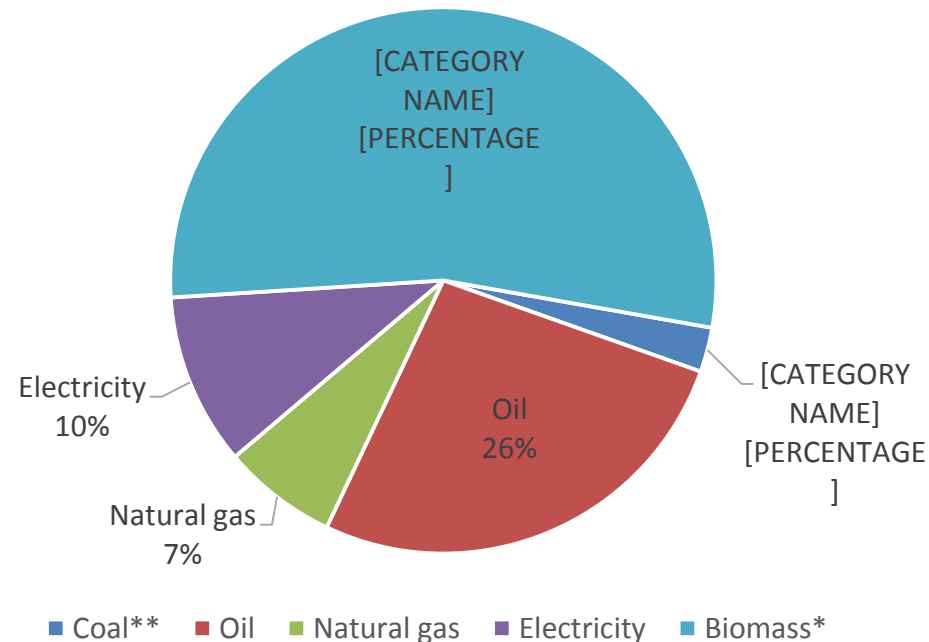
Statistical difference check	No total supply	No total supply	No total supply or production	No total supply	No total supply	No total supply
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- AFREC collected Data serial of 1990 to 2014 and Built :**
- Africa Energy Statistics Databases (Version 2012 to 2016) ;
 - Africa Energy Statistics Data Portal ;

Africa Total Primary Energy Supply in 2014



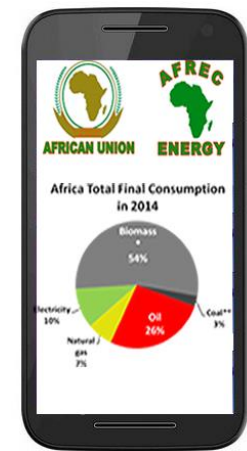
Africa Total Final Consumption in 2014



Energy Data Dissemination Tools



www.afrec-energy.org



Future



Sources of African Energy Data & Information

Primary Sources:

- Member States
- African Specialized Institutions

Secondary Sources:

- International Energy Database Providers (IEA, WB, UN, OPEC, 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

Creation of the African Energy Efficiency Indicators Database and Conduction of national surveys to collect Energy Efficiency Data and Indicators of the Member States in 2017;

- **Start with only one sector (Residential in 2017 & 2018 and expand to other sectors afterwards);**
- **Appointed a new group of National Focal Points to collect EE Indicators data and provide them training and guidance (AFREC has 19 Focal Points nominated by the Ministries in charge of Energy of the member states)**

Challenges faced by African countries

➤ **Collecting energy data is a very difficult task, even in the developed countries, and often requires the intervention of governments through regulations and legislations to force energy users, to behave properly in revealing the real data of the energy production and consumption.**

The challenges faced by African countries are summarized in 8 points :

1 - Institutional:

- Absence of culture of using accurate data for policy and decision making;**
- Most officials and decision makers are preoccupied with imports of petroleum products leaving little or no attention to biomass resources (Africa consumes 54%);**
- Weak collaboration among officials departments,**

2- Policy and Management:

- Lack of institutional structures and policies to effectively address the issue of data collection;
- Exploitation of wood fuel is primarily managed by operators of an informal sector of difficult channels to capture the real data of their operation;

3 - Basic Databanks:

- Many sectors are not structured to perform data collection and absence of well structured database to facilitate the collection and reporting processes;
- Even if data was found, there is always a question with their credibility;
- When data is available, they often do not contain the necessary details to work out an adequate assessment;
- Limited data come from assessments done by foreign & informal entities;

4 - Capacity:

- Lack of means and necessary infrastructure to carry out data-gathering on the national level;
- Insufficiency of the personnel and absence of energy statisticians;
- Shortage of qualified manpower, training and capacity building activities;

5 - Weak Sectoral Establishment:

- The sector of the firewood is not formalized;
- Firewood and charcoal businesses are mainly controlled by the abstract sectors and therefore it is very difficult to know the real quantity of the production and the amount of the energy supplies;
- Such abstract sectors are numerous and scattered in very far areas which may require months or years to collect data from them;
- Difficulty to access data from different governmental departments due to bureaucracy;



Challenges faced by African countries

- Lack of genuine efforts including human and financial resources to conduct surveys;

6 - Financial Resources:

- Lack of financial resources necessary for data-gathering;
- Collection of energy data is not considered vital in the annual budgets of the government;

7 - Collaborative Stakeholders:

- Absence of constructive collaboration between private producers (villagers) and public institutions;
- Lack of awareness, reach-outs, education and constructive national policies;

8 - Regulations:

- **Lack of laws or mandates to force various actors to supply the data under penalty of sanctions;**
- **Lack of incentives for data providers to motivate them providing real and credible information,**

- Support African countries for establishment of “National Energy Information System”
- Support AFREC in the creation of “African Energy Efficiency Database”
- Donor to support African countries and AFREC financially for continuation, operationlization and upgrading of the AEIS
- Support capacities of the African countries through the implementation of the AFREC capacity building and training programme
- Support capacities of AFREC Staff
- AFREC is willing for any collaboration with other energy organization



Merci!



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