



Republic of Liberia  
**Ministry of Lands, Mines & Energy**



## **ECREEE Regional Workshop**

**Accelerating Universal Energy Access Through the Use of  
Renewable Energy and Energy Efficiency**

**Renewable Energy Technologies for Productive Uses  
- Case Studies from Liberia -**

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# Profile of Liberia

## History, Demography & Geography Stat

- Country: Republic of Liberia
- Capital: Monrovia
- Established: 1822
- Independence: July 26, 1847
- Location: West Africa
- Geographic Cord.: 6 30 N, 9 30 W
- Area: 111,369 sq. Km (43,000 sq. mi)
- Population: July 2011 est. 3,786,764  
2008 Census – 3,476,608
- Population Growth Rate: 2.663%
- Official Language: English, 20 Ethnic
- Currency: LRD (USD in common use)
- Religion: Ch. – 85.6%, Ms. – 12.2%
- Climate: Tropical; hot, humid; dry winters with hot days and cool nights.
- Coastline: 579 km

## Socio-Economic Statistics

- Unemployment Rate: 85% (2003 est.)
- Inflation Rate (Consumer Prices): 7.5%
- Urbanization: 48%; Rate 3.4%/annual
- GDP: 2010: \$1.691 billion; Growth: 5.1%
- GDP Per Capital (PPP): \$ 500
- Agri. Products: rubber, coffee, cocoa, rice, cassava, palm oil, cattle, etc.
- Industries: iron ore mining, timber, rubber processing, diamond/gold mining, palm oil
- Natural Resources: Iron ore, timber, gold, diamond, hydropower, solar power, wind
- Renewable Water Resources: 232 cu Km
- Solar Radiation: 3.84 – 6.13 kWh/m<sup>2</sup>/d
- Wind Speed: 1.4 – 4.0 m/s (gentle breeze)
- Oil Import: 4,263 bbl/day
- Oil Consumption: 4,000 bbl/day

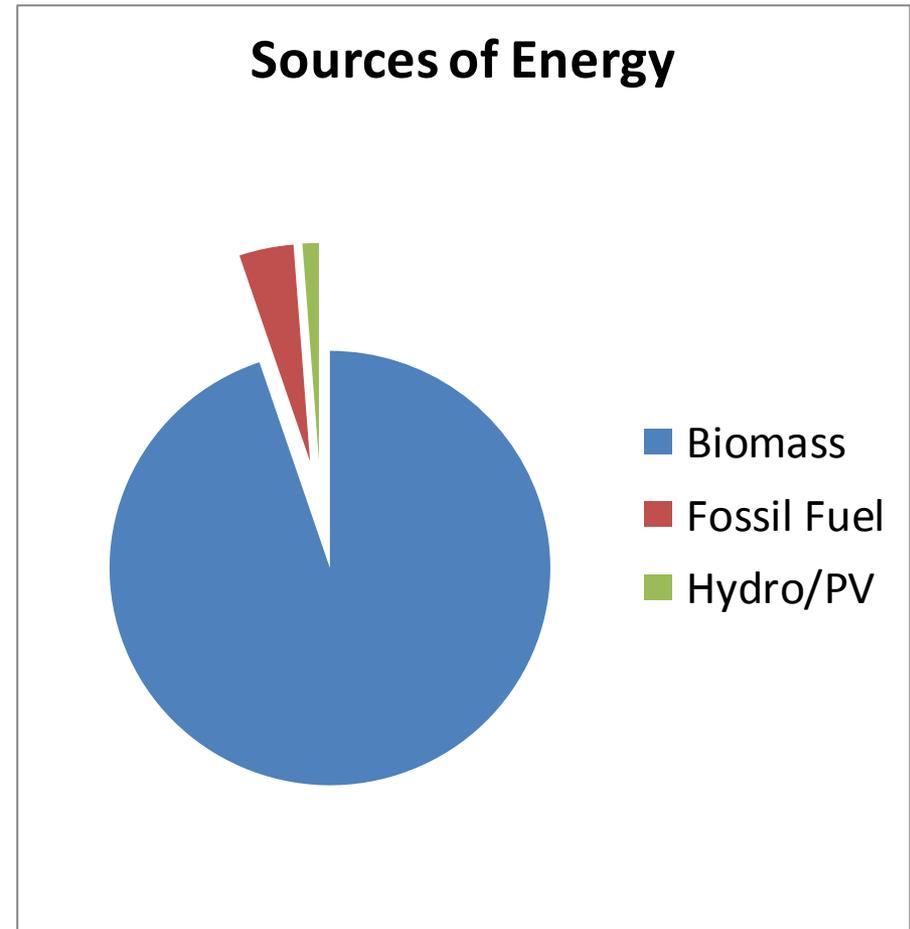


# Sources of Energy



## Sources of Energy:

- Biomass – 95%
- Fossil Fuel – 4%
- Hydropower, Solar PV, etc. – 1%.





# Electricity Production, Consumption & Access

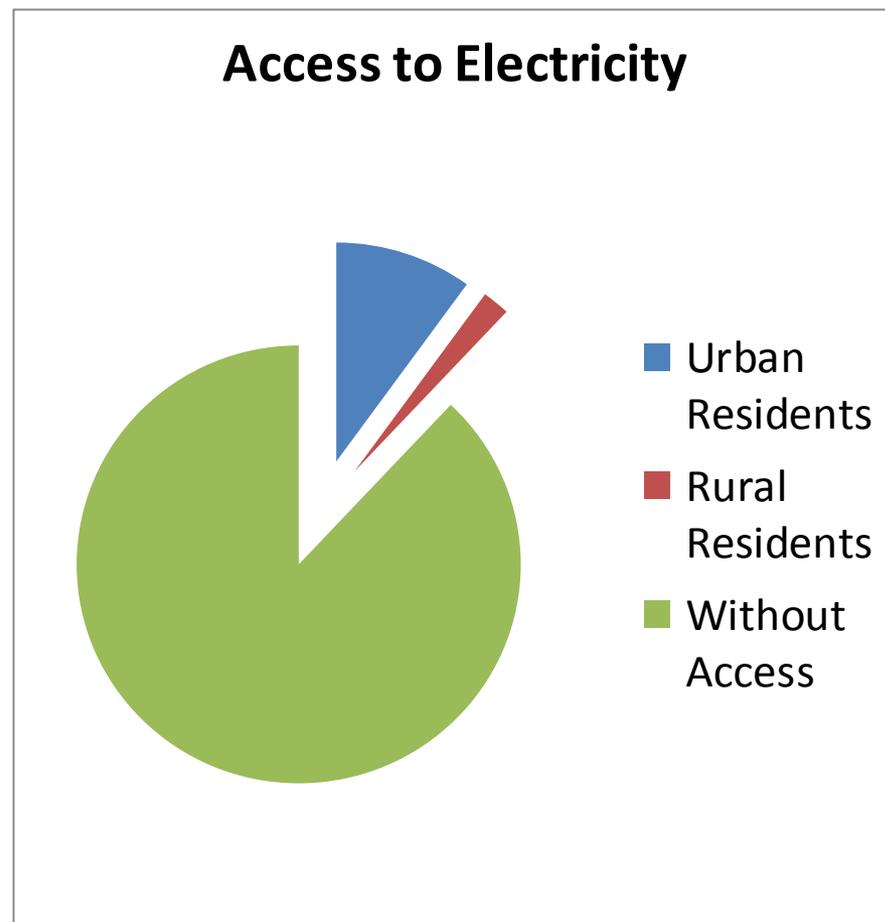


**Electricity Production:**  
350 million kWh

**Electricity Consumption:**  
325.5 million kWh

**Access to Electricity:**

- Urban Residents – 20%
- Rural Residents – 4%





# Institutional Frameworks



- 1. National Energy Policy of Liberia**
- 2. Draft Renewable Energy and Energy Efficiency Policy and Action Plan**
- 3. Draft Liberia Energy Law**



# National Energy Policy of Liberia (NEP)



## National Energy Policy of Liberia – 2009

- **Objective of NEP:** ensure universal access to modern energy services in an affordable, sustainable and environmentally-friendly manner in order to foster the economic, political, and social development of Liberia.
- **Targeted Goals by 2015:**
  - 40% rural and peri-urban residents shall have access to improved stoves, efficient-gas cookers, etc, in order to reduce indoor pollution;



# National Energy Policy of Liberia (NEP)



## Targeted Goals by 2015 (continue):

- 30% urban and peri-urban population shall have access to reliable modern energy services;
- 15% of the rural population and 25% of the schools, clinics, and community centers in rural areas shall have access to modern energy services to meet the same basic needs.



# National Energy Policy of Liberia (NEP)



## Offshoots of the National Energy Policy

1. Energy Regulatory Board (ERB) - responsible for monitoring all energy policies and standards;
2. Rural and Renewable Energy Agency (RREA) - facilitate and accelerate the economic transformation of rural Liberia through the development and supply of modern energy services to rural areas with an emphasis on locally available renewable resources.
3. Rural Energy Fund – Under the management of RREA



# Renewable Energy and Energy Efficiency Programs and Projects - RREA



1. An Act to Establish the RREA submitted to Parliament;
2. WB provided a grant of 3.3 million USD to develop RREA to full functionality and implement 2 RE & EE projects;
3. EU provided a grant of 1.5 million Euros to develop a rural energy master plan and implement an SSMP project;
4. GEF in partnership with the World Bank has endorsed a 1.6 million USD project titled “Lighting a Million Lives in Liberia”, as part of Its Lighting Africa Initiative;
5. University of Arizona donated 200 pieces assorted Solar PV modules for Education and Outreach purposes:
  - RREA to install first ever grid-tied (15 kWp) Solar PV System
  - 15 public schools to receive 750 Wp Solar PV Systems each



# Renewable Energy and Energy Efficiency Programs and Projects – Other Institutions



1. With Support from USAID, the Liberia Energy Sector Support Program (LESSP), in collaboration with RREA is implementing 2 Hydropower and 2 Biomass project in rural Liberia.
2. Under a USAID funded Liberia Energy Assistance Program (LEAP), 20,000 Liberians in 12 of Lib15 political sub-divisions directly benefit from 24.5 kWp of installed capacity of various types of solar-powered systems – solar power systems, solar refrigerators, solar streetlights, and solar lanterns.
3. Joint RREA & MLME National Energy Needs Assessment covering all 15 political sub-divisions of Liberia.



# Constraints/Challenges



- ✓ The absence of a private – public partnership in the renewable energy sector
- ✓ financial institutions lack the driving force to financing the RE & EE market;
- ✓ Limited human resource capacity in the development of the RE & EE sub-sector;
- ✓ Absence of fiscal and financial incentives for the development of the RE sub-sector.



*ECOWAS Regional Centre for  
Renewable Energy and Energy Efficiency*

*Centre Régional pour les Energies Renouvelables  
et l'Efficacité Energétique de la CEDEAO*

*Centro Regional para Energias Renováveis e  
Eficiência Energética da CEDEAO*



# THANK YOU



2012 INTERNATIONAL YEAR OF  
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