



Funded by the European Union



REGIONAL TRAINING WORKSHOP ON Geographical Information system for energy planning

Dakar, 11th August 2014



Presentation Outline

- ❑ INTRODUCTION TO ECOWREX
- ❑ ACP-EU PROJECT



ECOWREX

Established under the GEF strategic Program for West Africa (SPWA)

The ECOWAS Observatory for Renewable Energy and Energy efficiency (ECOWREX) was launched in October 2012, at the 11th meeting of the ECOWAS Energy ministers.

Concept

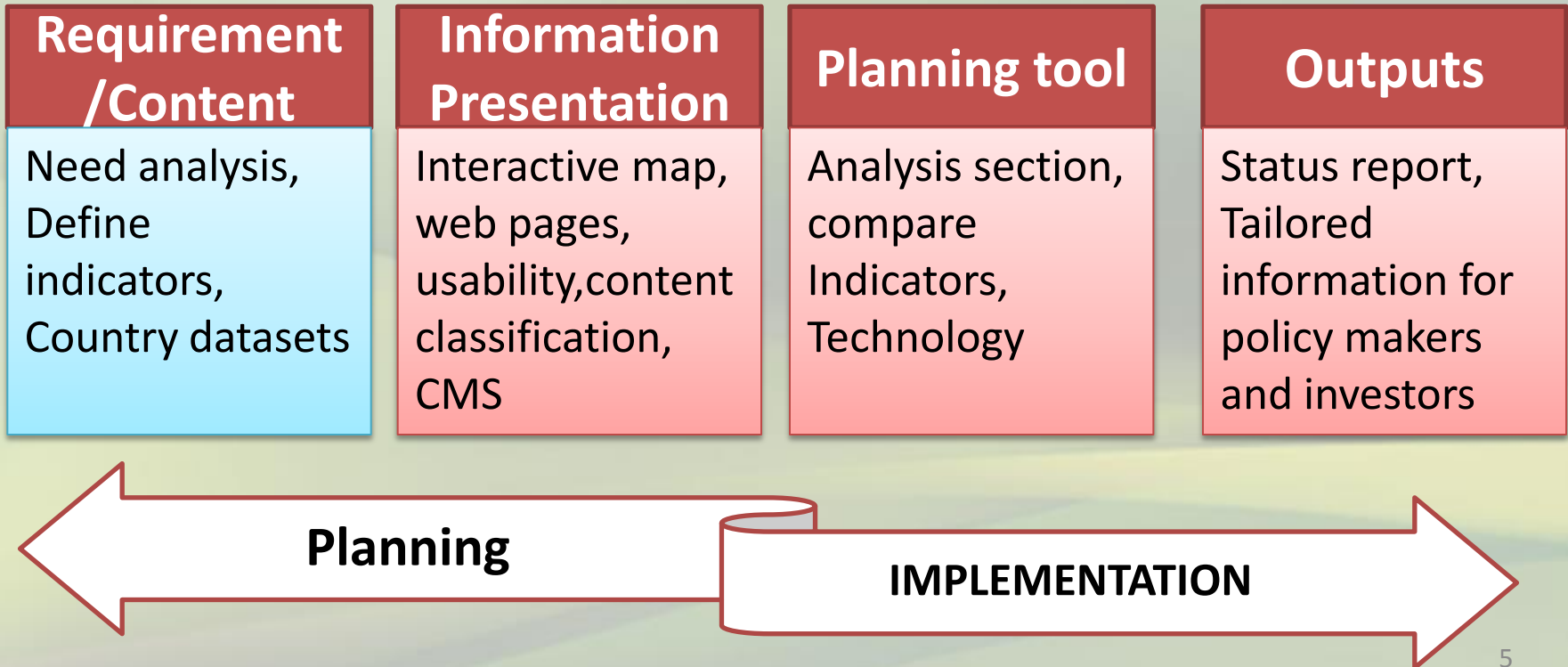
To overcome the existing information and Knowledge barriers, to promote investments in renewable energy Technology.

KEY OBJECTIVES

Provide reliable and targeted information to policy makers, investors and other stakeholders about the energy sector, in West Africa

Build up a network of key players both local and international, to share the best practices and technical knowhow

DESIGN APPROACH



CONTENT OF ECOWREX

MAJOR SECTIONS

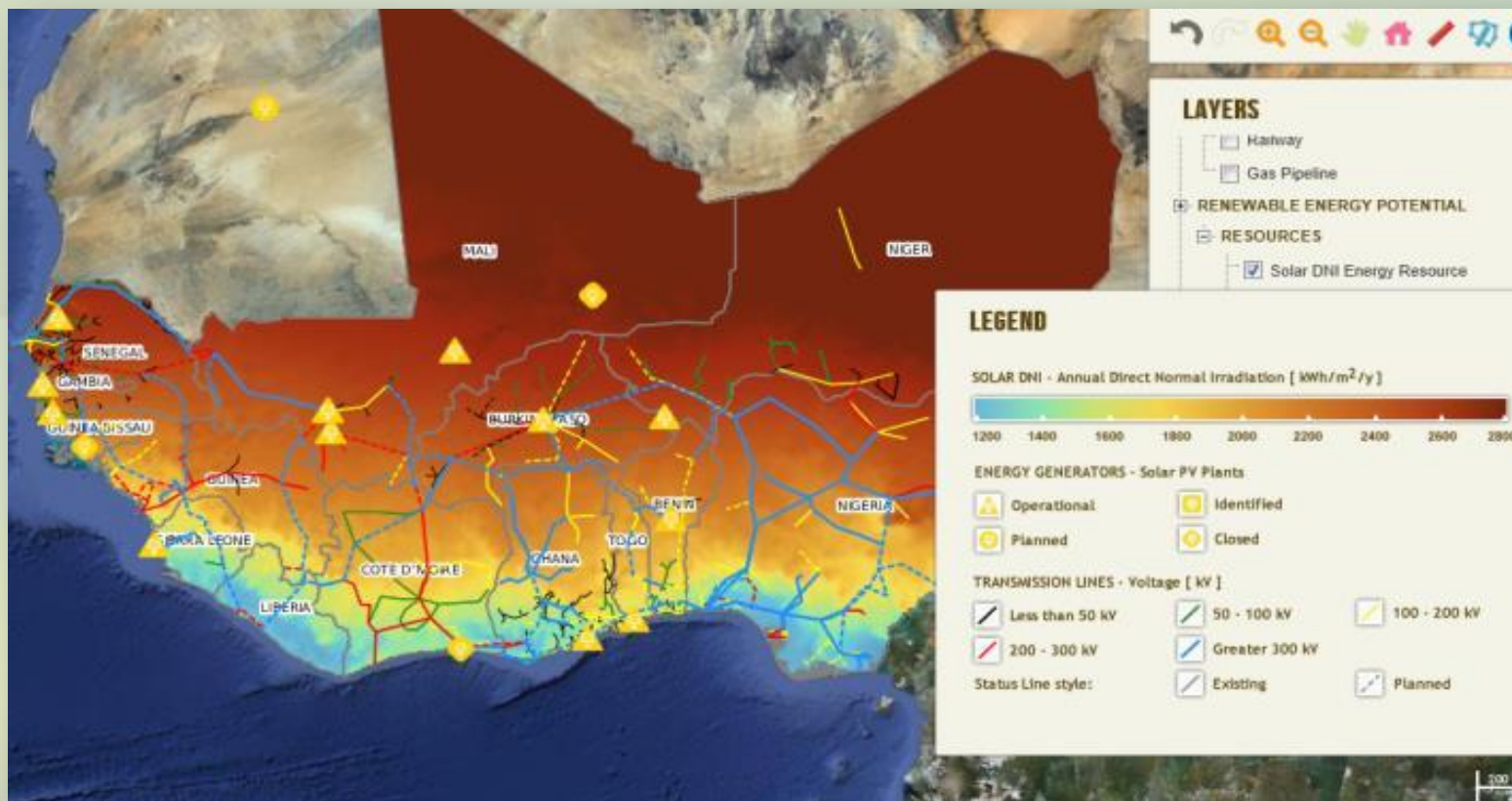
- **Country Profile**
- **Interactive Map Viewer**
- **Analysis and Trends**
- **Explore section**

CONTENT OF ECOWREX

EXISTING DATA & MAPS

- RE resources/potentials: Solar Resource DNI, Solar Resource GHI, average Wind Speed, Biomass potential (Biocrops), Small Hydro Power plants
- Electrical Transmission/distribution grids
- Population density
- Existing and planned RE&EE projects.
- RE&EE Key Stakeholders (universities, companies, ministries, data providers and others)
- Other infrastructures - Roads, Railway, Airports, Ports
- Protected areas – environmental, military, urban other protected uses (tourism, mining, industry, etc.)
- National and regional policies
- Stakeholders information
- General status on energy demand and supply
- Energy efficiency

Combined Resources



Combining human activities, infrastructure and our resources helps us to define “where” and “when” specific RE technologies can be deployed

Explore section

ABOUT COUNTRY PROFILES MAPS ANALYSIS & TRENDS EXPLORE FEEDBACK

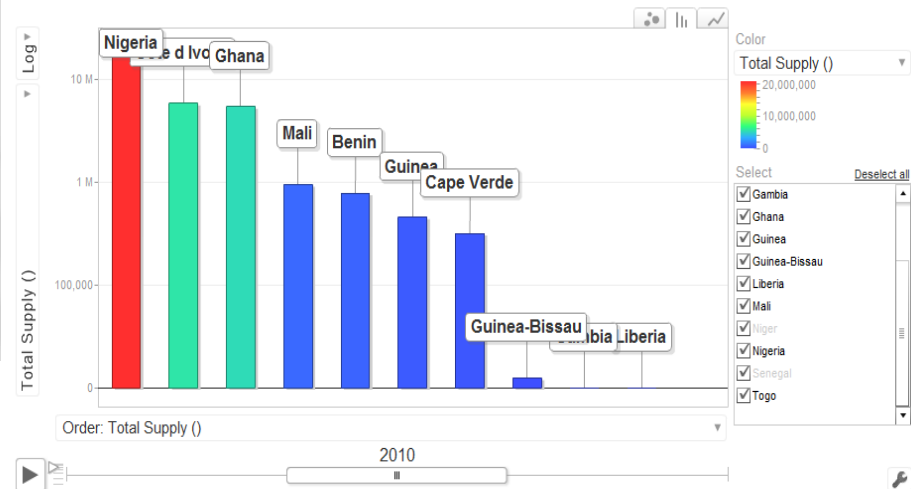
ANALYSIS RESULTS

TABLE ADVANCED CHART

Indicator	Country	2011	2010	2009
Rural Electrification Coverage (%)	Ghana		23.00	
	Nigeria		26.00	
Total Electricity Coverage (%)	Ghana	60.50	66.70	60.50
	Nigeria			
Total Supply (MWh)	Ghana	11,200,000.00	5,425,000.00	4,846,000.00
	Nigeria			
Urban Electricity Coverage (%)	Ghana		85.00	
	Nigeria			
User industrial consumption (MWh)	Ghana	3,900,000.00	3,156,000.00	3,900,000.00
	Nigeria			
User residential consumption (MWh)	Ghana	2,761,000.00	273,800.00	2,420,000.00
	Nigeria		11,962,000.00	
*Population (million habs.)	Ghana	*24,965,816.00	*24,391,823.00	*23,824,402.00
	Nigeria	*162,470,737.00	*158,423,182.00	*154,488,072.00
	Ghana	*12,016,446.69	*11,899,550.85	*11,790,505.95

ANALYSIS RESULTS

TABLE ADVANCED CHART



Observe the trend and compare different energy indicators

Explore Section

REEE INITIATIVES

PROJECTS

STAKEHOLDERS

ENERGY GENERATORS 

DOCUMENTS

ENERGY GENERATORS

Find an Energy Generator

▼ Country ▼ Generation Type ▼ Status ▶ Connection Type Items per page

Select All

- Benin
- Burkina Faso
- Cape Verde
- Cote d'Ivoire
- Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Niger
- Nigeria
- Senegal
- Sierra Leone
- Togo

Select All

- PV Solar
- Wind
- Small Hydro
- Medium Hydro
- Biofuel
- Biomass
- Wave
- Large Hydro
- Diesel
- Heavy Fuel
- Gas
- Coal

Select All

- Identified
- Planned
- Operational
- Closed

- All -

COUNTRY	TITLE	CAPACITY INSTALLED	GENERATION TYPE	STATUS	CONNECTION
Cape Verde	Sal Solar Field	2.50 MW	PV Solar	Operational	Ongrid
Cape Verde	Santiago Solar Field	5.00 MW	PV Solar	Operational	Ongrid

2 results found

Total Operational
PV Solar plant
ongrid is 7.5MW

Within seconds you can find and compare the capacity of operational or planned RE technologies in the ECOWAS region



Partners

- **Joint Research Centre (JRC)**
- **Global Solar Atlas (IRENA)**
- **University of Geneva**
- **Noveltis**
- **GIZ**
- **Energy Centre, KNUST**
- **2iE**
- **WAPP**
- **CENER**
- **Quinvita**
- **African Caribbean and Pacific Group of States (ACP)**
- **Repowermap.org**

MID-TERM ACTIVITIES (ONGOING PROJECTS)

1. **ACP-EU project on**
 - **Spatial Data Infrastructure**
 - **Energy Access Maps: Population electrified and non-electrified**
 - **Ratio map of energy consumption to green energy potential**
 - **Improve Solar and wind Maps - comparism with ground data**
2. **Small Hydro Resource assessment**
3. **EREF project on supporting the identification of small scale Renewable Energy power plants**
4. **West Africa status report with REN12**
5. **Energy efficiency maps**
6. **Data**
 - **Review of the country profile indicators**
 - **Improvement of the framework for data collection**
7. **Communication**
 - **Communication strategy with focus on Member state**

ACP-EU PROJECT

“Promoting Sustainable Energy Access through the use of Geospatial Technology in West Africa”

Executed under the ACP-EU Cooperation Programme in Science and Technology II (S&T II), which aims to contribute towards building and strengthening capacities in the areas of Science, Technology and Innovation in ACP countries.

Total Budget for 2 years: 1,090,836.36 EURO

EU Grant: 927,201.47 EURO

Co-Financing: 163,631.89 EURO

PARTNERS

1. **Noveltis S.A S, France**
2. **Department of Energy, Ministry of Tourism, Industry and Energy, Cabo Verde**
3. **Université de Genève, Switzerland**
4. **The Energy Center, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana**
5. **And you**

WHAT WE AIM TO ACHIEVE

SPECIFICALLY, IT IS AIMED AT RESTRUCTURING THE ECOWREX GIS FRAMEWORK TO EFFECTIVELY SUPPORT POLICY MAKERS, INVESTORS AND OTHER STAKEHOLDERS WITH A PLANNING AND DECISION MAKING TOOL.

MAIN ACTIVITIES

1. Enhancement of the Solar and wind
2. Develop a map of a ratio between the power consumption and green power potential.
3. Developed maps on energy access and identification of cost effective technologies to improve the access rate.
4. New standard web services will incorporated onto the ECOWREX GIS framework, to aid in data interoperability, effective data processing, information sharing and knowledge transfer.
5. **CAPACITY BUILDING FOR MEMBER STATES, TO INCREASE AWARENESS AND USE OF GEOSPATIAL TECHNOLOGY.** ↓

MAIN ACTIVITIES (CONT'D)

The specific objectives of the workshop will be to:

- 1. Share experiences on energy planning, particularly based on geographical information systems**
- 2. Introduce participants to the guidelines for data and meta-data collection**
- 3. Assist participants with defined data formats and metadata and clear guidelines regarding acceptable standards and metadata content according to the ISO 19115 and ISO19139.**
- 4. Facilitate the knowledge and benefits of data and metadata harmonization**
- 5. Raise awareness on spatial data management and how it can help to improve energy access through effective planning**

Thank You! Merci! Obrigado!

Visit ECOWREX: www.ecowrex.org

Presenter: Jafaru AbdulRahman

Email: jabdulrahman@ecreee.org

