REN21 2012 GSR webinars:

ECREEE Presentation

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PRESENTATION OUTLINE

- *INTRODUCTION - ESTABLISHMENT OF ECREEE*
- *OVERVIEW: ENERGY ACCESS CHALLENGES*
- *POLICY LANDSCAPE*
- *MARKET OVERVIEW*
- *DEVELOPMENT TRENDS*
- *INVESTMENT AND BUSINESS PROMOTION*
- *FUTURE PROSPECTS*

Establishment of ECREEE

- Foundation laid by **Regulation C/REG.23/11/08** of the 61st Session of ECOWAS Council of Ministers in Ouagadougou, Burkina Faso, on November 23, 2008
- **Launch of the ECREEE preparatory phase in November 2009:** with support of the ECOWAS Commission, Austrian and Spanish Governments and UNIDO
- **Official Inauguration and launch of the ECREEE Secretariat** in Praia, Cape Verde on 6th July 2010
- **Governance Structure and Network of National Focal Institutions (NFIs) established**
- **ECREEE Business Plan (2011 to 2016) with long-term vision**
- **2010/11 work plans implemented and 2012 work plan and budget approved**

ECREEE Objectives & Activities

Specific Objective

Creation of favorable framework conditions and an enabling environment for RE&EE markets by supporting activities directed to mitigate existing barriers

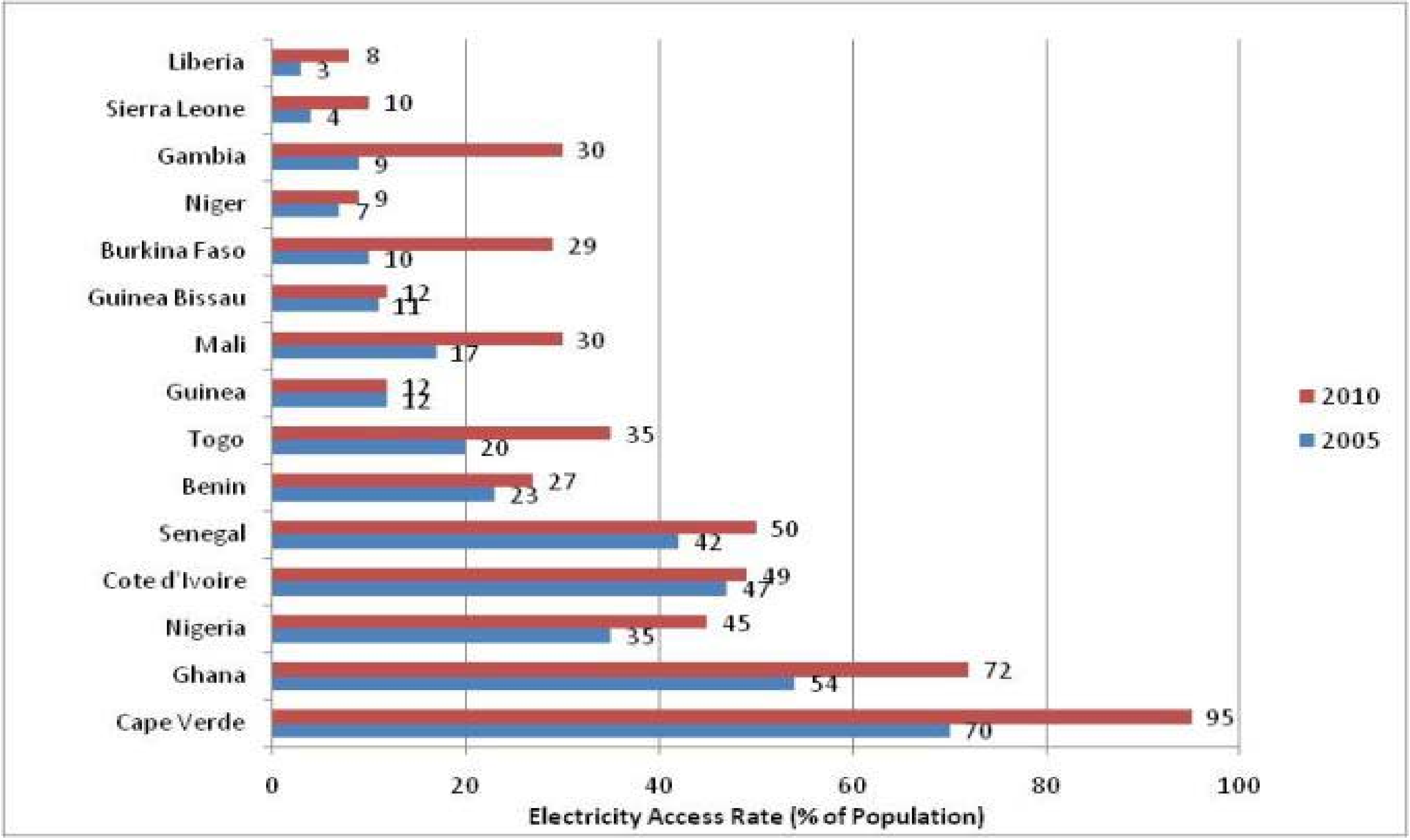
ECREEE Activities

1. Tailored policy, legal and regulatory frameworks and quality standards (**RE & EE regional policies adopted**)
2. Capacity building of key groups of different sectors: short & long term
3. Advocacy, awareness raising, knowledge management and networking
4. Business and Investment Promotion (**NAMAs Strategy, ERIF, EREF launched**)

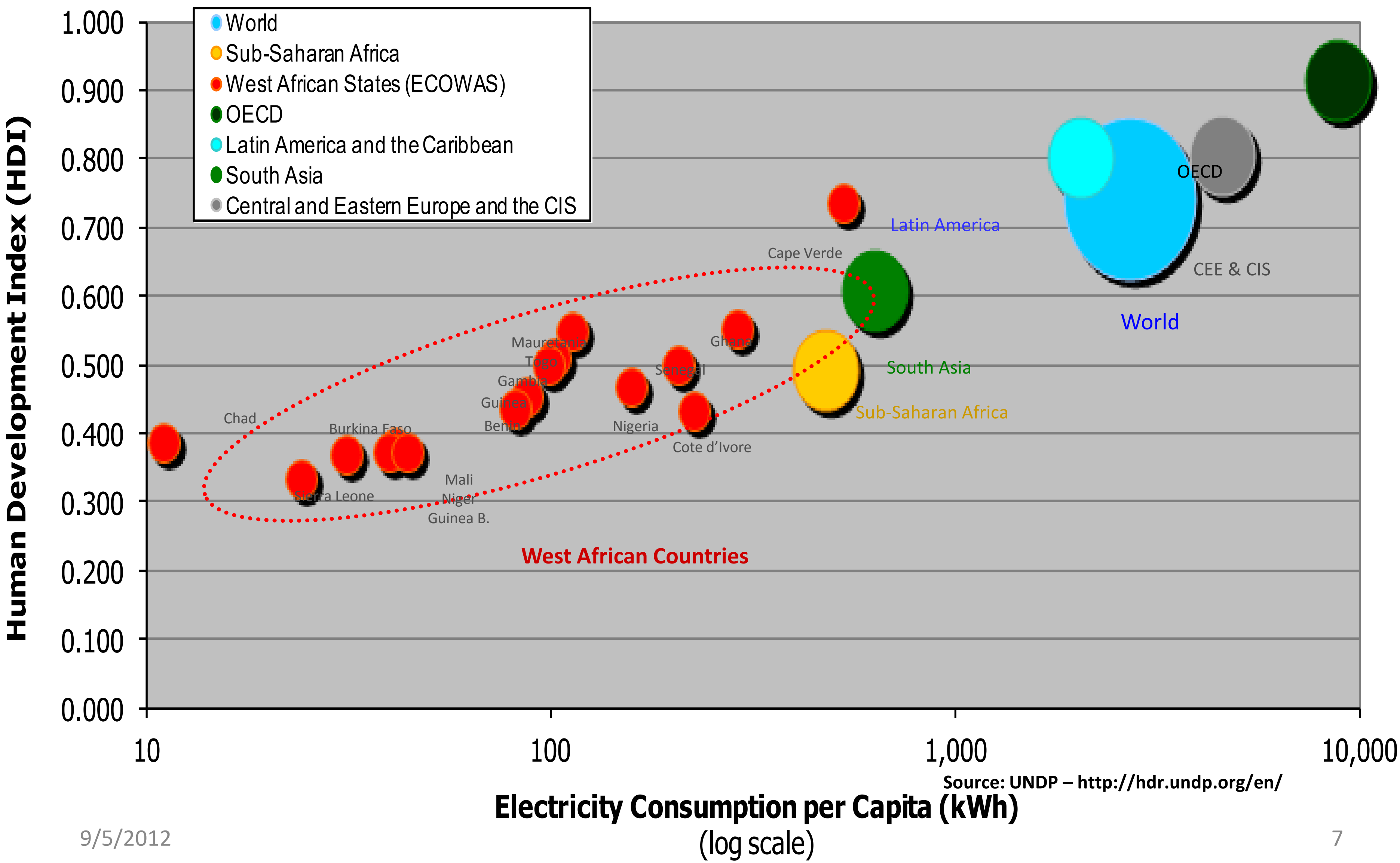
Energy Access Challenges- an Overview

- **Interrelated challenges of energy poverty, energy security and climate change**
- **Low Access to modern energy service**
  - One of the lowest energy consumption rates in the world;
  - The poor spend more of their income on low quality energy services;
  - Heavy reliance mainly on traditional biomass;
  - Household access to electricity services is only around 20% (40% in urban and 6-8% in rural areas);
- **Energy security concerns**
  - High vulnerability to fossil fuel price volatility (60 % of electricity generation from oil)
  - Gap between rising urban energy demand, available generation capacities and limited investment capital;
  - High losses in the energy systems (e.g. high energy intensity and low demand and supply side efficiency);
- **Climate changes concerns**
  - Increasing energy related GHG emissions
  - Climate change impacts vulnerable West African energy systems (e.g. water flows, extreme weather events)

Electricity Access Rate in ECOWAS 2005 and 2010



Lack of Access and its implications for the HDI



Source: UNDP – http://hdr.undp.org/en/

Energy Access Challenges: Identified Barriers

Technical, economic, financial, institutional, legal an capacity related barriers for RE&EE exploitation:

- Lack of tailored RE&EE policy, legal and regulatory frameworks;
- Lack of RE & EE standards and appraisal tools;
- Low capacities and RE&EE knowledge base of key groups in public and private sectors;
- Lack of awareness of key groups in public and private sectors on different levels (e.g. federal, provincial); lack of advocacy and lobby groups;
- Lack of technology transfer and adaptation of technologies;
- Lack of risk and investment capital and tailored financial schemes;
- Lack of regional approaches, forums and information exchange of like-minded key groups;

Policy Landscape: Targets

Some National Targets

- Ghana: Renewables in general - 10% by 2020
- Cape Verde: 25% RE penetration by 2015 & 50% by 2020
- Senegal: 15% RE penetration by 2020
- Nigeria
  - Wind: 40 MW by 2025
  - Solar PV: 300 MW by 2015; 4,000 MW by 2025
  - Small hydro: 100 MW by 2015; 760 MW by 2025
  - Biomass: 5 MW biomass-fired capacity by 2015; 30 MW by 2025

Policy Landscape: Targets (contd.)

Some National Targets

- South Africa
  - Renewables in general 3,100 MW capacity (including 500 MW wind and 50 MW CSP)and
  - 10,000 GWh produced by 2013
- Mozambique:
  - Wind, solar, and hydro : 2,000 MW each
  - Solar PV SHS: Installation of 82,000 systems;
  - Bio-digesters: 1,000 systems installed;
  - Wind pumping stations: 3,000 installed &
  - Solar heaters 100,000 installed in rural areas

(Source: REN21 GSR 2012)

Policy Landscape: Targets (contd.)

Some National Targets

- Ethiopia:
  - Wind 770 MW by 2014, Hydro 10,641.6 MW (>90% large-scale) by 2015; 22,000 MW by 2030;
  - Geothermal 75 MW by 2015; 450 MW by 2018; 1,000 MW by 2030;
  - Bagasse 103.5 MW
- Uganda:
  - Capacity :- 188 MW from small hydro, biomass, and geothermal by 2017
  - Solar water heaters: 30,000 m2 installed by 2017
  - Biogas digesters: 100,000 by 2017

(Source: REN21 GSR 2012)

Policy Landscape: Targets (contd.)

Some National Targets

- Morocco :
  - Wind:- 1,440 MW by 2015; 2,000 MW by 2020;
  - Solar 2,000 MW by 2020; Small hydro:- 400 MW by 2015;
  - Solar hot water:- 0.28 GWth (400,000 m2) by 2012, 1.19 GWth (1.7 million m2) by 2020
- Kenya:
  - Renewables in general - Double installed capacity by 2012 &
  - Geothermal - 5,000 MW by 2030
- Egypt:
  - Wind 12% of electricity and 7,200 MW by 2020;
  - Hydro, solar, and other renewables 8% of electricity by 2020

(Source: REN21 GSR 2012)

Policy Landscape: Targets (contd.)

ECOWAS Regional RE Policy and Targets

in MW installed capacity	2010	2020	2030
ERREP renewable energy options in MW	**0**	**2,425**	**7,606**
ERREP renewable energy options in % of peak load	0%	10%	19%
Total renewable energy penetration incl. large hydro	32%	35%	48%
in GWh	**2010**	**2020**	**2030**
ERREP renewable energy options – production in GWh	**0**	**8,350**	**29,229**
ERREP renewable energy options - % of energy demand	0%	5%	12%
Total renewable energy production incl. large hydro	26%	23%	31%

Least-cost option	2010	2020	2030
Off-grid (mini-grids and stand-alone) share of rural population served from renewable energy - %		22%	25%

Least-cost option	2010	2020	2030
Biofuels (sustainably produced) Ethanol as share of Gasoline consumption Biodiesel as share of Diesel and Fuel-Oil consumption		 5% 5%	 10% 10%
Improved cook-stoves - % of population	11%	100%	100%
Efficient charcoal production share-%		60%	100%
Use of ethanol, biogas and LPG for cooking - % of population	17%	36%	41%

Enabling Environment: First RE &EE Projects implemented

RE Projects completed in 2010

2.5 MW Solar PV, in Sal, Cape Verde
Commissioned October 1, 2010

5 MW Solar PV, in Praia, Cape Verde
Commissioned November 2, 2010

A 2MW Solar PV Park under construction in Ghana

Enabling Environment: First RE &EE Projects implemented

RE Projects completed in 2011

10 MW Wind Farm, in Santiago, Cape Verde
Commissioned November, 2011

6 MW Wind Farm, in Sao Vicente, Cape Verde
Commissioned November, 2011

<u>25,5 MW of Wind Power</u>
Cabeólica – PPP between AFC, Finnfund, InfraCo, Electra and the National Government of Cape Verde

8 MW Wind Farm, in Sal, Cape Verde
Under construction

2.5 MW Wind Farm, in Boavista, Cape Verde
Under construction

10 MW Wind park under construction in Nigeria

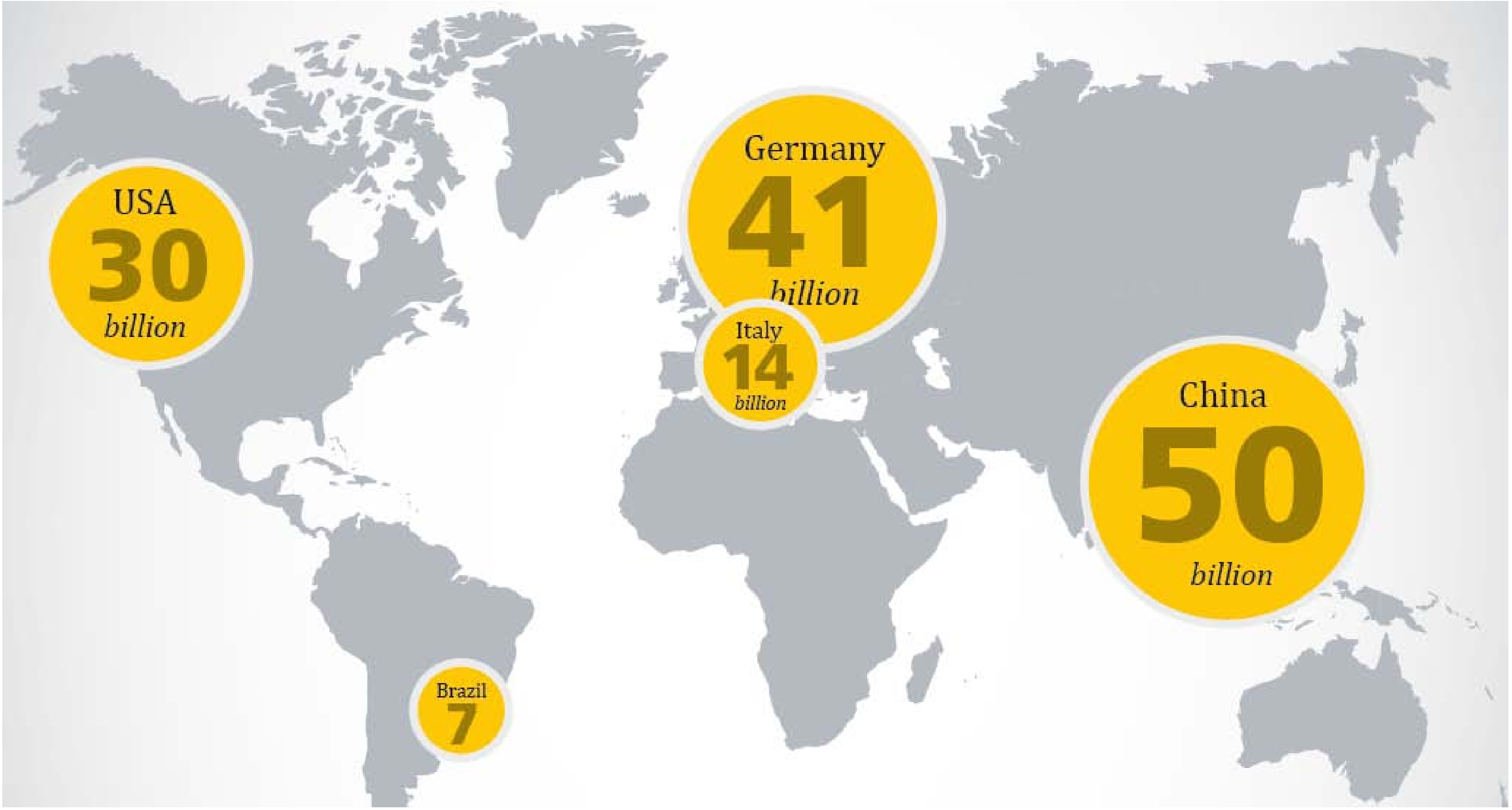
Market Overview

- Traditional biomass accounts for the largest share of the energy demand – alternatives & efficient stoves scaling up being discussed
- Electricity generation continues to trends toward fossils fuels
- RE for electricity still limited but growing
- Solar PV continues to gain grounds especially in SHS for rural areas
- Limited but growing quantities of biofuels for rural electricity in some countries.
- Biofuels production picking-up but with caution

Development Trends

- Renewable Energy industry development in the region include a solar PV assembly plants, ethanol distillery,
- Reduction in PV prices is contributing to greater interest in investment and installation
- many countries are developing national RE&EE policies
- Interests to establish regional RE&EE Centres similar to ECREEE would change industry trends in the future

Investment Flows



Source: UNEP/Bloomberg: Global Trends in Renewable Energy Investment 2011 From GSR 2012 Report

Enabling Environemt: First RE &EE Projects implemented

SPEC-SOLAR

First manufacturing plant of PV panels assembly in ECOWAS. Dakar (Senegal)

25 MW PV module production, in Dakar, Senegal July, 2011

RE & EE Investment

ECREEE develops instruments and projects for urban and rural areas:

Investment Initiative for Medium to Large Scale Commercial Power Plants

- **EREIF: Establishment of a RE Infrastructures Fund for West Africa**
- **Advisor and facilitator for the National Governments in all the phases of a RE Power Plant**

The ECOWAS Renewable Energy Facility (EREF) for peri-urban and rural areas

- **A Small grand Funding facility to promote feasibility studies, RE business start-ups, and small rural projects**

Several demonstration projects started

- **Rural Energy projects including Micro-Grid Projects**
- **ECOWAS HQ Solar Project in Abuja**
- **Solar Cooling Project in Praia**

EREIF: RE Investment Fund

First pipeline of Medium-Large Scale Commercial Power Plants identified (November 2011)

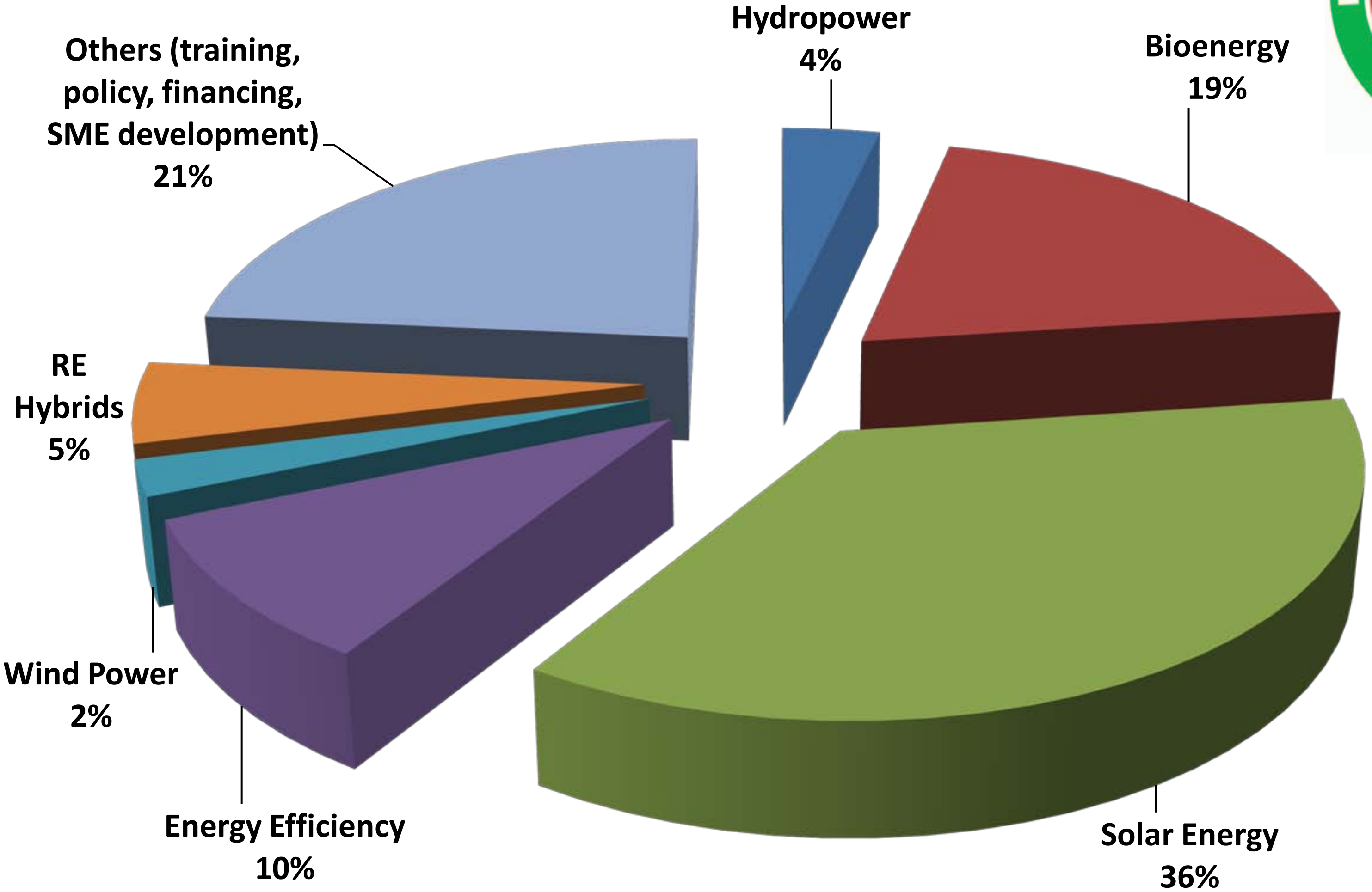
64 Projects

% RE Penetration in ECOWAS Grid: less than 20% (in capacity installed)

Investment needed:

	PV	CSP	Wind	Small Hydro	Biomass	Other	TOTAL
Investment (million EURO)	952	680	752	420	658	90	3,582

RE&EE Technology Focus of EREF Concept Notes



Future Trends

- Interests to establish regional RE&EE Centres are key to developments in the future
- Renewable Energy Policy development being taken at the highest political levels in Africa
- Interest is growing to establish industries & installations: solar PV assembly plants, ethanol distillery,
- Greater awareness and capacity development
- Efforts in mobilizing financing and investments:

Thank you! Merci! Muito Obrigado!

Visit our website www.ecreee.org