



**15TH INTERNATIONAL ENERGY FORUM MINISTERIAL**

**Algiers, 26-28 September 2016**

**International Conference Center of Algiers**

**SUSTAINABLE ENERGY ACCESS: A CRITICAL FACTOR FOR  
HUMAN DEVELOPMENT**

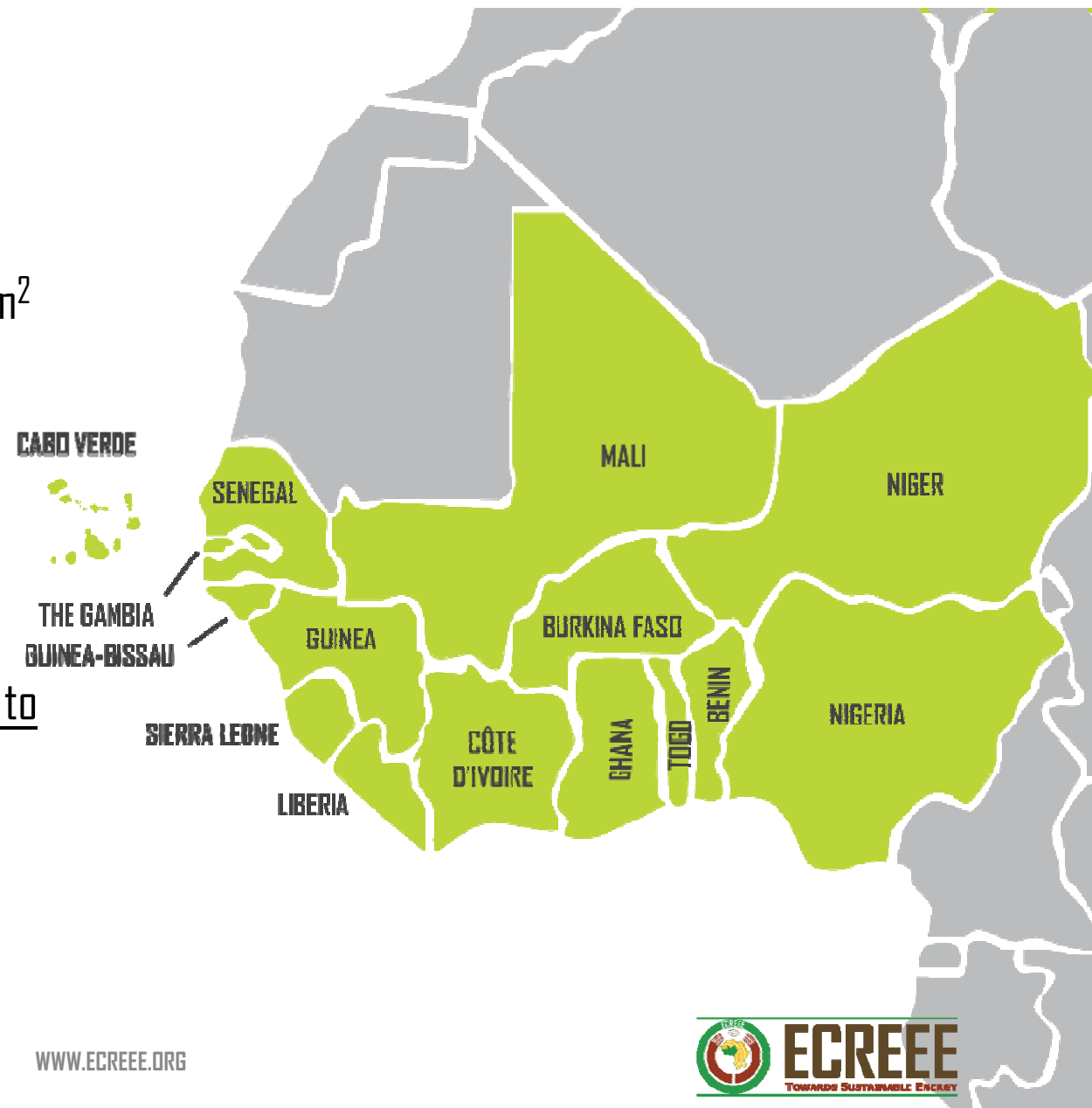
**Mahama Kappiah**  
**Executive Director**  
**ECREEE**



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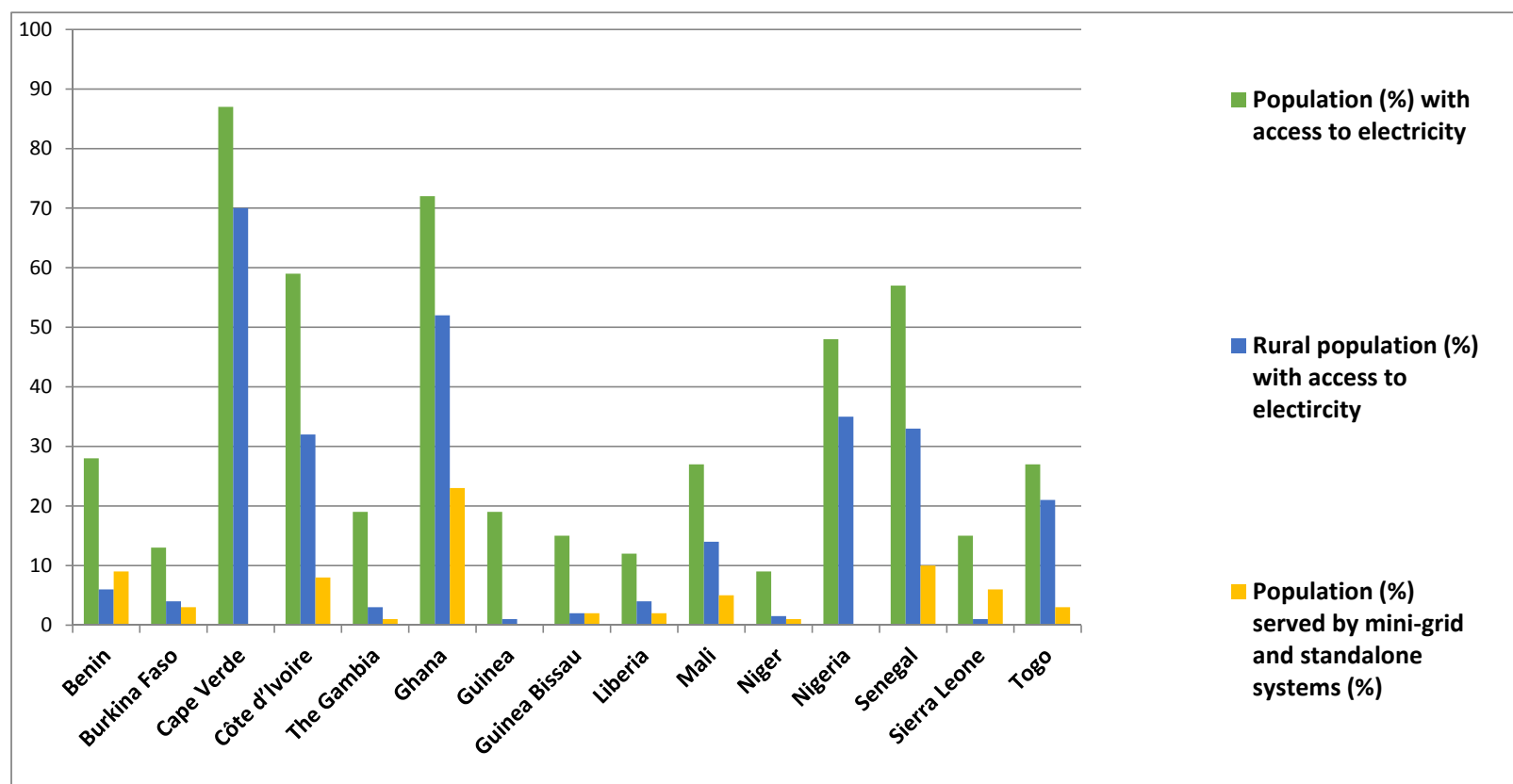
# THE ECOWAS REGION

- 15 countries with a land area of 5 million m<sup>2</sup>
- Climate from semi-arid to humid tropical
- Population of over 300 million people
- 60% of population live in rural areas
- Almost 176 million people have no access to electricity (52%)
- Biomass constitute 80% of total energy consumption



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# Electricity Access Situation in the ECOWAS Region



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# RE & EE POTENTIALS IN WEST AFRICA

RE & EE play an important role in simultaneously addressing the energy challenges in West Africa

## RE potentials so far unexploited

- ✓ 23,000 MW of feasible **large and small hydropower potential** (16% exploited);
- ✓ Huge potential for **all forms of bioenergy** (e.g. biomass, biogas, biofuel);
- ✓ Average **solar radiation of 5-6 kWh/m<sup>2</sup>** per day throughout the year;
- ✓ Considerable **wind power potential** in some countries;
- ✓ RETs are particularly effective in combination with EE measures;

## EE potentials so far unexploited

- ✓ Wide range of options to improve **supply and demand side efficiency** (including energy saving)
- ✓ e.g. **Equipment labeling and building standards**;
- ✓ e.g. **Cleaner production** in industry (e.g. process heat);
- ✓ e.g. **Technical and commercial losses** in the electricity system;

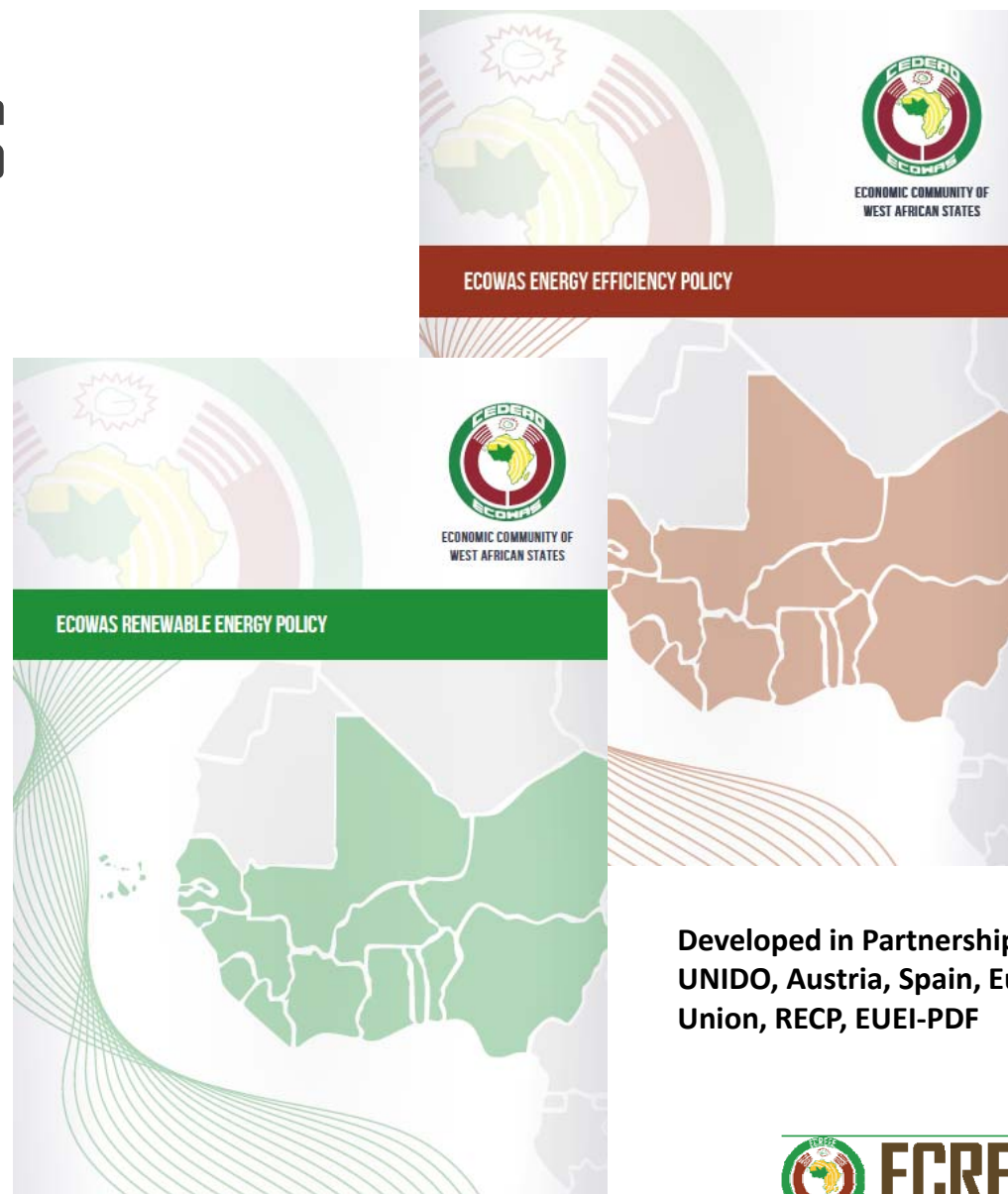
# ECREEE RESULT AREAS



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# ECOWAS RE & EE POLICIES

- Adopted by the ECOWAS Authority of Heads of State and Government, July 2013, Abuja
- ECREEE is coordinating the implementation of the RE and EE Policies and SE4ALL action Agendas
- National SE4ALL Action Agendas developed across the 15 Member States
- Investment Prospectus to operationalize the National Action Plans currently being developed



Developed in Partnership with  
UNIDO, Austria, Spain, European  
Union, RECP, EUEI-PDF



# ECOWAS RE POLICY TARGETS BY 2020/2030

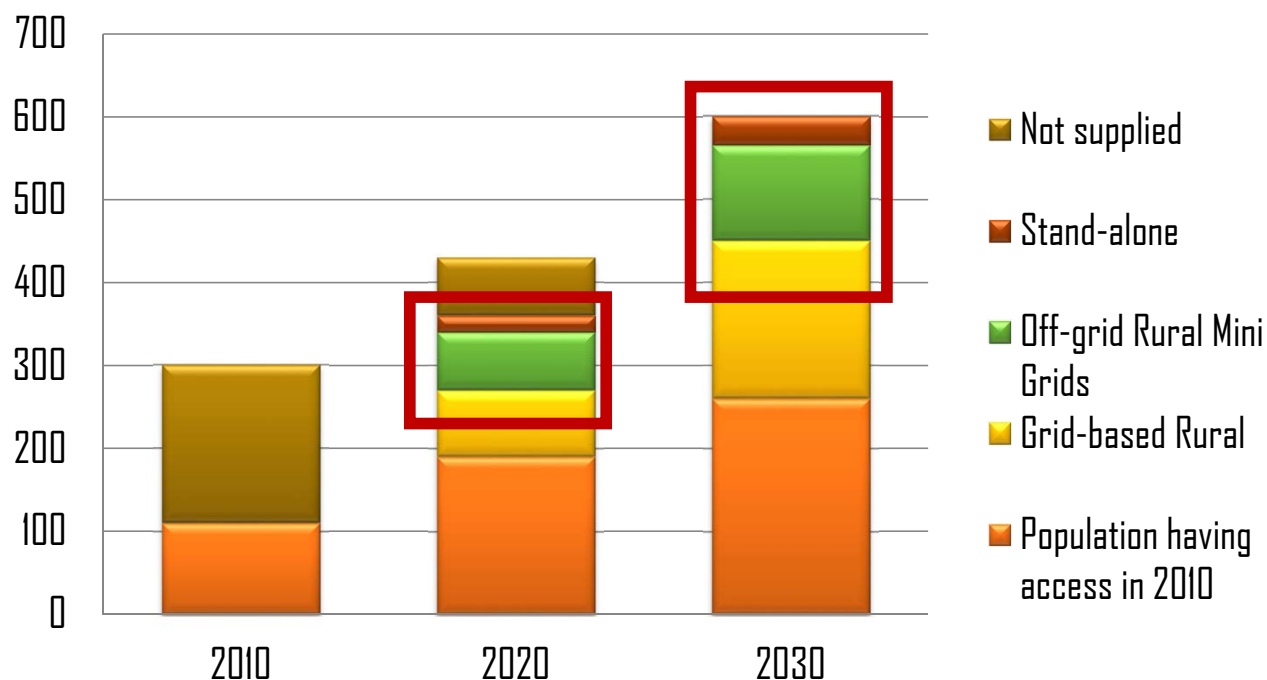
Grid-Connected RE Targets	2020	2030
RE share in total ECOWAS electricity mix (incl. large hydro)	35%	48%
RE share in total ECOWAS generation capacity (excl. large hydro)	10% 2.425 MW	19% 7.606 MW

Rural RE Targets	2020	2030
Rural population supplied by mini-grids and stand-alone system	22%	25%
Mini-Grids to be installed	60,000 3,600 MW	128,000 7,680 MW
Population served with improved stoves	60%	100%
Population with access to LPG	17%	32%

# The ECOWAS goal: universal access for all the citizens becomes a reality in 2030

Rural RE Electricity Targets	2020	2030
Share of rural population supplied by mini-grids and stand-alone systems in %	22%	25%
Mini-Grids to be installed	60,000 3,600 MW	128,000 7,680 MW
Stand-alone systems	210,000	262,000
Investment (b€)		32,3

Population in mio inhbt



Source: EREP

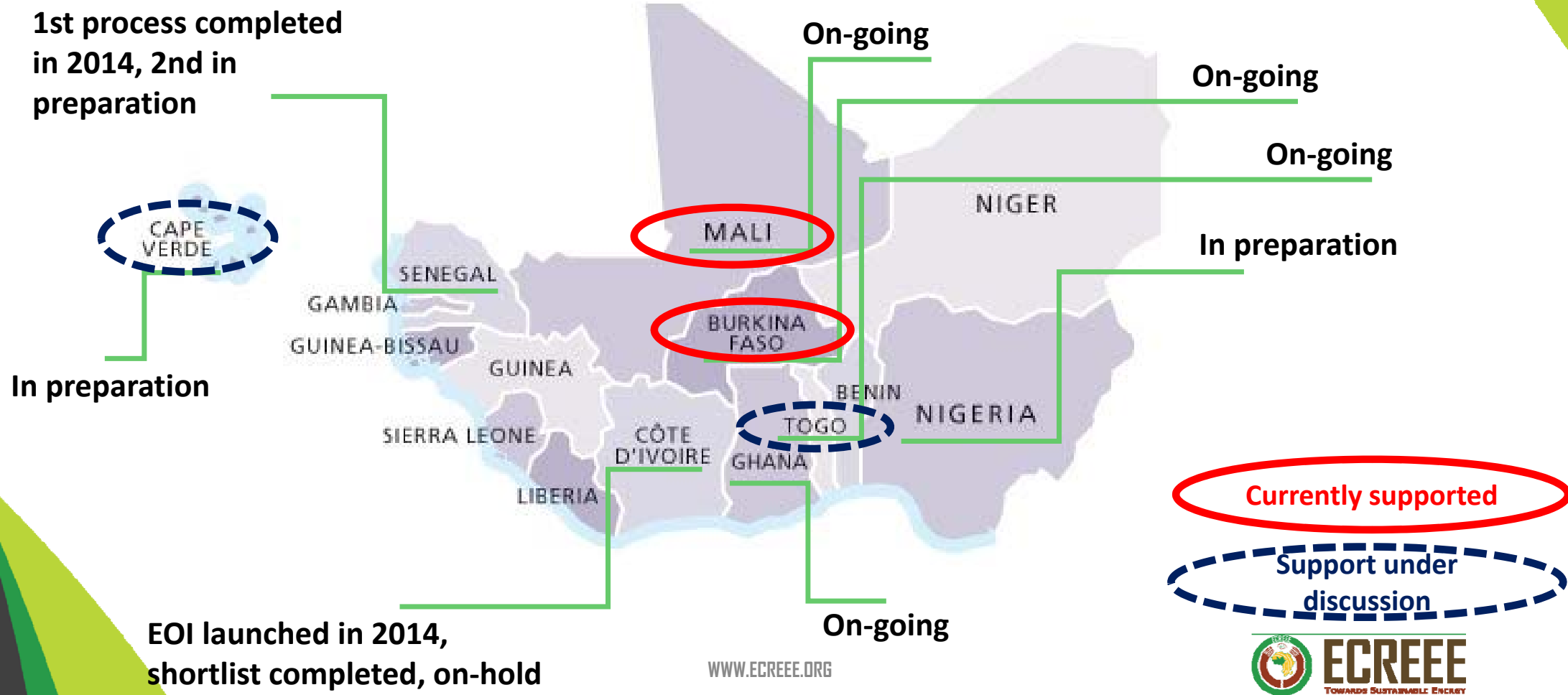
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# ECREEE Support to Grid-connected RE Projects

Country	Type of plant	Capacity [MW]	Status	Promoter	Provided Support	Instrument
Cabo Verde	PV	6.5	Operational	Government	Assets Evaluation	ECOWAS Clean Energy Initiative
Sierra Leone	PV	6	Development	Government	Elaboration of the competitive bidding documents	
Gambia	PV	10	Development	IPP (Z-One and Tryba Energy)	Technical and legal advise in contract negotiation	
Burkina Faso	Biogas	0.5	0.3 MW in operation, II phase on-going	IPP (Fasobiogaz)	Improvement of the business plan	WAFCEF
Cabo Verde	Wave to Energy	0.5	Feasibility	IPP (RME)	Improvement of the business plan	
Côte d'Ivoire	Hydro	44	Feasibility	IPP (Ivoire Hydro Energy)	Improvement of the business plan	

# Competitive biddings for IPPs are becoming a trend in the region and ECREEE is increasingly supporting Member States



# ECREEE INITIATIVES ON ENERGY ACCESS

## ECOWAS RENEWABLE ENERGY FACILITY (EREF)

- Grant Facility managed by the ECREEE Secretariat (ECREEE-SEC) in cooperation with its National Focal Institutions (NFIs)
- Undertakes regular call for proposals: 1<sup>st</sup> Call in 2011 and 2<sup>nd</sup> call in 2014
- Co-funds small and medium sized RE&EE investment and business projects  
(5.000- 50.000 EUR For the 1<sup>st</sup> call, 50.000- 200.000 EUR for the 2<sup>nd</sup> call)
- Projects aim to mobilize co-funding (minimum 25% 1<sup>st</sup> call, 50% 2<sup>nd</sup> call)
- Supports national or regional projects covering more than one country
- Particular focus on rural and peri-urban areas

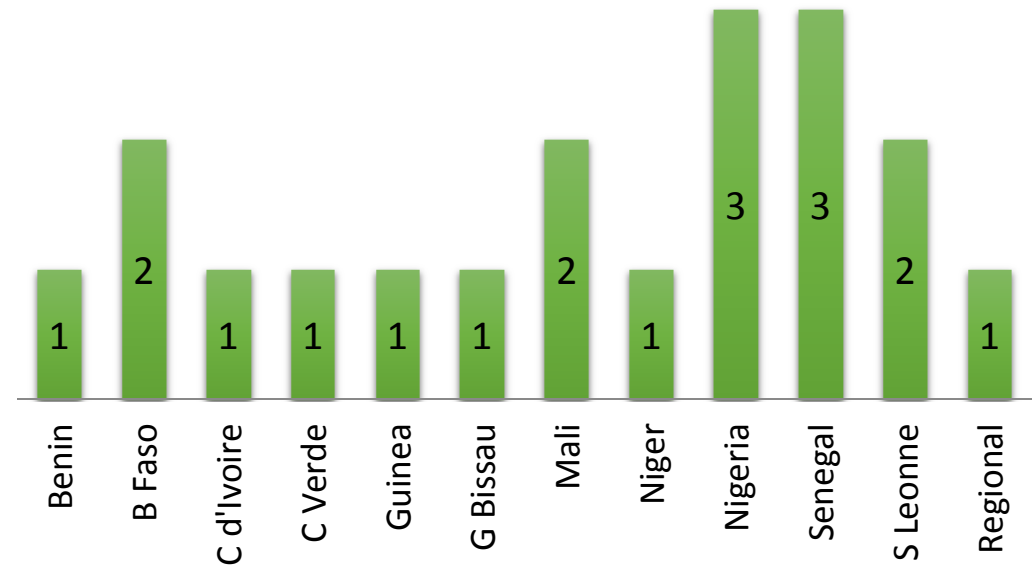
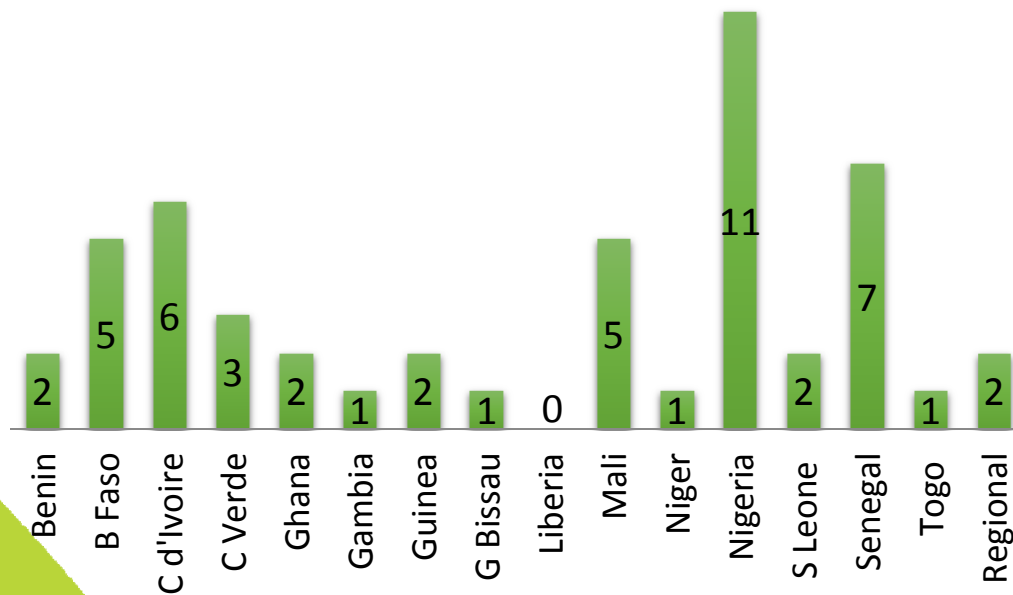


# SECOND EREF CALL: APPRAISAL PROCESS CURRENTLY ONGOING

51 proposals received from 14 ECOWAS  
countries + 2 regional  
projects

countries + 2 regional

19 proposals admitted to the second step of the appraisal process from  
11 ECOWAS countries + 1 regional projects



# Some EREF Projects

Project Id	Project title	Applicants,	Project Cost	Grant provided by ECREEE	Capacity to be install (kW)	Nbre of HHLs to be connected
EREF2-BF1-WP2014	Construction d'un système décentralisé hybride PV/PTFM fiable et mise en place d'un système pérenne de gestion, d'exploitation et d'entretien au profit de la population rurale de Gori - BURKINA FASO	Association Tin Tua ((lead), Partners: Cabinet Energy Consulting – CEC, Burkina Faso and Fonds de Développement de l'Electrification – FDE, Burkina Faso	375 497 €	161 692 €	38	120
EREF2-GN2-WP2014	Petite Hydraulique en Guinée - PEHGUI - Gestion d'un mini-réseau alimenté par une centrale hybride hydraulique et solaire photovoltaïque. - GUINEA	FONDEM (Lead), Partners:	800 000 €	197 600 €	50	200
EREF2-NE1-WP2014	Projet de Promotion des Energies Renouvelables au Niger (PPER NIGER) - Improving the life quality of one rural poor community in Sahel region through the promotion of their access to modern, affordable and sustainable sources of energy - NIGER	Fundación Plan International España (lead), Partners:	371 713 €	168 261 €	27,5	124
EREF2-REG1-WP2014	FORGES "Fortalecimento de modelos de gestão e venda de energia em micro-redes existentes em países lusófonos membros da CEDEAO (Cabo Verde e Guinea-Bissau)" - GUINEA BISSAU AND CABO VERDE	Instituto Tecnológico de Canarias,S.A. (ITC); Partners:	223 558,91 €	111 244,00 €	372	637
EREF2-REG3-WP2014	ECOWAS HQ solar plant - NIGERIA	ECREEE/ECOWAS COMMISSION	192 982,11 €	96 491,05 €	20	1
EREF2-NG3-WP2014	Mini Grid Based on Renewable Energy (Biomass) Sources to Augment Rural Electrification. (Expanding the reach of the UNIDO 32kWe Demonstration Biomass Gasifier Power Plant)	Centre for Skill Development and Training a.k.a Centre for Small Industry Research and Training (CENSIRT) – UNIDO Local Implementation Partner	367 636,62 €	161798,8285	32	172
	TOTAL		2 331 388,37 €	897 088,48 €	540	1254

# BENIN – Provision of Renewable Energy Services for the Sakabansi Population

- A mini-grid of 43kW solar PV capacity + Generator of 40kVa
- The final beneficiaries:
  - 240 households + 5 public services (schools, health centres, and administrative buildings) + 2 worship places + 7 small businesses
- Main activities of the project:
  - Purchase and delivery of equipment and materials, Construction of the solar plant and the electrical grid, Development of the management system of the mini-grid
  - Connection of households, Connection to public services, Training of local electricians on solar PV and energy efficiency, Training of end-user on rational use of energy, Information and awareness raising
- Project Budget: \$ 400,215.59 (DFID Contribution \$ 162,599 )





# Cabo Verde - Water and Energy for Sustainable Community Development in Planalto Norte

The project outputs include a 37kW solar-PV powered mini-grid

**Beneficiaries:** six communities will benefit from the mini-grid, with 76 families being connected, for a total of 250 people.

24 public services to be connected - schools, health centres, municipality agency, the local chapels, ministry of rural development agency, community centre, and 26 public lighting poles

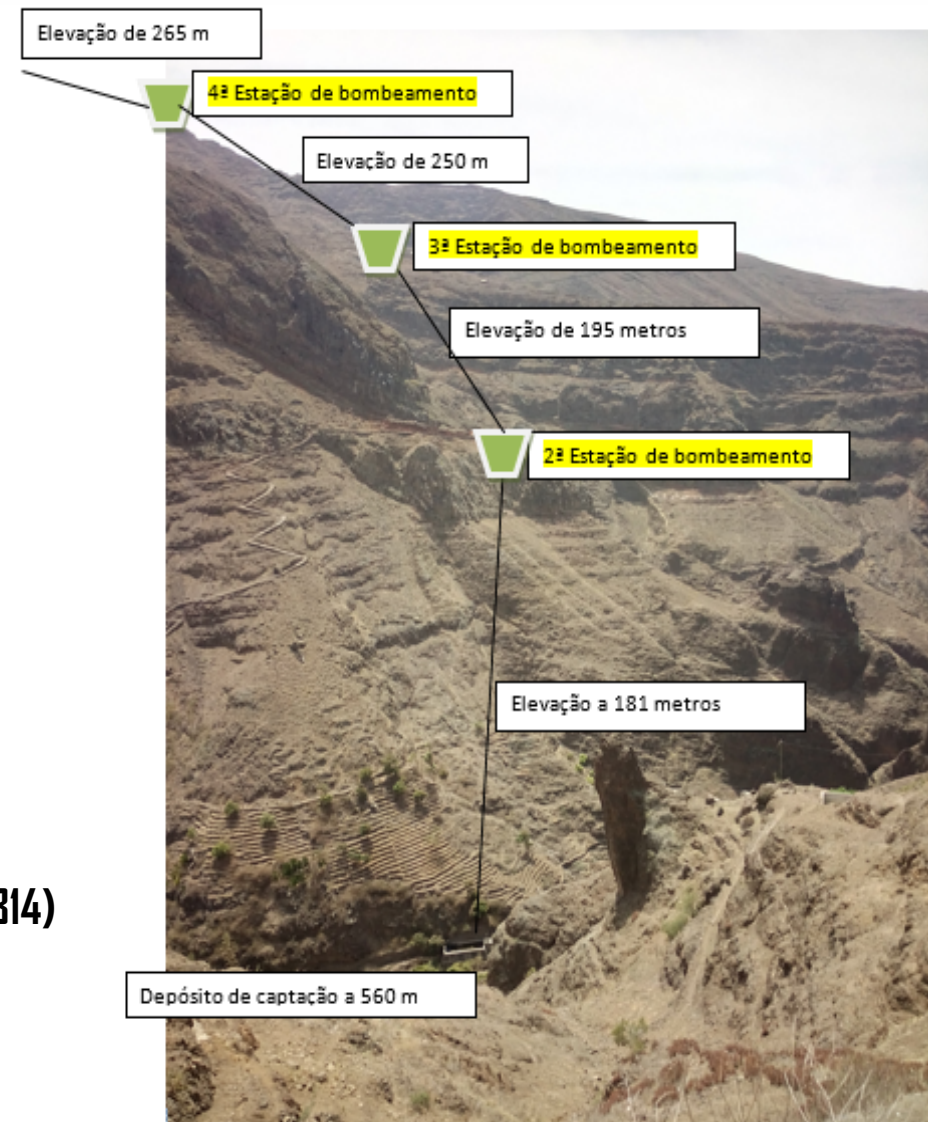
**Main activities of the project:**

- Installation of renewable energy system, Installation of system for water capture, pumping, storage and distribution, Training on transformation of cattle and agriculture products and management of production costs



**Project Budget: \$ 373,751.51**  
**( DFID Contribution \$ 143,814)**

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# Senegal – Doughe Hybrid Project and Sinthiou Fissa Solar PV Project

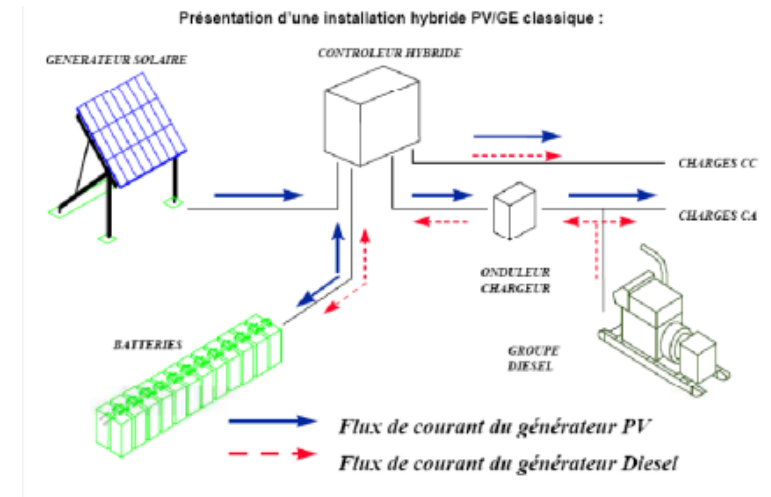
In Doughe- a 450 M<sup>3</sup>/day biogas system to be installed to power a 44kW generator

In Sinthiou Fissa, a 40kWp solar PV unit to be installed, to to hybridize a 30kW genset already in operation

## Beneficiaries:

- Doughe: 90 concession - 1850 people, SME, public building, schools and health centres,
- Sinthiou Fissa: 91 households - 1024 people, SME, public building, schools and health centres

Project Budget: \$ 580,238.51 (OFID Contribution \$ 265,846 )





# Sierra Leone – Mini-Grids to Empower the Health Sector

**2 solar PV-diesel hybrid systems each with 60 kWp PV + 60 kVA diesel, with battery storage of 250 kWh**

**Bénéficiaires: 200 households and 15 public services will be served by the mini-grids.**

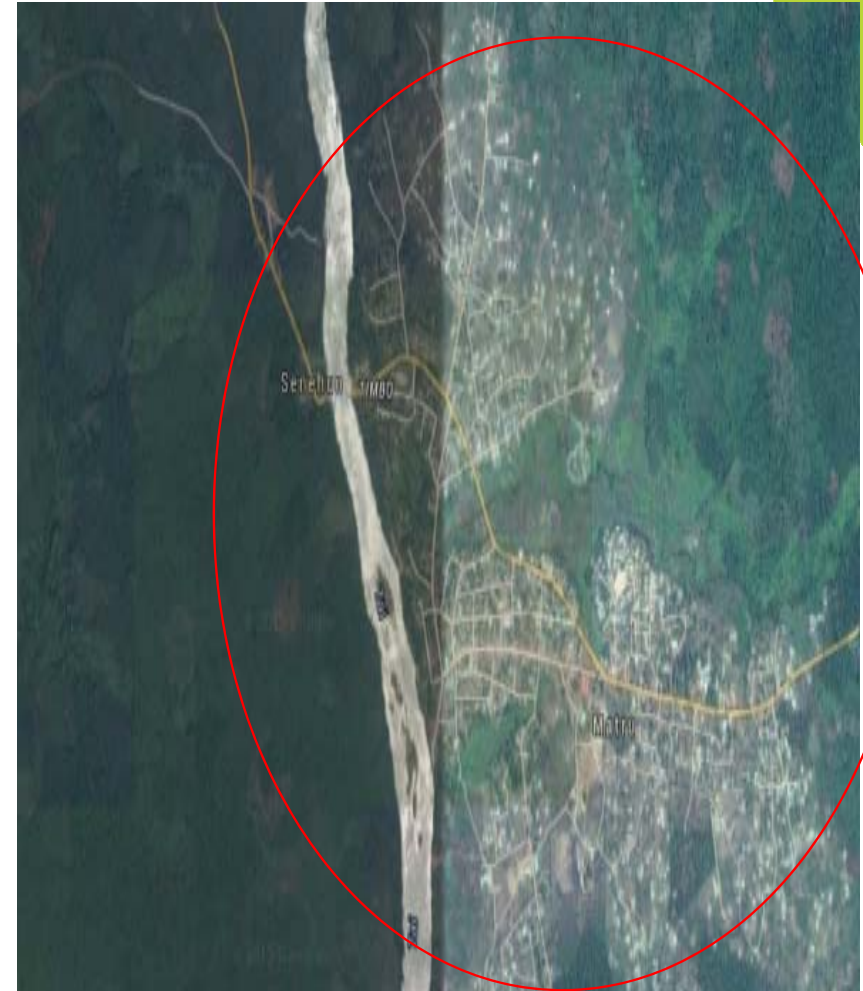
Main activities of the project:

- ~~Site and load analysis~~
- ~~System design and documentation~~
- Procurement of materials
- Installation of power generation and distribution equipment
- Household and other facility connections
- Final ownership contracts signed

Project Budget:

- \$ 406 501.98 (OFID Contribution \$ 179,779 )

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# European Union Supported Project: Sustainable development through Renewable Energy (DPER- South East Senegal)

Title of the action	• Sustainable development through Renewable Energies (DPER- South East Senegal)
Duration of the action	46 months
Total Budget/ EU cofinancing	• 8,692,353 euro/ 6.423.828 euros (74%)
Final beneficiaries	• 3 000 Rural hhls, 150 SMEs,
Partners	• ECREEE, Energie R, Solar 23 • <b>ASER</b> et l'Association Nationale des Conseils Ruraux: associés/ associated
Activities	• Installation of 40 solar PV clean minigrids (a total capacity of 800kWp) • Training of 80 technicians et capacity building for 385 local mayors

# PARTNERS

## PRINCIPAL



## NOUVEAU



## INVESTISSEMENT



## TECHNIQUE



## AUTRE

