



Regional Centre for Renewable Energy and Energy Efficiency
Centre Régional pour les Energies Renouvelables et l'Efficacité Energétique
Centro Regional para Energias Renováveis e Eficiência Energética

www.ecreee.org

RE REGULATIONS AND MARKET DEVELOPMENT IN WEST AFRICA

MAHAMA KAPPIAH

ECREEE

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ACCRA, GHANA



1. ECOWAS ACCESS TO ENERGY AND RE OFF-GRID SITUATION AND TRENDS



THE ECOWAS REGION



- 15 COUNTRIES WITH A LAND AREA OF 5 MILLION M²
- CLIMATE FROM SEMI-ARID TO HUMID TROPICAL
- POPULATION OF WITH 300 MILLION PEOPLE
- 60% OF POPULATION LIVES IN RURAL AREAS
- 11 OF THE 15 COUNTRIES ARE LDACS AND HIPIC
- ALMOST 176 MILLION PEOPLE HAVE NO ACCESS TO ELECTRICITY (52%)





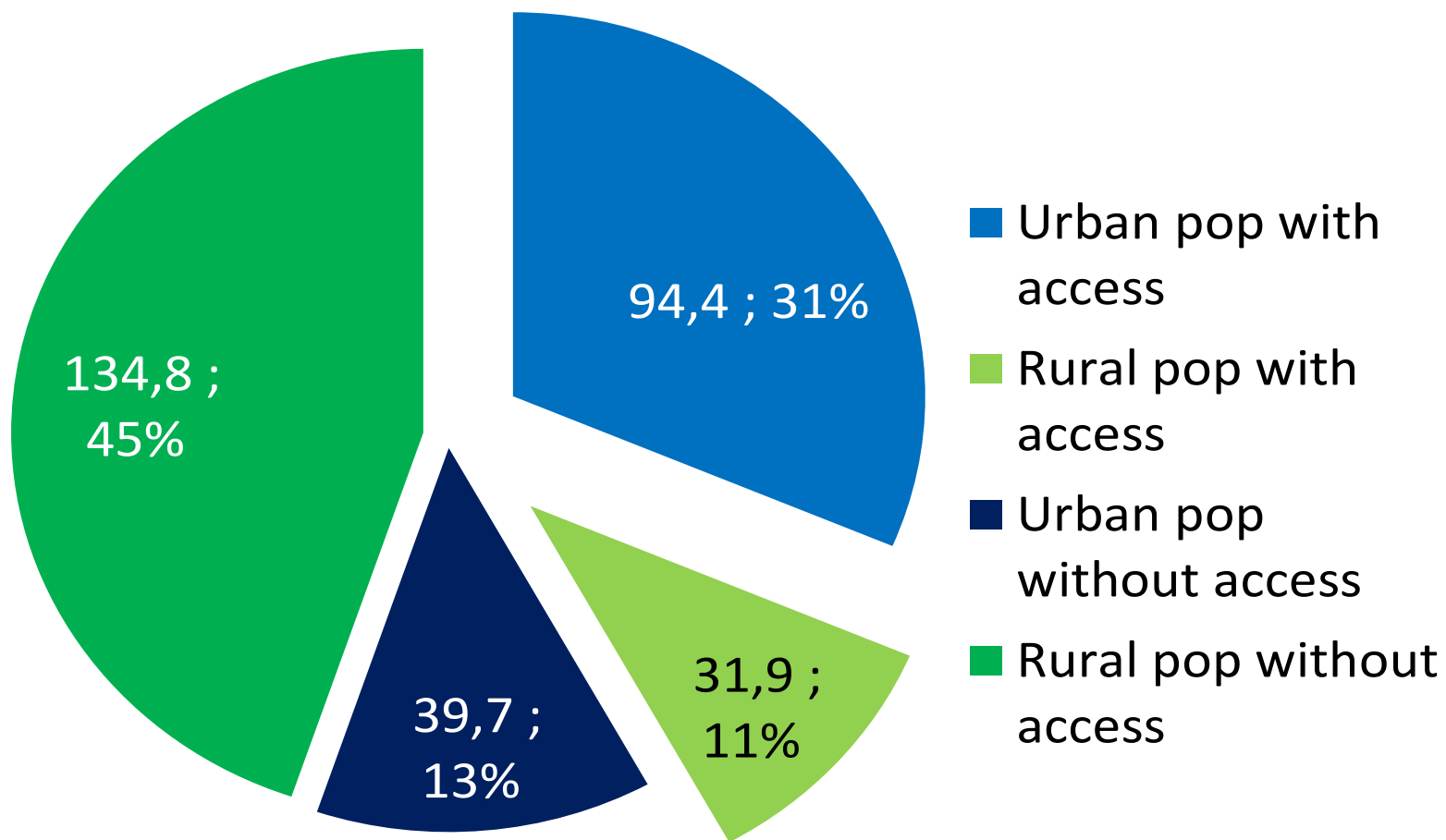
ACCESS SITUATION IN THE ECOWAS REGION



Country	Electrification rate (%)	Population living without electricity in 2009
Benin	24.8	6,655,119
Burkina Faso	14.6	14,064,282
Cape Verde	87	64,480
Côte d'Ivoire	47.3	10,401,821
The Gambia	19.0	1,469,135
Ghana	66.7	8,122,477
Guinea	15.0	8,484,352
Guinea-Bissau	15.0	1,287,940
Liberia	15.0	3,395,000
Mali	27.1	12,603,243
Niger	8.0	14,270,997
Nigeria	50.6	78,261,052
Senegal	42.0	7,211,562
Sierra Leone	15.0	4,987,406
Togo	22.0	4,701,682
ECOWAS	42.2	176,000,000



ACCESS SITUATION IN THE ECOWAS REGION





ACCESS SITUATION IN THE ECOWAS REGION: FORECAST 2015-2030



Country	Rural electrification rate (%)		Urban electrification rate (%)		National electrification rate (%)	
	2015	2030	2015	2030	2015	2030
Benin	6	52	75	100	35	72
Burkina Faso	4	32	70	100	17	46
Cape Verde	100	100	100	100	100	100
Côte d'Ivoire	48	100	100	100	74	100
The Gambia	5	43	42	88	27	69
Guinea	7	54	56	100	24	70
Guinea-Bissau	5	43	56	100	21	60
Ghana	90	100	100	100	95	100
Liberia	3	22	39	82	24	57
Mali	29	100	82	100	47	100
Niger	3	22	56	100	12	35
Nigeria	69	100	97	100	83	100
Senegal	48	100	100	100	70	100
Sierra Leone	5	43	49	100	22	65
Togo	5	43	70	100	33	68
ECOWAS	29	64	73	98	46	76



INVESTMENT REQUIREMENTS FOR 100% ELECTRICITY ACCESS IN ECOWAS BETWEEN 2011 AND 2030

Country	Population in 2010 (in millions)	Population in 2030 (in millions)	Current electricity access rate (%)	Additional households that would receive electricity between 2011-2030	Investment per annum between 2011-2030
Benin	8.8	13.9	24.8	2,307,772	126,927,471
Burkina Faso	16.5	26.0	14.6	4,294,520	236,198,613
Cape Verde	0.5	0.8	87	129,000	7,113,748
Côte d'Ivoire	19.7	31.1	47.3	5,146,995	283,084,701
The Gambia	1.7	2.7	15	450,711	24,789,080
Guinea	10.0	15.7	15	2,602,883	143,158,580
Guinea-Bissau	1.5	2.4	15	395,123	21,731,740
Ghana	24.4	38.4	66.7	6,360,617	349,833,919
Liberia	4.0	6.3	15	1,041,541	57,284,745
Mali	15.4	24.2	18	4,007,961	220,437,829
Niger	15.5	24.4	8	4,045,027	222,476,496
Nigeria	158.4	249.6	50.6	41,311,760	2,272,146,802
Senegal	12.4	19.6	42	3,242,323	178,327,786
Sierra Leone	5.9	9.2	15	1,530,068	84,153,739
Togo	6.0	9.5	22	1,571,859	86,452,259
ECOWAS	300.8	474.0	42.2	78,438,500	4,314,117,507



MARKET ASSESSMENT FOR MINI-GRID AND STAND-ALONE EQUIPMENT IN ECOWAS IN 2020 AND 2030

	Population in millions inhabitants			Localities		
	2010	2020	2030	2010	2020	2030
ECOWAS	300.7	421.0	601.4	213,700	213,700	213,700
Off-grid Rural		71.4	104.3		59,836	96,165 ²
Stand-alone Rural		21.0	47.2		(22,438) ¹	(27,781)
Off-grid Rural	0%	17%	17%	0%	28%	45%
Stand-alone Rural	0%	5%	8%	0%	10%	13%

	No of mini-grid	Invest per mini-grid	Total investment (M€)
2014-2020	60,000	0.283	16,980
2021-2030	68,000	0.215	14,620
2014-2030			31,600

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



2. ECREEE'S ACTIVITIES TO SUPPORT RE OFF-GRID PROJECTS



ECREEE'S ACTIVITIES TO SUPPORT THE DEVELOPMENT OF RE OFF-GRID PROJECTS AND INVESTMENTS IN ECOWAS COUNTRIES

- ❑ RE&EE Policy Framework**
- ❑ ECOWAS Observatory for RE&EE (ECOWREX)**
- ❑ ECOWAS Small Scale Hydro Power Program**
- ❑ ECOWAS RE&EE Capacity Building Program**
- ❑ ECOWAS RE Business and Investment Initiative**
- ❑ Rural RE&EE Access Program**
- ❑ ECOWAS Renewable Energy Facility (EREF)**



Foundation of ECREEE



- ❑ ECOWAS agency with the mandate to promote RE&EE markets
- ❑ Secretariat is based in Praia, Cape Verde
- ❑ National Focal Institutions (NFIs) among all ECOWAS countries
- ❑ Initial support of Austria, Spain and the United Nations Industrial Development Organization (UNIDO)



Austrian
Development Cooperation



- ❑ Official Inauguration of the Centre on 6th July 2010
- ❑ Governance Structure: Executive Board/Technical Committee
- ❑ ECREEE Business Plan with long-term vision by 2016
- ❑ Annual work plans: 2012 edition under execution

ECREEE Objective: Creation of an enabling environment for regional RE&EE markets by mitigating existing barriers



Software

TO ENABLE

Hardware

Strategic Chain

Capacity Development

Policy Support

Knowledge Management & Awareness

Investment and Business Promotion

Outputs

- Short-term training
- Long-term training
- Regional seminars
- Advocacy
- Publicity
- Energy audits
- Program activities

- Analytical support
- Conferences
- Policy dialogue
- Short-term training
- Demonstrations
- Programs
- Seminars
- Study tours
- Exhibits

- Databases
- Resource maps
- Research
- Policy evaluation
- Project evaluation
- Communications
- Publicity
- EREF grants

- Conferences
- Exhibits
- Policy dialogue
- Project preparation
- Financing
- Market analysis
- Communications
- Advocacy
- Publicity



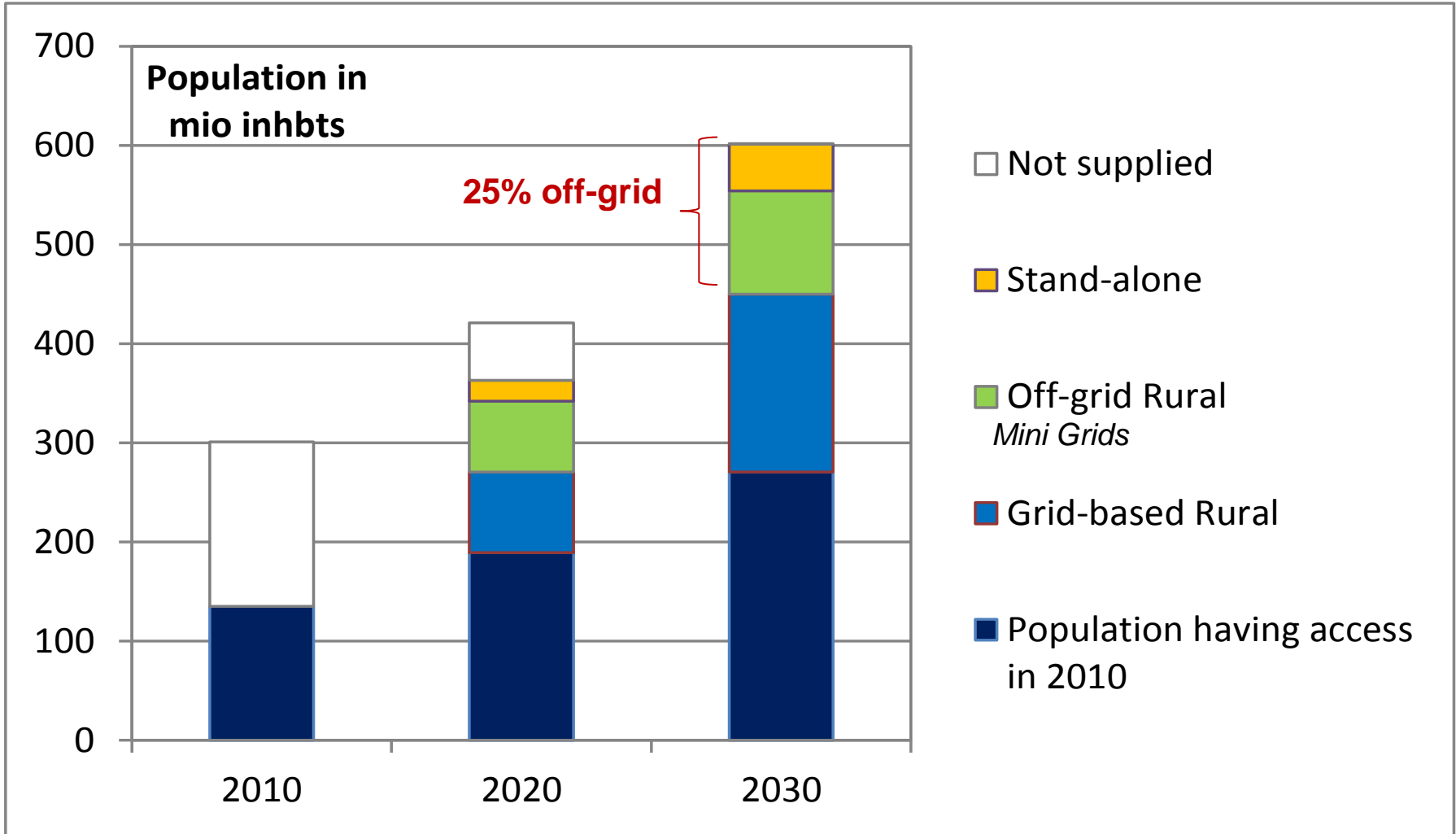
ECOWAS RE Policy Targets by 2020/2030

Grid-Connected RE Targets	2020	2030
RE share in total ECOWAS generation capacity (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 systems	22%	25%
Mini-Grids to be installed	60,000 3,600 MW	128,000 7,680 MW
Rural population served with improved stoves	100%	100%
Rural population with access to LPG	17%	32%



Proposed ECOWAS Rural Electrification Targets by 2030





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et l'Efficacité Energétique de la CEDEAO*

*Centro Regional para Energias Renováveis e
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Thank you! Merci! Muito obrigado!

**ECREEE Secretariat
Achada Santo Antonio
C.P. 288, Praia – Cape Verde
Tel: +2382624608, +2389225454
<http://www.ecreee.org>
info@ecreee.org**