NATIONAL ENERGY EFFICIENCY ACTION PLAN (NEEAP), 2016 (2015-2030)

Adopted By
THE INTER-MINISTERIAL COMMITTEE ON RENEWABLE ENERGY AND ENERGY EFFICIENCY (ICREEE)

Approved By
THE NATIONAL COUNCIL ON POWER (NACOP), July 14, 2016

Simplified Summary

Curated by Clean Tech Incubation and Acceleration Foundation with the generous support of ALL ON

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EXECUTIVE SUMMARY

The National Energy Efficiency Action Plan (NEEAP) sets out the implementation strategy for the National Renewable Energy and Energy Efficiency Policy (NREEEP) (2015). It provides an overview on concrete policy and regulations, laws, incentives and measures to be implemented to achieve Nigeria's energy efficiency targets and the Sustainable Energy for All (SE4ALL) goals.

This Guide provides a simplified summary of the NEEAP primarily for off-grid renewable energy stakeholders. It provides a context to the plans, summary of targets, measures for achieving these targets, incentives, support provisions, related policies and regulations, stakeholders and implementation strategy.

CONTEXT

The National Energy Policy (NEP) 2013 - a revised version of NEP 2003, emphasizes the effective and efficient use of energy and proposes major areas to be considered for energy efficiency and conservation including - residential, industry, power, transportation, services/commercial, agriculture, and energy efficient building designs.

Building on the NEP (2013), the National Renewable Energy & Energy Efficiency Policy (NREEEP) gives directives for the development of the NEEAP within 6-12 months following the approval of the NREEEP in 2015.

The NEEAP includes baseline data and information on energy efficiency in the country as well as suggested achievable energy efficiency targets, including gender disaggregated indicators, based on national potentials and socio-economic assessments.

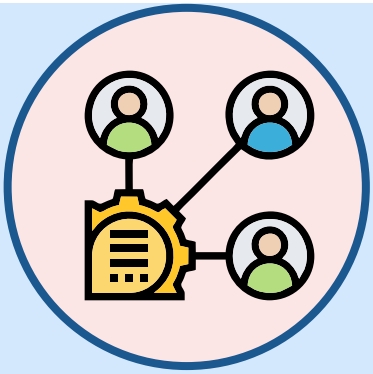
The NEEAP was developed through concerted efforts of over 20 Ministries, Departments and Agencies of the federal government with input from all 36 states as well as the F.C.T, private sector, NGOs, civil society, academia and development partners.

LEGAL FOUNDATION

The NEEAP is a suppporting strategy document to the NREEEP and guides its implementation. It currently provides the general framework for Nigeria's energy efficiency strategy with reference to other specific energy efficiency related documents.

STAKEHOLDERS

The NEEAP involves stakeholders across the value chain of the on-grid and off-grid power sector; including the construction, housing and building industry; manufacturing and industrial industry; and markets that utilize energy consuming machinery.



The Federal Ministry of Power

Off-grid renewable energy developers, energy efficiency firms, and investors

Manufacturing, industrial and commercial energy consumers

Communities utilizing off-grid renewable energy solutions

SUMMARY OF TARGETS

Targets for Energy Efficiency in Buildings (%)

	2010	2020	2030
Percentage of new large private buildings that implement energy efficient building designs and methods according to the national building code	1	6	30
Percentage of new public buildings that implement energy efficient building designs and methods according to the national building code	-	10	40
Percentage of renovated private buildings that implement energy efficiency designs and methods	NA	NA	NA

Targets for Energy Efficiency Standard & Label (%)

	2010	2020	2030
Total number of energy efficiency standards in force in the country	NA	NA	NA
Number of efficient lighting standards (on-grid/off-grid and street lighting)	NA	NA	NA
Number of appliance standards in force (refrigerators, air conditioners, washing machines, electric water heaters, fans, transformers, etc)	NA	NA	NA
Total number of energy efficiency labels in force	NA	NA	NA
Number of efficient lighting labels (on-grid/off-grid and street lighting)	NA	NA	NA
Number of appliance labels in force (refrigerators, air conditioners, washing machines, electric water heaters, fans, transformers, etc)	NA	NA	NA

Targets for Energy Efficiency in Industries (%)

	2010	2020	2030
Percentage of industries that implement energy efficiency measures	NA	NA	NA
Percentage of energy saving in industry	NA	NA	NA

Targets for High Performance Distribution of Electricity (%)

	2010	2020	2030
Total losses in the power system, including technical and non-technical losses, in both transmission and distribution (% of power available: generation + balance of imports and exports)	NA	NA	NA
Transmission losses	NA	NA	NA
Total distribution losses	NA	NA	NA
Technical losses	NA	NA	NA
Non-technical losses	NA	NA	NA

Targets for Energy Efficient Lighting (%)

	2010	2020	2030
Penetration rate of on-grid, energy efficient lighting	NA	NA	NA
Penetration rate of off-grid, energy efficient lighting	NA	NA	NA
Percentage of public street lights that are high efficiency	NA	NA	NA

National Energy Efficiency Targets & Trajectories

By 2020	By 2030
Enhance efficient lighting by **40%** of households	Enhance efficient lighting by almost **100%** of households
For high-energy consuming sectors (transport, power, and industrial sectors), ensure energy efficiency increase by at least **20%** compared to baseline	For high-energy consuming sectors (transport, power and industrial sectors), ensure energy efficiency increase by at least **50%** compared to baseline
Achieve 10% biofuel blend	Curb firewood demand below supply capacity
Improve the efficiency of the bioenergy sector	Improve on distribution loss reduction target to less than **10%**

MEASURES FOR ACHIEVING THE TARGETS

Efficient Lighting Initiative

1. Minimum Energy Performance Standards (MEPS)

Measure

Adoption of MEPS for lighting devices

Implementing Party(ies)

Green Building Council
Manufacturers Association of Nigeria
National Association of Chamber of Commerce, Industry, Mines and Agriculture
Small and Medium Enterprises Development Agency of Nigeria

2. Supporting Policies & Measures

Measure

Energy efficiency policy and awareness raising campaign: CFL Phase-Out Initiative
Rural Energy Access Project
Supporting energy efficient lighting policies and measures through awareness raising campaigns targeting final consumers

Implementing Party(ies)

Federal Ministry of Environment
Federal Ministry of Power

3. Monitoring, Verification & Empowerment

Measure

Establish a system for Monitoring, Verification and Enforcement (MV&E) of MEPS for lighting systems

Implementing Party(ies)

Federal Ministry of Power
Federal Ministry of Environment
Standards Organization of Nigeria
Rural Electrification Agency

4. Environmentally Sound Management

Measure

Environmentally sound management through the implementation of a collection and disposal system for energy efficient light bulbs

Implementing Party(ies)

Federal Ministry of Environment
Standards Organization of Nigeria
Rural Electrification Agency

Standards & Labelling Initiative

1. Policies & Tools

Measure

GIZ Nigeria Energy Support Programme (NESP) Baseline Assessment of Air Conditioners in Nigeria
Development and introduction of standards and labels for air conditioners in Nigeria
Development and introduction of MEPS and standards for air conditioners in Nigeria
Appraisal of air conditioners testing facilities in Nigeria

Implementing Party(ies)

Standards Organization of Nigeria
GIZ Nigeria Energy Support Programme (NESP)
Federal Ministry of Power

2. Capacity Building

Measure

GIZ NESP Capacity development and awareness creation for standards and labels for ACs in Nigeria
Building capacity among national standards bodies and other stakeholders

Implementing Party(ies)
Standards Organization of Nigeria
GIZ Nigeria Energy Support Programme
Federal Ministry of Power
AC Manufacturers
Consumer Council of Nigeria

3. Awareness Raising

Measure
Awareness-raising on energy efficient appliances for national authorities, the commercial sector and the wider public

Implementing Party(ies)
Manufacturers Association of Nigeria
National Association of Chambers of Commerce Industry, Mines, and Agriculture
Federal Ministry of Environment
Federal Ministry of Power

4. Financial/Fiscal Measure

Measure
Nigeria Energy Support Programme
Clean Technology Fund
Financing for the diffusion of energy efficient appliances
Introduction of energy efficiency criteria into the national building code and establishing a link to ECOWAS directive for energy efficiency in buildings (EDEEB)
Develop and implement a system to award energy performance certificates for public building in Nigeria
Development of Building Energy Efficiency Guidelines (BEEG) and a case study on the impact of energy efficient buildings
Design and implementation of energy audits and energy management in public buildings: Case study at the Federal Ministry of Power headquarters.
Development of model designs for energy efficiency in small buildings.

Implementing Party(ies)
Banking and financial institutions
Federal Ministry of Environment
Federal Ministry of Power
National Environmental Standard and Regulatory Agency
Standards Organization of Nigeria
GIZ

Energy Efficient Buildings Initiative

1. Policies and Tools on Energy Efficiency in Buildings

Measure

Introduction of energy efficiency criteria into the national building code and establishing a link to the ECOWAS directive for energy efficiency in building (EDEEB).
Develop and implement a system to award energy performance certificates for public buildings in Nigeria
Development of Building Energy Efficiency Guidelines (BEEG) and a case study on the impacts of energy efficient buildings
Design and implementation of energy audits and energy management in public buildings: Case study at the Federal Ministry of Lands, Housing, and Urban Development Headquarters
Development of model designs for energy efficiency in small buildings

Implementing Party(ies)

Federal Ministry of Power
GIZ

2. Capacity Building on Energy Efficiency in Buildings

Measure

Courses on energy efficiency in buildings being developed by GIZ NESP
Capacity building, institutional strengthening and training measures on energy efficiency for the building's value chain
Promotion of the use of local materials in construction

Implementing Party(ies)

National Power Training Institute of Nigeria
Centre for Renewable Energy Research
Centre for Renewable Energy Research, Umaru Musa Yaradua University
Katsina Centre for Renewable Energy Technology (CRET)
Federal University of Technology Akure Green Technology Development Institute (GTDI)
University Of Ibadan National Centre for Energy Efficiency & Conservation (NCEEC)
University of Lagos (ECN)
National Centre for Energy Research & Development (NCERD), University Of Nigeria (ECN)
Sokoto Energy Research Centre, University of Sokoto
BAS Consulting
Federal Ministry of Power

Energy Efficiency in the Industrial Sector

1. Energy Efficiency Policies and Tools

Measure

National programs to implement an ISO-compatible Energy Management Standard (EnMS) for Industry (ISO 50001)
Energy efficient motors programme
Introduce Energy Management Systems. Based on ISO 50001 in the Industry Sector in Nigeria (EnMSIN)

Implementing Party(ies)

Standards Organization of Nigeria
Federal Ministry of Transport
GIZ NESP
Federal Ministry of Power
Federal Ministry of Industry, Trade & Investment
Manufacturers Association of Nigeria (MAN)
Nigerian Association of Chambers of Commerce, Industry, Mines, and Agriculture (NACCIMA)
Small & Medium Enterprise Development Agency of Nigeria (SMEDAN)

2. Capacity Building for Improving Energy Efficiency

Measure

Capacity building on industrial energy efficiency
Development of an industrial energy database and energy consumption benchmarks.
Training on ISO 50001 EnMS formulation and implementation for industrial facility/ energy managers
Training on industrial energy audits for engineers
Training on ISO 50001 certification

Implementing Party(ies)

Manufacturers Association of Nigeria
Nigerian Association of Chambers of Commerce, Industry, Mines, and Agriculture (NACCIMA)
Standards Organization of Nigeria
GIZ NESP
Federal Ministry of Power
Federal Ministry of Industry, Trade & Investment

Energy Efficiency in the Industrial Sector (Cont'd)

3. Awareness of Energy Efficiency

Measure

Awareness raising and information campaigns for enterprises
Advisory services for planning the implementation of energy efficiency networks (EENs) for industrial enterprises in Nigeria
Development of two case studies: ISO 50001 implementation and certification at two industrial sites in the manufacturing sector
Design and disseminate information materials and guidelines for EnMS implementation
Survey on power and energy consumption in the industrial sector in Nigeria

Implementing Party(ies)

Standards Organization of Nigeria
Federal Ministry of Power
GIZ NESP
Federal Ministry of Industry, Trade & Investment
NACCIMA and SMEDAN supported by GIZ in course of its EU and German Government funded Nigerian Energy Support Programme
MAN supported by GIZ through NESP

4. Financial/Fiscal Mechanisms

Measure

Developing appropriate financing approaches for encouraging the emergence of investment projects

Implementing Party(ies)

Federal Ministry of Finance

Electricity Distribution Initiative

1. Policy and Regulatory Framework

Measure

Introduction of improved management practices and technical measures to diminish losses in the electricity distribution system

Implementing Party(ies)

Transmission Company of Nigeria and all relevant agencies including generation and distribution companies

Cross-cutting Measures

1. Policy and Regulatory Framework

Measure

Awareness raising campaigns on energy efficiency

Implementing Party(ies)

Federal Ministry of Environment
Standards Organization of Nigeria
National Environmental Standards and Regulations Enforcement Agency (NESREA)

INCENTIVES

Establishment of fiscal instruments (including incentives such as import duties, VAT, and reduced taxes) to reduce prices of on-grid and off-grid efficient lighting products in consultations with policy makers (including Parliamentary Select Committees).

Adoption of incentive schemes (including tax holidays) to support local manufacture of on-grid and off-grid equipment.

KEY SUPPORT PROVISIONS

Education, Research, Training, & Capacity Development

- Public education and awareness campaigns on the advantages and benefits of efficient lighting in national and local languages
- Special education programs for the youth in schools on the advantages and benefits of efficient lighting
- Special training programs for relevant staff of Standards Organization of Nigeria (SON) and accredited institutions on the test methods for on-grid and off-grid efficient lighting
- Special training programs for relevant staff of Standards Organization of Nigeria (SON) and the Nigerian Customs Service (NCS) on the interpretation of the mandatory labels of on-grid and off-grid efficient lighting
- Baseline market studies and cost-benefit analysis on on-grid and off-grid efficient lighting products in all ECOWAS countries to gather data for consultations with policy makers

Finance

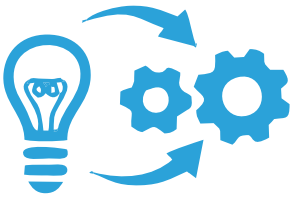
- Development of financing schemes to cover upfront cost of on-grid and off-grid lighting products (e.g. on-bill financing)
- Bulk procurement of on-grid and off-grid lighting products (e.g. through reducing import duties) -leading to cost savings and more liquidity for projects or imports

Awareness & Sensitization

- Public education on the information displayed on the mandatory labels of on-grid and off-grid efficient lighting in national and local languages

Support Policies, Plans, and Framework for Implementation

- Development of a national monitoring system
- Development of standards, labels, and measures for the energy efficiency sub-sector with respect to refrigeration, light bulbs, etc
- Promotion of the installation of efficient lighting in all new social housing projects in the country



IMPLEMENTATION

National Public Institutions involved in NEEAP Implementation

The Federal Ministry of Power (FMP)

The Federal Ministry of Environment domesticating the United Nations Framework on Climate Change (UNFCCC)

Standards Organization of Nigeria

Energy Commission of Nigeria (ECN)

Federal Ministry of Lands, Housing, and Urban Development

Nigerian National Petroleum Corporation (NNPC)

Federal Ministry of Industry, Trade and Investment (FMITI)

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN)

National Association of Chambers of Commerce Industry, Mines, and Agriculture (NACCIMA)

National Environmental Standard Regulation Enforcement Agency (NESREA)

Nigerian Customs Service

PLANNED PROGRAMMES (as of 2016)

Energy Efficient Housing Scheme

The objective is to deliver affordable, energy efficient housing for staff of the Federal Ministry of Environment as a pilot project. The housing scheme is designed to incorporate micro generation of electricity from renewable energy sources mainly solar and biomass (produced within the estate). Partnership between the Federal Ministry of Environment, Aso Savings and Loans Plc, and Green Carbon Afrique.

The Abuja Green City

A low-carbon city development initiative using a combination of local electricity generation, improved insulation, and energy efficient devices for the apartments. An initiative of the Renewable Energy Programme of the Federal Ministry of Environment, Green Carbon Afrique Creation Environmental Services, and Integra Integrated Renewable Energy Services.

Abuja Centenary City

Planned by a Gulf investor and designed by Julius Berger International, the Abuja Centenary City will feature an array of sustainable measures, renewable energy sources and energy-efficient mechanisms.

The Nigerian Clean Energy Access Program

Distribution of 150 million energy efficient bulbs by the Federal Ministry of Environment (2015 – 2020) under the Clean Development Mechanism (CDM) to ensure energy efficiency is private sector driven.

RELATED REGULATORY AND POLICY DOCUMENTS

UN Sustainable Energy for All (SE4All) Initiative, 2011

ECOWAS Energy Efficiency Policy (EEEP), 2012

National Energy Policy (NEP), 2013

Minimum Energy Performance Standards (MEPS), 2014

National Renewable Energy & Energy Efficiency Policy (NREEEP), 2015

ECOWAS Renewable Energy Policy (EREP), 2015

National Renewable Energy Action Plan (NREAP), 2016

Building Energy Efficiency Guidelines (BEEG), 2016

ECOWAS Directive on Energy Efficiency in Buildings (EDEEB)

NEEAP IMPLEMENTATION STATUS

- ✓ There has been limited progress on the implementation of the NEEAP the following is a status report on the NEEAP in 2019
- ✓ There has been the development and adoption of Nigeria's first national building energy efficiency code in September 2017 by the Federal Ministry of Power with support from the GIZ Nigeria Energy Support Programme (NESP).
- ✓ The code is a set of minimum standards for energy efficient buildings in Nigeria. It is expected that the code will be mandatory in the next two years and fully operational by 2022.
- ✓ There is the development and adoption of the Energy Guide Label in August 2017 by the Standards Organization of Nigeria (SON) in collaboration with the GIZ - Nigeria Energy Support Programme (NESP). The Energy Guide label is a seal that shows the energy consumption of air conditioners, lamps and refrigerators.
- ✓ There is on-going implementation of a national program on ISO compatible Energy Management Standard (EnMS) for the industry (ISO 50001) by the Standards Organization of Nigeria (SON) in collaboration with the GIZ Nigeria Energy Support Programme (NESP).
- ✓ There is also the planned adoption of the International Electro-technical Commission (IEC) standards for renewable energy technologies, and development of national standards by the Standards Organization of Nigeria (SON) with support from the Africa Clean Energy Technical Assistance Facility (ACE TAF) and International Financial Corporation Lighting Africa Programme.

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