THE CHALLENGE

The number of people living in areas without access to the electric grid in Africa is expected to rise to about 700 million by 2030 (Lighting Africa 2013). This reality also encompasses Nigeria, a country with a population of 182 million people, but with limited access to energy (59% of the population). In the meantime, populations without access to grid electricity rely on polluting and dangerous sources of lighting such as kerosene lamps, candles, open-fires and battery-powered torches, raising indoor air pollution and mainly impacting the health of impoverished residents, nurturing significant fire hazards. Fuel-based lighting is generally of low quality and expensive, impeding learning and economic productivity.

Nevertheless, activities in this initiative intend to increase the market penetration of sustainable solar off-grid lighting solutions and reduce black carbon and greenhouse gas emissions from the use of obsolete lighting technologies. Policy Mechanisms can promote better lighting alternatives and in particular a trusted quality assurance program, adequate financing available across the supply chain and effective consumer awareness campaigns.

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DONOR
Climate and Clean Air Coalition

IMPLEMENTING PARTNERS
UNEP, UNDP

PARTNERS
ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE), GOGLA

STATUS
ACTIVE

STARTING DATE
APRIL 2017

CLOSING DATE
MARCH 2019

TOTAL PROJECT COST
$0.8 million

PROJECT AT-A-GLANCE
Reducing Black Carbon Emissions by Transitioning to Clean and Sustainable Lighting

GEOPGRAPHICAL SCOPE
National project

TARGETED PRODUCT
Lighting

IMPACTED PRODUCT
CCAC project

UN ENVIRONMENT’S ROLE

United for Efficiency Center of Excellence team of experts, following the UAE Integrated Policy Approach, provided technical assistance to Nigeria to accelerate the increase in access to clean lighting through the promotion of solar off-grid lighting and the phase out the use of based kerosene lighting, which will result in reduction of indoor air pollution, health and safety, livelihood opportunities. The project activities include:

- Development of a country assessment including black carbon emission status and potential savings emissions due to kerosene lanterns usage, plus status reports on the off-grid lighting situation
- Development of Minimum Energy Performance Standard for off grid lighting
- Development and implementing supporting policies to accelerate the deployment of off-grid lighting solutions.
- Design and implementation of a partnership-based demonstration project of solar off grid systems.
- Advocacy campaign to raise awareness on low-carbon clean solutions.

From tackling current barriers and based on U4E Country Assessments, the reduction potential range in electricity consumption, monetary savings and GHG emissions mitigation in Nigeria due to a market transformation to energy efficient lighting – compared with current values, with a Best MEPS Scenario (2016 levels) – is very significant by 2030.

Annual Savings:

<table>
<thead>
<tr>
<th>MEGATONNES OF CO2 ALREADY AVOIDED ANNUALLY</th>
<th>SAVINGS IN ANNUAL ELECTRICITY COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 MMT</td>
<td>$150 million</td>
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</table>

Through a comprehensive measurement, a country analysis and screening of existing policies, constraints, existing technologies and market research, the project implemented an effective way to improve energy efficiency in the area of off-grid lighting. The measures were implemented to create awareness on the potential of carbon savings and energy efficiency. The project’s main success factors are:

- Development of a country assessment including black carbon emission status and potential savings emissions due to kerosene lanterns usage, plus status reports on the off-grid lighting situation
- Development of Minimum Energy Performance Standard for off grid lighting
- Development and implementing supporting policies to accelerate the deployment of off-grid lighting solutions.
- Design and implementation of a partnership-based demonstration project of solar off grid systems.
- Advocacy campaign to raise awareness on low-carbon clean solutions.

UN ENVIRONMENT’S ROLE

United for Efficiency provides developing and emerging economies through their in-house experts and specialized partners with tailored technical support to transform their markets by accelerating the adoption of energy-efficient lighting, appliances, and equipment. Currently it is present in more than 30 countries worldwide. Based on each country’s circumstances, United for Efficiency works with any of the following products: lighting, refrigerators, room air conditioners, motors and transformers - 5 products that together consume over half of the world’s electricity.

By following United for Efficiency’s Integrated Policy Approach and covering crucial elements from the transformational pathway, such as Standards and Regulations; Labelling and Communication strategies; Financial Mechanisms; Monitoring, Verification and Enforcement; and Environmental Sound Management, countries achieve a lasting market transformation, allowing monetary savings on their utility bills, helping businesses thrive through greater productivity, enabling utilities to meet growing demand for electricity, and assist governments in reaching their economic and environmental ambitions. Such support is available at three levels: Global, Regional and National providing several tools and resources to support committed countries in their efforts, such as Policy Guides, multiple assessments (country level, street lighting, etc), regional policy roadmaps and harmonization process recommendations, development of training for policymakers and practitioners and National action plan implementation support.