



## PROJECT AT-A-GLANCE

Leapfrogging Sudan's markets to more efficient lighting and air conditioners

### GEOGRAPHICAL SCOPE

National project

Sudan



For more information, please visit:  
[www.united4efficiency.org](http://www.united4efficiency.org)

TARGETED PRODUCTS



GEF project ID 9083

### STATUS ACTIVE

STARTING DATE CLOSING DATE  
**JANUARY 2019** **JANUARY 2023**

### TOTAL PROJECT COST



**\$7.4 million**  
 GEF grant and co-financing

DONOR

**Global Environment Facility (GEF)**

### IMPLEMENTING PARTNER

**United Nations Development Programme**

### TEAM LEADERS

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### PARTNERS

**Ministry of Water Resources, Irrigation and Electricity; Electricity Regulatory Authority; United Nations Environment Programme – United for Efficiency**



## KEY PROJECT OBJECTIVES

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

Annual Savings:



**1.8 TWh on annual electricity savings** (Avoided investment costs for 4 power plants of 100MW)



**Over 83 million USD savings in annual electricity costs**



**480 thousand tonnes of CO<sub>2</sub> avoided annually** (equivalent to more than 250 thousand cars)



## THE CHALLENGE

Sudan has limited oil and natural gas reserves and depends mainly on imported fossil fuels for a large share of its electricity production. Local power generation also relies on fossil-fired power stations, representing 44% of the installed capacity. Although power generation has increased, over 60% of the population of Sudan (about 24 million persons) do not have access to electricity. However, the number of people with access to electricity has been increasing, and the consumption of electricity in Sudan has risen by about 14% annually during the last five years. Against this background, Sudan's Government has targeted an additional 8,000 MW of power generation capacity from new fossil-fired power stations to be installed by 2030, combined with various energy-saving measures to meet the rising demand.

A recent study by UNDP on electricity consumption patterns in urban households estimated that 51% of the total electricity consumption in the country is consumed by the residential sector and that the combined consumption for lighting and air conditioning appliances comprises 50% of the electricity utilized at the household level, 80% in the commercial sector and over 90% in the governmental sector. Incandescent technology still accounts for a large part (50% of lighting fixtures in Sudanese homes) of the lighting market in Sudan, which exceeds 20 million US dollars (2014) of total trade value. This is due to the low cost compared to more efficient alternatives, where LED lamps is reported to be negligible. Air conditioners, on the other hand, are expected to increase sales rapidly at a compound annual growth rate of 7.1% per year for the 2020-2050 period, rising from around 160,000 units in 2020 to close to one million units per year by 2050. At present, there are no energy-related standards in place for electric products in the Sudanese market and lighting and air conditioner products are neither tested for compliance with MEPS nor are there any regulations to control the energy efficiency of imported products. With no intervention, energy efficiency improvement will be minimal, resulting in ever increasing strain on electricity infrastructure, economic development and the global environment. Nevertheless, a comprehensive approach to address its current market barriers with view to support the expansion of existing efforts of Sudan can transform the national market to energy efficient products as a key step to combat climate change and decreased energy poverty.

## WHAT WE DO

United for Efficiency's team of experts, following the U4E Integrated Policy Approach, provides technical assistance to Sudan in order to achieve the promotion, demonstration, deployment, and transfer of innovative low-carbon technologies, particularly high efficiency and usage-controlling lighting technologies and climate-friendly room air conditioners.

The Project will seek to achieve concrete objective, such as:

- Development of a national strategy to advance energy efficiency in lighting and air conditioners as part of the National Energy Efficiency Action Plan (NEEAP).
- Adoption of regulatory mechanisms directing the market towards energy efficient lighting products and air conditioners, including Minimum Energy Performance Standards (MEPS), a labeling scheme, and testing and importing procedures.
- Establishment of a monitoring, verification, and enforcement (MVE) system, to ensure that products in the market comply with the proposed MEPS.
- Awareness-building of the new MEPS and regulatory mechanism among local supply chain stakeholders and end users to encourage compliance with new standards and bring energy efficient products to the market.
- Enhancing environmentally sound management of lighting products and air conditioners to minimize the leakage of hazardous materials to the environment.



## 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 - five 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.), policy roadmaps and harmonization process recommendations, development of training for policymakers and practitioners and National action plan implementation support.