



## PROJECT AT-A-GLANCE

Delivering the transition to energy efficient street lighting in Panama

### GEOGRAPHICAL SCOPE

Latin America and the Caribbean



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

**TARGETED PRODUCT**



**Lighting Spanish Cooperation project**

STATUS **FINALIZED**

TEAM LEADERS

PARTNERS

STARTING DATE CLOSING DATE  
**APRIL 2017** **DECEMBER 2018**

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**Philips Lighting**  
**National Energy Secretariat of Panama (SNE)**

OTHER EXECUTING PARTNERS

**Panama's Energy Regulator (ASEP) and Public – Private Utilities Gas Natural Fenosa and ENSA**

### TOTAL PROJECT COST



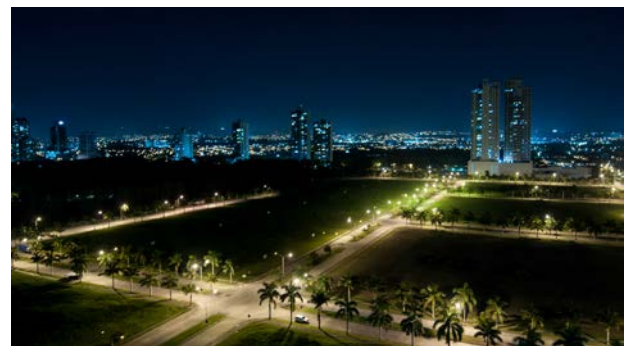
**\$ 80,000**  
 AECID grant and co-financing

DONOR

**Spanish Cooperation Agency (AECID)**

IMPLEMENTING PARTNER

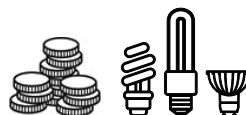
**United Nations Environment Programme**



## KEY ACHIEVEMENTS



**Feasibility study on LED lighting retrofit** for streets and avenues in the country, presenting options for implementation and structuring of investments in efficient public lighting.



Identifications of **306,000 luminaries** to be replaced and a project investment proposal of **us \$ 75.8M.**



**70 GWh** of electricity savings due to the replace of current street **lighting technology** to LED.



**50 kilotonnes** of CO2 emissions avoided annually.



### THE CHALLENGE

Panama NDC's figures state that the electricity sector contributes 17% of total CO2 emissions, and it is expected that energy demand will increase by up to 600% in the period 2014-2050. These high values gave rise to the National Energy Plan, which aims to introduce more renewable energy to the energy mix and energy efficient measures to reduce energy demand and thus fossil fuel consumption. According to the National Energy Plan, 44% of the electric generation in 2014 came from fossil fuels, and were responsible of the generation of 9,600,000 tCO2 eq. In the residential sector alone, electricity consumption represented over 32% of total consumption, and has grown quickly in recent years (with an annual growth rate of 7.4% from 2008 to 2015).

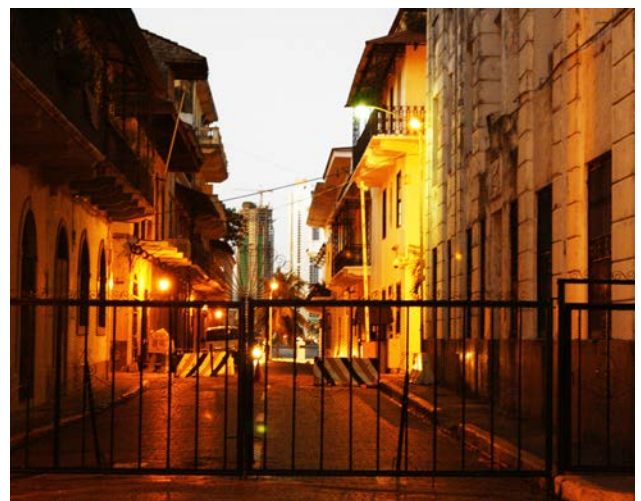
The street lighting sector has significant potential for achieving energy savings, given that public luminaires are mostly High Pressure Sodium technology and are typically on for more than 4000 hours per year. With a shift to LED technology, the country could achieve significant savings of more than 155 GWh annually. In this context, the project will enable the key public lighting decision makers to assess and implement the transition to LED street lighting in Panama contributing to its energy efficiency strategy by promoting energy efficient lighting solutions.

### WHAT WE DO

The overall objective of the project is to provide to the key stakeholders responsible for the street public lighting in Panama City with a wide overview of the benefits of LED public lighting technology; a review of the regulatory, institutional and legal frameworks that would have an impact for potential investments in energy efficient public lighting; and to provide recommendations for financing structures that could facilitate the implementation of the new LED technology.

The project included the following components:

- Development of Panama's Street lighting base line analysis and revision of the its Regulatory framework.
- Development of a technical and economic proposal for Panama's Street lighting retrofit, including the financing structure for project implementation.
- Proposal with a logistics plan for project implementation.



### 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.