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**NOKERO** ™  
WORLD'S ONLY SOLAR LIGHT BULB

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## Introduction :

Today , having electricity is a normal right such as having home and water ,etc , But sometimes some living conditions could lead to depriving the population of some areas of electricity, making their lives more difficult and full of troubles , therefore paying huge amounts



*Pic ( 1) children use kerosene lights*

of money in order to obtain the means for lighting , those that are often unclean and unsafe and adversely affect health in addition to high costs , as ( for example ) in Africa and other resources- poor areas. According to statistics<sup>1</sup>, “One in four humans lives without electricity, so they burn 38 billion dollars per year in fuel for light, up to 20% of their income goes to fuel for light, emitting 190 million tons of CO<sub>2</sub>, the equivalent of 30 million cars, living with a kerosene lamp is like smoking 40 cigarettes a day and that leading to 1.6 million deaths a year”. So that many international companies and associations have worked to provide electricity to those areas, through applying some programs in partnership with some authorities that support their projects with money. So all that efforts led to find a perfect product called NoKero stands for "No Kerosene", which invented and designed in Denver, Colorado, early 2010, charged by the sun, it's clean, safe and it lights at night. A NoKero or that solar lights replace kerosene lamps and candles, charged by day and brings hours of safe and clean light each night.

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<sup>1</sup><http://www.ifc.org/wps/wcm/connect/a68a120048fd175eb8dcbc849537832d/SolarLightingBasePyramid.pdf?MOD=AJPERES> 31/12/2016 06:30 pm

## Problematic and Goals :

Do all the populations have electricity and have the access to the grid?? Do them all live in a good and easy life or they suffer a lot??

For those who are deprived from electricity and suffering a lot, is it easy to live in that very harsh and very hard to live condition ? What's the solution to offer electricity for them from renewable resources to make it??

Who found NoKero and what was the goal of finding it, what are the advantages that NoKero offers? And so what the disadvantages of its using? Why people that are suffering a lot of energy and lighting problems and populations that are deprived of electricity and other resources- poor areas all goes for using NoKero and they found it a perfect product that satisfies them and give them all their needs even when they are in very harsh conditions .

What types of NoKero lights and in general what are differences between them



# Lighting global :

## Intro:

Lighting Global is the World Bank Group's (*The World Bank, a member of the World Bank Group, is a vital source of financial and technical assistance to developing countries around the world. their mission is to fight poverty with passion and professionalism for lasting results and to help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors*)<sup>2</sup> platform which supports sustainable growth of the international off-grid lighting market as a means of increasing energy access to people who are not connected to electricity, through Lighting Global, IFC (*a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector. Working with private enterprises in about 100 countries, they work to help eliminate extreme poverty and boost shared prosperity. They provided more than \$22 billion in financing to improve lives in developing countries and tackle the most urgent challenges of development*).<sup>3</sup> and the World Bank work with the Global Off-Grid Lighting Association (GOGLA), manufacturers, distributors, and other development partners to develop the off-grid lighting market. IFC and World Bank jointly manage off-grid lighting programs in more than 11 African countries through the Lighting Africa program. The success of Lighting Africa has inspired programs in India, Bangladesh, Papua New Guinea, Myanmar Pakistan and Afghanistan. Lighting Global supports Lighting Africa, Lighting Asia and Lighting Pacific, which work along the supply chain of off-grid lighting products and systems to reduce market entry barriers.

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<sup>2</sup><http://www.hanshep.org/our-members/world-bank> 31/12/2016 08:00 pm

HANSHEP" is a group of development agencies and countries, established by its members in 2010, seeking to improve the performance of the non-state sector in delivering better healthcare to the poor by working together, learning from each other, and sharing this learning with others."

<sup>3</sup> <http://www.worldbank.org/en/news/feature/2014/09/22/ifc-launches-she-works-partnership-to-advance-women-in-private-sector> 31/12/2016 08:30pm

## ***1- Lighting Africa :***

Close to 600 million people in sub-Saharan Africa (about 2/3 of the population) live without electricity. This lack of modern energy services severely limits educational and economic opportunities, as well as negatively impacting day to day quality of life and health. Those without electricity often use polluting and expensive lighting sources such as kerosene lamps or candles, the fumes of which can cause serious health problems. Modern, high-quality lighting and energy products offer a real and sustainable alternative to the populations without electricity. since 2007 Lighting Africa started its projects in Ghana and Kenya and it has already enabled more than 35 million people across Africa to access clean , affordable , safer lighting and energy , and it aims to reach 250million more people by 2030 .Lighting Africa is currently operational in 11 countries –Burkina Faso, the Democratic Republic of Congo, Ethiopia, Kenya, Liberia, Mali, Nigeria, Senegal, South Sudan, Tanzania and Uganda , with plans to continue to extend their activities across the continent. Lighting Africa is part of the World Bank Group’s contribution with (SE4All), –Sustainable Energy for All –.and it is implemented in partnership with (ESMAP) – the Energy Sector Management Assistance Program –, (GEF) the Global Environment Facility and the governments of Australia, Austria, Denmark, Finland, France, Germany, Iceland, Italy, Lithuania, the Netherlands, Norway, Sweden, the United Kingdom, and the United States of America.



*Pic (2) Lighting Africa's Logo*

## *2- Lighting Asia :*

### 1-LIGHTING INDIA :

Lighting Asia/India is an IFC market transformation program aimed at increasing access to clean, affordable energy in rural India by promoting modern off-grid lighting products and systems. The program works with the private sector to remove market entry barriers, provide market intelligence and raise consumer awareness on modern lighting options. The program aims to reach 3 million people, and avert emissions of more than 90,000 tons of carbon dioxide by 2016.

#### **Benefits of Modern Off-Grid Lighting:**

Income: by extending the working day of small businesses.

Education: by expanding the time available to children for studying.

Health: by reducing indoor air pollution, caused by kerosene lamps and firewood.

Safety: improved, by reducing fire hazards.

Vision: by providing better quality lights which are good for the eyes.

Savings: by reducing spending on energy.

Environment: by reducing greenhouse gas emissions.

## **2-LIGHTING PAKISTAN :**

Lighting Asia/Pakistan is a program by IFC. The program aims at helping address the lighting needs of Pakistani consumers by helping them gain access to low-cost, high-quality, safe, reliable, and cleaner lighting products.

Lighting Asia/Pakistan is part of the larger Lighting Asia Program for the region and follows the same overall approach.

Lighting Asia program was launched after Lighting Africa Program posted early success in the African market.

The program aims to reach 1.5 million people, and avert 30,000 tons of carbon dioxide by 2018.

### **Lighting Asia/Pakistan makes sure that:**

- 1- Manufacturers can get their products tested against Lighting Global Quality Standards.
- 2- Distributors can acquire quality-verified products.
- 3- Government is asked to support a healthy regulatory environment.
- 4- Consumers are enabled to judge product quality.

In addition, there are many other lighting projects as lighting Bangladesh and lighting Pacific.



# NoKero:

## *What's NoKero?*

We always look to improve lives, improve the environment, and have a lasting impact on peoples' well-being, so there is NoKero team to distribute their solar products to energy-deprived communities around the globe. They are skilled at working directly with aid agencies to supply their innovative products at a cost that will deliver the highest impact for every dollar you invest. They made it and built high-quality products that will last for years in the harshest environments. Those easy-to-use products immediately solve two of the toughest problems –lighting and phone charging – cleanly, safely and renewably. As we said in the introduction NoKero is a lamp that works by solar energy and offer hours of safety, clean and sustainable light and charge .And for example the N233 model consists of 4 LEDs , solar panel and High/Low/Off switches , and it rotates to aim , you can hang it , hold it , or stand it .You can leave it under the rain, because it's designed to endure the elements and withstand high temperatures outdoors, but permanent exposure to rain, snow and heat may damage it so then shortening its life, so it's better to place NoKero light in direct sunlight for at least 6 hours to charge during the day and take it down at night to use as a light. The LEDs point directly downward so that all light shines in the direction that the light is pointing, instead of being lost to other directions like the light of an incandescent bulb.



*Pic (3) NoKero lights in camping and tents*

## *How NoKero makes a difference??*

With products distributed in over 120 countries, NoKero is a catalyst for economic and community growth. In education it increases study time by nearly 50%, it is actually hundreds of thousands of hours of increased study time was for children globally. For income, opportunities to increase income are created through the ability to work into the night; its impact was the additional annual income of \$383 million for low-wage workers globally. And about its impact in productivity was about more than one billion hours of added productivity around the world annually About saving money, the cost of a N233 is equivalent to the monthly fuel expenses for a family of four so that causes millions of dollars in annual global savings. But what about NoKero's impact in the health, yes it has, just one solar light eliminates the harmful exposure to kerosene particulates for families, which millions are spared the effect of inhaling indoor air pollution caused by kerosene.



## *Types of Nokero lights :*

### **N233 SOLAR LIGHT:**

It's perfect for camping, emergency lighting, and other off-grid lighting. It is bright enough for reading, working or lighting up a tent and runs up to 15 hours after just a day's charge. It is designed and tested in Colorado, in addition, it's fully weatherproof and designed for the



*Pic(4) N233 Nokero light*

outdoors, have high and low brightness settings and it has a 2 year warranty and the rechargeable battery lasts up to 5 years. And for its Brightness: high - 25 lumens (great for reading or task work), low - 10 lumens (background lighting), its Weight: 3 ounces/90 grams .

### **N233-3PACK:**

There's a special kind of N233 called N233-3PACK that kind offers you saving \$10 when you buy N233-3PACK (three N233 Solar Lights) and it has the same properties of N233.



*Pic (5) N233-3PACK of Nokero light*

## **W100:**

The W100 is the world's brightest integrated solar light. It delivers 300 lumens on its highest setting, the equivalent of 30 kerosene lamps, It has been successfully tested in medical clinics where bright, prolonged light is critical. the W100 floats and is safe to completely submerge. It was originally designed for fishermen to attract fish at night. It will be fully charged in about 6-8 hours and will run up to 40 hours (on the low setting),and 20 hours (on the medium setting),and 10 hours (on the high setting),And in order to be fully submersible, there is no AC charging .It automatically turns itself on at night and off during the day based on sunlight. And in general the average age of Battery up to five years. Its Weight is about 2kg and has 2 years warranty.



*Pic (6) W100 Nokero light*



*Pic(7) W100  
Nokero light*

In addition to many types differs between each other according to advantages and disadvantages that each type offers .

## Conclusion:

In conclusion we found that even if many countries are deprived from energy and electricity there are many solutions that take advantages of renewable and free energy like solar energy that offers now sharing electricity with those who are deprived from it and make them into the grid.

One of the applications that use solar energy is NoKero which replaces kerosene lamps and candles, and brings hours of safe and clean light so it saves the health and doesn't damage it so badly like kerosene lamps do. NoKero stands against the harshest conditions of living because all it needs is charging by sun and it brings you a day of clean and bright light, now it is not a problem to have the electricity or not, you can enter the grid simply by using NoKero lights.

NoKero offers a lot of types that meet the different needs like camping or reading or even for fishing at night and a lot of other different uses.



## References:

- [1]- <http://www.ifc.org> International Finance Corporation (IFC).
- [2]- <http://www.hanshep.org> harnessing non-state actors for better health for the poor (HANSHEP).
- [3]- <http://www.worldbank.org> The World Bank.
- [4]- <http://www.nokero.com>