off-the-grid
LIGHTING AFRICA NEWSLETTER
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Catalyzing Markets for Modern off-grid Lighting

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Lighting Africa: Moving Consumers Up the Energy Ladder

After successfully catalyzing the market for clean, affordable solar lighting products in the un-electrified areas of Africa and enabling more than 28 million people access to clean, affordable lighting, the IFC-World Bank Lighting Africa program is now extending support to products that offer a wider range of energy services, that go beyond lighting and cellphone charging.

This expansion into larger solar home kits is prompted by consumer and industry demands, as well as rapid development of new technology, and the emergence of new business models that are availing a wider range of modern energy services to

people without access to grid electricity.

“We would now like to get more powerful solar products that can run computers or TVs so that we can watch the World Cup or wrestling,” one parent at a school on the outskirts of Dakar, Senegal told a team from the Lighting Africa program.

Lighting Africa will now support solar home system (SHS) kits, which typically include a solar module (panel), a power control unit, a power storage unit (battery), and multiple lights. These products can run radios, fans, computers and TVs, and therefore use more energy – from 10W up to 100W power.

Already manufacturers are developing a new generation of super-efficient solar powered appliances to better meet consumers’ household and small business energy needs. At the same time, a number of solar energy companies are using mobile pay-as-you-go (PAYG) systems to reduce barriers to uptake, allowing low-income African consumers access to this life-altering technology.

Since its inception in 2007, the Lighting Africa program has supported the development and marketing of high quality, affordable lighting products to low-income households that rely on unsafe, expensive lighting fuels such as kerosene.

The solar lighting products supported thus far, have included portable lanterns, task lights and single room lights, some of which can charge cellphones and radio batteries. These typically run on less than 10 watts power.

These solar lights are transforming lives in rural areas, particularly by improving study conditions for children and unleashing the entrepreneurial spirit and aspirations of rural communities. These solar lighting devices provide the first step in accessing modern energy, and are widely regarded as being potentially as transformative as the cell phone.

Through its sister program Lighting Global, Lighting Africa is currently working with industry to develop quality standards for SHS kits, and began testing the SHS kits last year.

“We’re excited to be scaling up the size of technology supported by the Lighting Africa program,” says Dan Murphy, the World Bank Lighting Africa Program Manager. “These transformational products will enable African households to move up the energy access ladder thanks to the greater level of energy services these systems can deliver.”

Moving up the energy ladder into larger systems will expand off-grid communities’ access to modern energy, contributing to the achievement of the Sustainable Energy for All (SE4All) goal by 2030.

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The Role of Solar Lanterns in the Fight Against Ebola

With over 21,000 infections and more than 8,000 deaths from the Ebola virus since the beginning of the outbreak in 2014, health care facilities in West Africa are strained beyond capacity. As overcrowded hospitals and clinics are forced to turn away many of those seeking treatment, the infected spread the disease to those caring for them at home. Sean Casey, emergency response team director for the International Medical Corps (IMC) explains, “every week that we don’t open new facilities, we create the need for several more.”

New clinics are being built and existing ones expanded as quickly as possible to care for the ill and to contain the disease, but staff and supplies are desperately needed. A reliable light source is one of the things often lacking in these clinics,

forcing health care workers to resort to the use of flashlights, kerosene lamps, and even candles. The inconveniences and health risks associated with these lighting sources in general are compounded when treating Ebola patients. Médecins Sans Frontières (MSF)'s strict infection control measures require 'sufficient lighting' to ensure the safest possible working environment.

Stefan Liljegren, MSF's field coordinator for a new 160-bed Ebola treatment center in Monrovia explained to *The Telegraph* that handling Ebola patients requires extreme care at the best of times to prevent infection of the health care workers, and would be dangerous in the dark.Thus, the clinic doesn't accept new patients after dark, even when this means some die just outside the gates awaiting a chance to be admitted at daybreak.

As a response to this urgent need for reliable lighting, the Liberian Rural & Renewable Energy Agency (RREA) donated 500 solar lanterns in August 2014 to the Ministry of Health for distribution to the Ebola Response Teams working in rural areas of Liberia, where the electrical grid is unlikely to reach. The donation was made by the Lighting Lives in Liberia Project, which is financed by the Global Environment Facility (GEF), and administered by the World Bank with support from Lighting Africa.

The lanterns are intended for use in remote communities in each of Liberia's 15 counties.The lanterns can provide light to clinics without electricity, or serve as a backup in case of power outages or generators that fail or have or run out of fuel. They also have the capacity to charge mobile phones, allowing health workers to stay in close communication.

WakaWaka is also responding to the crisis by providing their solar lights, which meet Lighting Global Quality Standards, to national and international NGOs for distribution to local health care facilities in Liberia and to include in Ebola prevention kits.

If you would like to donate solar lanterns to clinics in the affected countries, you can do so via WakaWaka or contact us for information on coordinating donations.

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Lighting Africa Extends its Footprint Across the Continent

After a successful pilot phase that enabled more than 28.5 million people across Africa to switch from polluting energy sources such as kerosene to clean, sustainable solar lighting, the joint IFC-World Bank Lighting Africa program has expanded to 10 more countries.

Piloted in Kenya and Ghana, Lighting Africa is now operational in Burkina Faso, the Democratic Republic of Congo, Ethiopia, Liberia, Mali, Nigeria, Senegal, South Sudan, Tanzania and Uganda.

The program takes a two pronged approach drawing both on the private sector expertise of the IFC, and the World Bank's experience of working with governments to support countries' goals to increase access to energy, vital for socio-economic growth and development.

Lighting Africa works with the private sector to build sustainable markets for modern off-grid solar lighting products, as well as with rural electrification agencies to promote incorporation of off-grid energy products in governments' wider energy access programs.

"In the five pilot years of Lighting Africa, we increased access to solar lighting in Kenya from barely 2 percent in 2009 to about 12 percent currently. We are

optimistic we can replicate the Kenyan success across Africa and enable about half of the unelectrified population (250 million) access to electricity for the first time through modern solar lighting products by 2030," says Itotia Njagi, the IFC Lighting Africa Program Manager.

Lighting Africa has undertaken market and consumer studies in the additional countries to establish the feasibility of markets for solar lighting products, and is in the process of rolling out a variety of market development activities.

In Ethiopia, the program has gone a step further and brokered a government-run foreign exchange facility, which has enabled product importers and distributors to build product stocks in-country. As of October 2014, about US$ 3.6 million from this facility has been disbursed for importing and distributing solar lanterns, solar home systems (SHS) and energy saving bulbs.

In Nigeria, the program will soon launch a consumer education campaign to build awareness on the available quality-verified solar lighting products in the country. A more in-depth market research study will also be undertaken to better inform new market entrants and other players along the supply chain of the opportunities and challenges.

The success of the joint IFC-World Bank Lighting Africa pilot has also inspired new off-grid lighting market development programs in Bangladesh, India and in Papua New Guinea. Other countries where similar programs are under development include Indonesia and Pakistan.

"Lighting Africa has provided an important foundation for the dynamic off-grid solar device industry. It has given us the confidence that the market development approach works in enabling the private sector deliver modern energy services to the energy poor. We are replicating this model not only in Africa, but also in Asia and other regions," says Russell Sturm, IFC's Global Head of Energy Access Advisory.

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'Library' of Solar Lights Reaches Approximately 55,000 Rural Senegalese

Students in 58 selected rural schools in Senegal were introduced to a different kind of library -- a luminothèque – or library of solar lights, thanks to SunnyMoney's innovative new Light Library model. These libraries allowed students to borrow solar lanterns, so they, along with their families, could experience first hand the benefits of studying after dark using a clean, safe, affordable lighting source.

The schools that received the Light Libraries were chosen based on their lack of electricity, the relatively large student body, and the regions' high poverty rate, so as to maximize impact. All were in the regions of Kaolack and Kaffrine where prior to the project only 3% of the population owned a solar light, and only 20% had ever even heard of them.

The objectives of the Light Library project, designed and delivered by UK charity SolarAid's social enterprise SunnyMoney, in partnership with the Senegalese Rural Electrification Agency (ASER) and the Ministry of Education, and funded by Lighting Africa, were to increase awareness of and access to solar lights in off-grid rural areas, in order to support strategies to increase demand and uptake.

In all, 4,798 lights were made available to the Ministry of Education and managed by the schools, giving 6,115 students direct access to the lights. Due to the large average family size in the regions, this means that approximately 55,000 people were directly exposed to the technology.

> “It is not safe to buy something you don’t know,” -- Aliou Ba, father of 5 school children in the Kaolack region in Senegal, part of a household of 22 people

By creating a low-risk opportunity to test out solar lights, the libraries addressed a common risk-aversion tendency, as expressed by Aliou Ba. Furthermore, the families were able to save the money they would have otherwise spent on alternative lighting sources (most commonly batteries for torches) while trying out the lights at home, providing them with a small fund with which to purchase their own solar light.

> “Our average solar light customer will recoup the money spent on their solar light through savings on reducing expenditure on kerosene, candles or batteries within 10 weeks.” – Kat Harrison Director of Research & Impact at SolarAid

Most striking of all was the impact that these lantern libraries had on commercial sales. Following a period to try out the lamps, 35% of families in the Lantern Library regions purchased lanterns (including a remarkable 14% who bough mid-range products that included phone charging capabilities). In contrast control communities with a similar profile in Senegal only had a 15% uptake rate, while in east Africa typical uptake stands at about 10%.

> “My children are studying for longer now because other lighting products would not allow them to study for a long time. I am no longer buying batteries for them. It is a very good initiative, we are very grateful.” - Bourry Sarr, Nioro, Kaolack.

You can learn more about the project inSunnyMoney’s Light Library guide.

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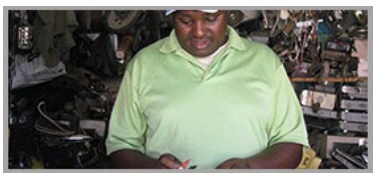
fosera Expands Operations in Africa with Third Assembly Line in Kenya



German manufacturer of solar lighting products, fosera, has opened a product assembly line in Kenya in partnership with a local manufacturer of solar panels, Ubbink East Africa.

This is fosera’s third assembly line for modern off-grid solar lighting products in Africa, after Mozambique and Ethiopia.

“We are committed to bringing high quality solar products as close to consumers as possible in order to effectively meet their energy needs,” says Catherine Adelmann, the General Manager of Fosera.

The company, which markets the portable Scandle 200 and the Pico Solar Home System 7000, opened its first product assembly line in 2012 in Maputo, Mozambique and subsequently another in Ethiopia.

In its expansion, fosera plans to set up additional local assembly lines in its key markets in order to increase its impact on off-grid societies and economies by means of technology transfer, training, job creation and reduction of greenhouse gas emissions.

In establishing its local assembly lines, the company strives to positively impact the environment, society and local economies through capacity building, job creation and spurring in-country development of the fast growing renewable energy sector.

fosera is also committed to high quality and affordable products for low-income rural consumers and develops its products to meet the Lighting Global Quality Standards for off-grid lighting.

Earlier this year fosera emerged winner in the inaugural Outstanding Off-Grid

Appliance Awards competition run by the Global Lighting and Energy Access Partnership, (Global LEAP) for its solar powered television set.

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Niwa Partners with Sun Transfer to Assemble Solar Products in Ethiopia

Niwa and SunTransfer have partnered to set up a company that will assemble solar products in Ethiopia. The new venture - STM Solar Technologies Manufacturing S.C. will among other things produce solar lanterns and modular solar home lighting kits.

“With the assembling in Ethiopia, we hope to increase value for consumers as well as to make it possible for Ethiopian distribution and retail companies to purchase the most advanced solar products in local currency,” says Ti el Attar, Founder and Executive Director of Niwa.

Niwa, manufacturer of the Uno 50 task light, the Multi 100 plus and Multi 300 lighting products, brings to the partnership its production and quality control expertise amassed from managing solar production facilities in China and Hong Kong.

Niwa has trained and built capacity of local staff, passing on their knowledge and expertise in order to achieve the same performance and high international quality standards of the products assembled in Ethiopia.

The assembly plant will help the two companies improve product supply and availability, and scale up distribution. Through the partnership, local warehouses have been built to enable customers to flexibly purchase product supplies without having to step into the importer role with its significant financing, logistics and time constraints, says Mr el Attar.

Sun Transfer, on its part, will bring about 10 years of work experience in Ethiopia and a national network of Solar Centers where consumers are taught how to install and use products. The Solar Centers also provide consumer credit and after-sales service and maintenance support over the full product life-cycle.

“Ours is a unique collaboration for Africa’s second largest solar market and a new level of commitment to the local people,” says Ti el Attar.

More than 85 percent of rural households inEthiopia rely on fuel-based light sources, predominantly kerosene. On average, rural households use kerosene lighting for 3 hours per day and spend about US$2 per month on kerosene.

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New Market Intelligence Reports now Online

As part of our commitment to facilitating access to, and promoting the off-grid lighting market in sub-Saharan Africa, Lighting Africa periodically commissions market intelligence reports and consumer insight studies. We have recently published a number of new reports, which you can find on our website.

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Solar Lighting Products Improve Energy Access for 28.5 Million People in Africa

More than 28.5 million people across Africa now have access to modern lighting as

a result of switching from kerosene lanterns to solar lighting products, according to results from the IFC-World Bank Lighting Africa program. For more of our impacts, visit our website.

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Ten New Products Meet Quality Standards

In order to counter the risk of market-spoilage through the influx of poor quality products, our affiliated program, Lighting Global, conducts ongoing testing of off-grid lighting products. In the last 6 months, the following products have joined the growing list of products that meet Lighting Global's Minimum Quality Standards: Schneider Electric's Mobiya TS120S/Awango TS120, Freeplay Energy's Solar Energy Centre, Panasonic's Solar Lantern, Sinoware's Solar Lamp, Yuasa's Akari and Mini Moshi-Moshi, Niwa MSS Family's Office 200 X2 and Home Run 400 X3, Omnivoltaic's OVPilot X, and Solarworks's Solar Kit Lithium.

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