

LIGHTING AFRICA

N E W S L E T T E R

IN FOCUS

Better and more: new round of products pass LA quality tests & what it means for the market

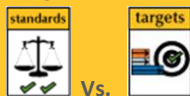
Six new products passed Lighting Africa quality tests in the latest round of testing, bringing the total number to 14 products.

They include the Greenlight Planet **Sun King Pro**, Sunlite **Solar Light G3**, Barefoot Power **Powapack Jr. 2.5 W Matrix**, Uniglobe **SolarMine 100**, Trony Solar **Sundial-TSL-01** and Philips **Solar Home Lighting System** (see more on these products on page 3).

While low cost and poor quality products continue to make their way into the market, these affordable and quality solar lanterns (and the other 8 products that have met quality requirements to date) are also rapidly gaining market share.

Consumers are the ultimate winners as they continue to have a wider selection and variety of good quality products to choose from with the 14 products. All six products met Lighting Africa's Minimum Quality Standards and the Recommended Performance Targets.

WHAT'S THE DIFFERENCE?



The **Minimum Quality Standards** focus on truth-in-advertising and adherence to basic quality criteria, such as lumen maintenance, IP-class, and durability tests. Meeting the **Recommended Performance Targets** includes passing the minimum quality standards *in addition to* meeting specific performance run time and light output targets.

Distinguishing between the two quality benchmarks enables Lighting Africa to maintain quality standards while also encouraging technological innovation by recognizing that market segmentation requires a range of product options at multiple price points and performance levels. These new products will join the list of lanterns supported by the Lighting Africa consumer education campaign.

LIGHTING AFRICA NEWS

Off-Grid Lighting Sector in Africa Shows Positive Growth

450% growth in sales in Africa in 2011 over 2010. Consumers are better equipped to make buying decisions in today's market. Lighting Africa's consumer education campaign, which works to generate consumer awareness around the benefits of clean and affordable off-grid lighting, has now reached 11 million people in rural Kenya and 675,000 people in Ghana. The campaign has supported the 450% growth in the sales of off-grid lighting products across the continent in FY 11.

Over 1.5m people in Africa with access to better lighting. Since 2010, close to 1.5 million people in Africa have cleaner, safer, better lighting and improved energy access.

The variety and choice of affordable and good quality products to off-grid consumers in Africa has increased. 6 new products passed Lighting Africa quality tests recently, bringing the number of good quality and affordable lanterns available in the market to 14. To address the upfront costs bottleneck for consumers, Lighting Africa has reached out to MFIs to provide consumer finance. Three MFIs in Kenya and two in Ghana are actively providing finance to consumers in rural areas.

Lighting Global Outstanding Product Awards 2012 Launched



The next round of off-grid lighting product awards is here! This competition will be called the Lighting Global Outstanding Product Awards 2012 to reflect the increasingly global nature of the off-grid lighting market.

The goal is to recognize and showcase innovative and affordable lighting products designed to meet the needs of low income people living in off-grid areas of Africa, Asia, and beyond.

Finalist products in the competition will be evaluated using results from rigorous laboratory testing, input from off-grid lighting consumers in India, Kenya, and Senegal, and other factors such as product price. Awards will be given in three price based categories.

The announcement of winners will take place at the 3rd International Off-Grid Lighting Conference & Trade Fair, to take place in October of 2012 in Dakar, Senegal. The awards competition builds on the prior success of the 2010 Lighting Africa Outstanding Product Awards competition. More information at: www.lightingafrica.org/awards

3rd International Off-Grid Lighting Conference & Trade Fair

Hosted by Lighting Africa and the Global Off-Grid Lighting Alliance, Lighting Africa's 3rd International Off-Grid Lighting Conference and Trade Fair will take place in October 2012 in Dakar, Senegal. The 3 day conference expects to bring an estimated 800 participants to the event and offer about 75 exhibition booths for the trade fair. The conference will be of particular interest to global lighting manufacturers; local distributors, suppliers, and retailers of off-grid lighting products; financial institutions; policy makers; bilateral and multilateral organizations; and buyers/consumer groups. Sponsorships are also available. Contact Judy Siegel: judy@energyandsecurity.org

Innovative Rural Employers Keep Pace with Employees' Needs

"I was buying a full jerry can [of kerosene] costing Ksh 600/- (\$ 6.40) for my father and mum every month, only for them to see. Then my brother's children were coming to my mother's house to study," said Rebecca Muthiani, employee of Tambuzi Farm in Nanyuki, Kenya whose income supports a large extended family.

With the cost of living in Kenya rising, large scale rural employers are thinking of innovative solutions to alleviate financial pressure on employees, arranging loans to make products such as good quality portable solar lanterns affordable to all.

Bringing solar lanterns into employees' homes

A year ago, Maggie Hobbs, director of the Tambuzi flower farm, which is located in an area with no grid electrification, attended a Lighting Africa conference in Nairobi. She was particularly interested in the fact that many products had undergone quality testing carried out independently by Lighting Africa. Once she was assured that there were good quality portable solar lanterns available in the marketplace, that can provide clean, sustainable, bright light in the home, she was determined to try to give all her 225 employees access to these products.



Girls completing homework under a LED light © Jamie Seno/Lighting Africa

After the conference, Maggie arranged to take a sample product from each of the eight category winners from the 2010 Lighting Africa Outstanding Product Awards Competition and, together with her employees, undertook home testing. Upon seeing the products, the farm employees were all keen to switch from kerosene to solar lighting. They unanimously voted for one product, the Barefoot Powapack 5, making it possible for Maggie to negotiate a reduced price for a large order. She also approached the Waitrose Foundation, the farm's main UK client, which provided a subsidy of Ksh 2,000/- (\$18) for each unit sold. The final subsidized selling price of each Barefoot Power Powapack 5 was Ksh 3,000, which employees paid back at a rate of Ksh 250/- per month over one year, some opting to pay back more quickly. Each solar kit comprises four lanterns, one solar panel and a battery that can recharge a mobile phone and run a radio.

"We have never had a CSR [corporate social responsibility] project as successful as this, that truly addresses the issue and by saving on the cost of kerosene and phone charging, ultimately puts cash back into employees pockets." Maggie said. Tambuzi Farm is currently rolling out the second phase of the initiative, this time offering employees the choice of buying subsidized bicycles, water tanks, iron sheets (mbati) or solar lanterns on manageable repayment terms. Half of the employees have chosen to buy additional solar lamps for family and friends.

Lighting up rural areas

Rebecca Muthiani, Production Manager at Tambuzi Farm, has so far bought a set for herself and five more Powapack units for her extended family many miles away in Nyara District, Eastern Kenya. "In my village they are asking me for them. The whole village is calling me every day. By the time I get money, I buy another one."

Investing in Education

Maggie Hobbs also found donors to purchase the Greenlight Planet Sun King solar powered portable task lights for all ten teachers at Mukuri school and each of the 25 students in year 8 who are preparing for exams to graduate to secondary level. "They (the students) used to come early in the morning to do homework before school. These days they come ready," said Stephen Mwangi, headmaster of Mukuri School. The task lights are now school property. The students charge them each day on the school premises and then take them home at night to study. The plan is to hand the lamps on to the next group of year 8 students in January 2011.

Tambuzi Farm also provides these students with prep diaries, which are signed off by their parents every day, in order to supervise their homework. Since the initiative started, the school has seen an improvement in the year 8 student's grades. "I am seeing a great, great change," Mr. Mwangi said. "It would be good to see this project extended to year 6 or 7. Currently it (the lantern) is used by siblings at home, so already each lamp is benefiting more than one student." Another 265 pupils are enrolled at the school, the majority without access to the grid.

The example of Tambuzi Farm shows that the initiative had a bigger impact than first imagined, improving the lives not only of the students, but of the wider community.

SOLUX brings solar light to pregnant mothers and AIDS orphans in Uganda

The Adult Education College in Bad Alexandersbad, Germany has partnered with two Ugandan communities to bring solar light to community projects.

The first of these partnerships is a small community run maternity clinic in unelectrified Kanungu – newly equipped with 11 Solux solar portable lamps. A group of 24 women called Kihanda Women for Development established a clinic in the late 1990s. In this very mountainous, rural area bordering the Republic of Congo, pregnant women had to walk long distances to reach the hospital – and many babies died on the way. They financed their local clinic through income generating projects, supplemented by financial support from the Adult Education College.

The second partnership concerns a primary school near Kampala that the Adult Education College provided with Solux solar portable lanterns. Although the school is connected to the grid, it experienced frequent powercuts, as the Kampala municipality implements power sharing schemes. With the Solux solar lanterns, the students have now light in their classrooms every evening – independently from the municipal supply. Several years ago, the Centre provided financial support to Mary Kayamba who was teaching AIDS orphans on a rented veranda, to build her own school on a donated plot of land. Today she is heading a school of 10 teachers, 1 matron and around 200 pupils, some of them boarders, some of them day-schoolers. The orphans go to school free of charge.

Six new products passed Lighting Africa quality tests. They were tested for battery capacity, charge controller, run time, lighting service, charging behavior, mechanical durability, and long-term lumen degradation. We asked the manufacturers to say a few words about their products:



"When we set out to expand our award-winning Sun King™ line of solar-powered lanterns, we revisited what Sun King really stands for: adaptable design, maximum durability, and life-changing affordability— and we challenged ourselves to once again raise the bar for flexible, long-lasting and appropriately priced off-grid lighting. Informed by our customers' requests for bright room lighting and the ability to charge mobile phones at night, we developed the newest member of the Sun King family – the Sun King Pro™. With the same durable, all season performance our consumers rely on with the original Sun King, our new Sun King Pro™ provides a robust, comprehensive solar powered light and mobile-phone charger at an ultra-affordable price." - Greenlight Planet

[See how the Sun King Pro performed against Lighting Africa's quality tests](#)



"The SUNLITE G3 is a Ceiling mounted light that also charges mobile phones. It was designed and developed in Kenya to meet the increasing demand for reliable, affordable and bright solar lighting solutions across Africa. The product serves as a ceiling light with a wall mounted switch or can be converted into a portable torch by attaching the bulb to the power pack with the screws provided. The SUNLITE G3 is a Ceiling mounted light that also charges mobile phones. The Sunlite is a good combination of Price, Brightness and Light hours per day." – Sunlite

[See how the Sunlite G3 performed against Lighting Africa's quality tests](#)



"The PowaPack Junior Matrix includes 2 lighting points to illuminate two rooms. The matrix lamps were improved and included with the kits in response to customer's use of the previous generation of LED lamps. The bright matrix LED lights provide between 7 and 12 hours of room lighting depending upon use. The 2.5W solar panel will recharge the 3.2V, 3300mAh battery in about 7 hours depending on the capacity of the battery. The PowaPack Junior Matrix system uses an innovative plug and play wire system for simple installation and support phone charging and radio operation from the port on the battery." – Barefoot Power

[See how the PowaPack Jr. 2.5 W Matrix performed against Lighting Africa's quality tests](#)



SolarMine 100: "When we made up our mind to do something with our solar and LED technologies for the people living without electricity, we hit upon the idea of a versatile solar lantern. We set out to design a multi-purpose (ambient, task and portable), long product life-time (5years), bright (100lm), long autonomous run time(12hours) and easy to carry product. It was tough job at the beginning to find a way to meet all the design targets. Fortunately we arrived at the current design, which could fulfill all the specifications targeted." – Uniglobe

[See how the SolarMine 100 performed against Lighting Africa's quality tests](#)



Solar Home Lighting System: "This is a complete solar home kit, and has been designed to provide low-cost yet highly efficient bright light for homes and small businesses. The central solar power-charged battery pack powers two LED lights, which can be suspended around a building. A full day's charging in the sun (8 hours) will provide enough light for a whole evening (5 hours of light using both lights). The benefits are considerable. It is cheaper to run than Kerosene lamps and provides a far higher quality light. It is also safer as there is no fire risk as with kerosene and better for the health as damaging smoke is avoided. Situations such as child birth should also become safer. Economic benefits include the extension of working hours beyond sunset and children for example can continue to do homework in the evenings." – Philips

[See how the Solar Home Lighting System performed against Lighting Africa's quality tests](#)



Trony Solar's Sundial-TSL-01: TSL01: "A high value lighting and mobile charging solution for Africa people. You can use the light for Reading, cooking, walking, meeting and provide USB power charging for mobile, radio, CD, MP3. TSL01 do not need any installation, the only requirement is that the solar module be plugged into the light during the day. It was designed to give the highest overall value to you." – TRONY

[See how the Sundial-TSL-01 performed against Lighting Africa's quality tests](#)

For more product information from the manufacturer:

- Greenlight Planet Sun King Pro: <http://www.greenlightplanet.com>
- Sunlite Solar Light G3: <http://www.sunlite.co.ke>
- Barefoot Power Powa Pack Jr.2.5 W Matrix: <http://barefootpower.com>
- Uniglobe SolarMine 100: <http://www.solarmine.co.kr>
- Trony Solar Holdings TSL01: <http://www.trony.com>
- Philip's Solar Home Lighting System: <http://www.philips.com/offgridlighting>

[See all 14 products that have passed Lighting Africa's minimum standards](#)

Portable Solar Lanterns donated by USAID to help break the cycle of poverty

"The solar lights are working well. Once you charge it all day, it will still be on throughout the night," said Mr. Wainaina from Kayole, Nairobi.

Mr. Wainaina's charity, Children Hope Foundation, raises funds for needy children in his community, providing school uniforms, food packages, exercise books and jerry cans for carrying water. When he received 19 Greenlight Planet Sun King solar lanterns from the [AIDS, Population and Health Integrated Assistance Project \(APHIA II\)](#), he distributed them to year 8 students who were studying for critical examinations that would determine if they would progress to secondary school.

Benefitting school children

Mr. Wainaina had only praise for the Sun King lanterns: "The children can study all night and without the smoke. Families also save on paraffin that they used to buy every day."

Renewable Energy Ventures (K) Ltd. compiled results five months after the solar lanterns were distributed to the students.

They found that the majority of students who were allocated portable solar lanterns were studying for an average of three hours each evening compared to only one hour before, when they only had kerosene lamps.

The Sun King lantern is a product which meets [Lighting Africa's recommended performance targets](#) for quality. In November 2010, the APHIA II program, funded by [USAID](#), purchased 500 Greenlight Planet Sun King solar lanterns from [Renewable Energy Ventures \(K\) Ltd.](#) for distribution in Nairobi's informal settlements.

Due to the success of the APHIA II project, USAID recently bought an additional 1,000 Sun King lanterns for distribution from Renewable Energy Ventures.

See also how [Renewable Energy Ventures](#) has developed a [Solanterns Initiative](#), pledging to replace one million kerosene lanterns with solar lanterns in Kenya at [www.solanterns.com](#).

Lighting Africa released Issue 6 in its Briefing Note series, "[Optical Control Techniques for Off-Grid Lighting Products](#)."

This issue introduces basic concepts in optical design for low power off-grid lighting products and suggests ways to improve optical efficiency. It is intended to provide useful information to product manufacturers, distributors, retailers, and other interested stakeholders.



A shop keeper sells her wares under LED light. This enables her to extend business hours.
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This Briefing Note builds on previous Notes in the series.

Download them at:

<http://www.lightingafrica.org/resources/briefing-notes.html>



The [Lighting Africa Newsletter](#) is a briefing on the latest developments in the Lighting Africa program and the off-grid lighting market. It is provided to all organizations and individuals in the Lighting Africa network. Help us help you tell your story by sending us your articles!

Lighting Africa does not endorse the contents of the articles submitted by its members. To submit articles or for comments, questions, or suggestions, please contact our project team at: support@lightingafrica.org

Lighting Africa, a joint IFC and World Bank program, seeks to accelerate the development of commercial off-grid lighting markets in Sub-Saharan Africa as part of the World Bank Group's wider efforts to improve access to energy. Lighting Africa is helping mobilize the private sector to build sustainable markets to provide 2.5 million people with safe, affordable, and modern off-grid lighting by 2012. The longer-term goal is to eliminate market barriers for the private sector to reach 250 million people in Africa without electricity, and using fuel based lighting, by 2030. Improved lighting provides significant socio-economic, health and environmental benefits such as new income generation opportunities for small businesses. Lighting Africa is a key element of the global Solar and LED Energy Access (SLED) program, an initiative of the Clean Energy Ministerial.

For more information, please visit <http://www.lightingafrica.org>

Lighting Africa is implemented in partnership with: The Africa Renewable Energy and Access Grants Program (AFREA) • The Asia Sustainable and Alternative Energy Program (ASTAE) • The Energy Sector Management Assistance Program (ESMAP) • The Global Environment Facility (GEF) • The Good Energies Inc. • Italy • Luxembourg • The Netherlands • Norway • The Public-Private Infrastructure Advisory Facility (PPIAF) • The Renewable Energy and Energy Efficiency Partnership (REEEP) • The United States.

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