

Lighting Africa Progress Report

Building Market Momentum

July 1, 2008 - June 30, 2010



LIGHTING  AFRICA
Catalyzing Markets for Modern Lighting

AN INNOVATION OF

 **IFC**
International
Finance
Corporation
World Bank Group



Lighting Africa

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, visit 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.

About the World Bank: The World Bank is a vital source of financial and technical assistance in developing countries worldwide, with a mission to help reduce global poverty and improve living standards. However, it is not a bank in the common understanding of the term. Rather, it is comprised of two unique development institutions owned by 185 member countries—the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). Each institution plays a different but supportive role.

The IBRD focuses on middle income and creditworthy poor countries, while IDA focuses on the poorest countries in the world. Together, they provide low-interest loans, interest-free credit, and grants to developing countries for education, health, infrastructure, communications, and many other purposes. The World Bank concentrates on building the climate for investment, jobs, and sustainable growth to enable economies to grow, and investing in and empowering poor people to participate in development.

For more information, visit www.worldbank.org

About IFC: IFC, a member of the World Bank Group, is the largest development institution focused on the private sector in developing countries. IFC creates opportunity for people to escape poverty and improve their lives—by providing financing to help businesses employ more people and provide essential services, mobilizing capital from others, and delivering advisory and risk-management services to ensure sustainable development. In a time of global economic uncertainty, IFC's new investments climbed to a record \$18 billion in fiscal 2010.

For more information, visit www.ifc.org

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Acronyms and Abbreviations

ADB	Asian Development Bank
AFREA	Africa Renewable Energy Access Grants Program
ASTAE	Asia Sustainable and Alternative Energy Program
B2B	Business to Business
CFL	Compact Fluorescent Light
CO₂	Carbon Dioxide
DFID	United Kingdom Department of International Development
DRC	Democratic Republic of Congo
ESMAP	Energy Sector Management Assistance Program
FI	Financial Institution
FISE	Fraunhofer Institute of Solar Energy Systems
FY	Fiscal Year
GEF	Global Environment Facility
GHG	Greenhouse Gas
IEA	International Energy Agency
KEBS	Kenya Bureau of Standards
LA	Lighting Africa
LADM	Lighting Africa Development Marketplace
LED	Light Emitting Diodes
LOI	Letter of Intent
LRTC2010	Lighting Rural Tanzania Competition 2010
MFI(s)	Microfinance Institution(s)
NGO	Non Governmental Organization
PAG	Policy Advisory Group
PPIAF	Public-Private Infrastructure Advisory Facility
PV	Photovoltaic
QA	Quality Assurance
REA	Rural Energy Agency
REEEP	Renewable Energy and Energy Efficiency Partnership
SHS(s)	Solar Home Systems
SME	Small and Medium Enterprise
SPL	Solar Portable Lights
TIP	Technology Improvement Program
UNEP	United Nations Environment Program
WBG	World Bank Group

Lighting Africa - Building Market Momentum

According to early market evidence, the off-grid lighting sector is taking hold in Sub-Saharan Africa—yielding promising results towards meeting the *Lighting Africa* program's ambitious goals. The program was launched in September, 2007 to build industry momentum and markets for off-grid lighting. *Lighting Africa* works with a range of partners to develop and support this new sector and make modern lighting available to millions lacking access to reliable electricity.

The market for off-grid lighting in Africa has drastically improved over the last few years. The market was initially characterized by donor-led initiatives, high unit costs, and technologically immature products often unsuited to the needs of African consumers. Today, the market is entering a new growth phase driven by private sector interests. It is now characterized by innovative business models, unique marketing strategies, and products tailored to meet market needs and respond to consumer demand.

From fewer than eight products developed for this market in 2008, today over 70 products manufactured by 50 companies are available on retail shelves in Africa. While variety has increased, prices have dropped rapidly. In 2008, products retailing above \$50 dominated the market. Today, a range of quality products are available from \$25-\$50 and prices are expected to fall further as solar lighting product components improve their technical efficiency and performance. As prices fall, more people at the bottom of the pyramid will be able to afford these innovative products.

Lighting Africa has made good progress implementing its program activities, supported by the establishment of a project team in Africa. A recent milestone is the release of a quality assurance test methodology for low-cost solar lanterns that can be readily adopted by African laboratories and standards bureaus. The methodology was applied to the Lighting Africa's Outstanding Products Award Competition (held in May 2010), which offered manufacturers the opportunity to compete for awards. Products were tested against the new methodology. Five products received awards for offering quality off-grid lighting at affordable prices. Seven products have passed the Lighting Africa testing methodology and will benefit from direct marketing and business development support in the market place.

“From fewer than eight products developed for this market in 2008, today over 70 products manufactured by 50 companies are available on retail shelves in Africa.”

The program's market intelligence products have also gained industry acceptance. They are being adopted and regularly used as reference points for building market knowledge, market sizing, and assessment of the market opportunity and their characteristics. Nineteen companies have incorporated *Lighting Africa*'s market research and consumer insights into their product designs.

Lighting Africa is supporting Development Marketplace Grant Competition winners as they roll out their products, some of which have already provided dramatic results, such as helping students study at night and enhancing rural teacher retention rates because of the increased availability of light.

Lighting Africa's website is now recognized as a virtual home for the international, low cost off-grid lighting industry and associated stakeholders. It receives over 30,000 hits monthly.

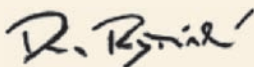
More than 600 participants and 50 exhibitors from across Africa and around the world attended the 2nd Lighting Africa International Business Conference and Trade Fair from May 18-20, 2010, in Nairobi, Kenya. After three days of interactive sessions, side events, and trade interactions, attendees said they were impressed by the *Lighting Africa* program and how it was helping build a market for off-grid lighting. Sixty-five percent of respondents said they were pursuing an average of 12 serious leads. In addition, 24 stakeholders signed a letter of intent to establish an international association for off-grid lighting to provide continuity to *Lighting Africa's* key components in the future.

Many commented they would not be working in this market without the program's assistance. In 2009, companies supported by *Lighting Africa* sold more than 112,000 off-grid lighting products, reaching more than 500,000 people in Africa with improved energy services.

Because of *Lighting Africa's* unique approach to market development, stakeholders and entrepreneurs across the value chain are increasingly turning to the program for collaboration and guidance. *Lighting Africa* is responding by offering leadership as a neutral broker of industry interests, mitigating risks for all market developers across a level playing field. Lighting Africa has piloted its approach in two countries—Ghana and Kenya—and is now replicating this experience in Tanzania, Ethiopia, Senegal, and Mali.

Lighting Africa has been a key driver of market transformation in off-grid lighting in Sub-Saharan Africa and is planning to expand its efforts outside Africa, most notably Asia. As the international community continues to join forces to build and grow markets for affordable, modern, off-grid lighting, the potential for dramatically improving lives around the world is becoming a reality.

“Lighting Africa has piloted its approach in Ghana and Kenya and is now replicating this experience in Tanzania, Ethiopia, Senegal, and Mali.”



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1. Introduction

This document details the progress of *Lighting Africa* over World Bank Group's Fiscal Years (FY) 2009 and 2010. This covers the time period from July 1, 2008 through June 30, 2010.

Why *Lighting Africa*?

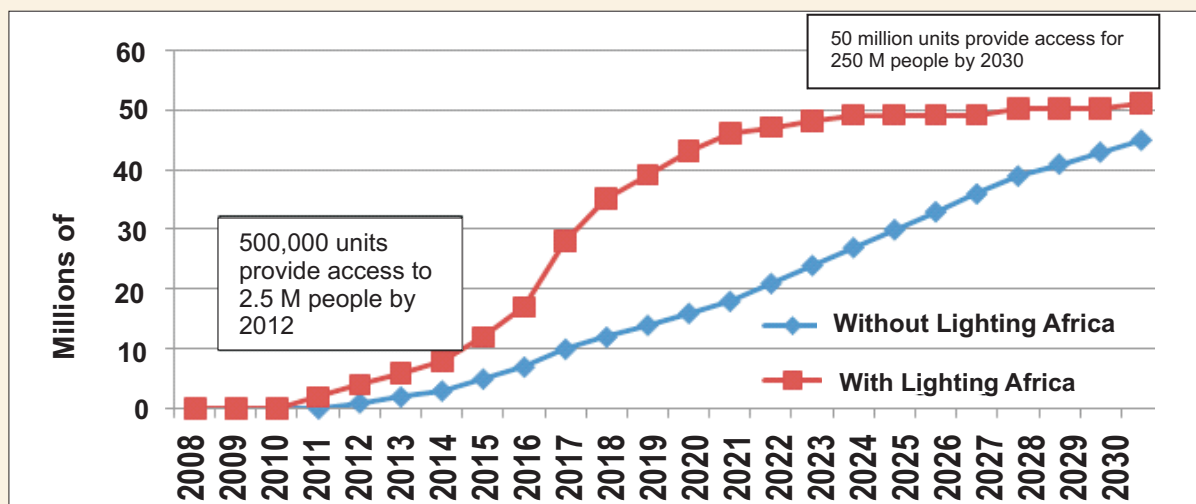
Lighting Africa—a joint World Bank and IFC program—was designed to transform the market for off-grid lighting products in Africa. Launched in September 2007, *Lighting Africa* is helping make modern, off-grid lighting products available to millions without electricity who currently rely on expensive and often dangerous fuel-based lighting. Program goals are:

- *Near term*: to transform the lives of 2.5 million Africans by increasing access to better and cleaner lighting by 2012 through mobilizing private sector development of commercial, off-grid lighting markets across Africa.
- *Long term*: to establish a broader commercial platform to reach 250 million people with access to modern lighting products by 2030.
- *Beyond Africa*: to adapt the program model for scale-up and replication by developing new markets in other countries and continents.

Program objectives include:

- Catalyze and accelerate the development of markets for quality off-grid lighting products.
- Ease barriers to market entry across the value chain.
- Reduce product prices and barriers for consumers by enhancing awareness, expanding distribution, and creating a competitive and diverse market place.
- Reduce Greenhouse Gas (GHG) emissions and environmental pollution (particularly carbon dioxide, CO₂, and other emissions that give rise to climate change) by displacing fossil fuel-based lighting.

Figure 1. Lighting Africa Program Target: 250 Million by 2030



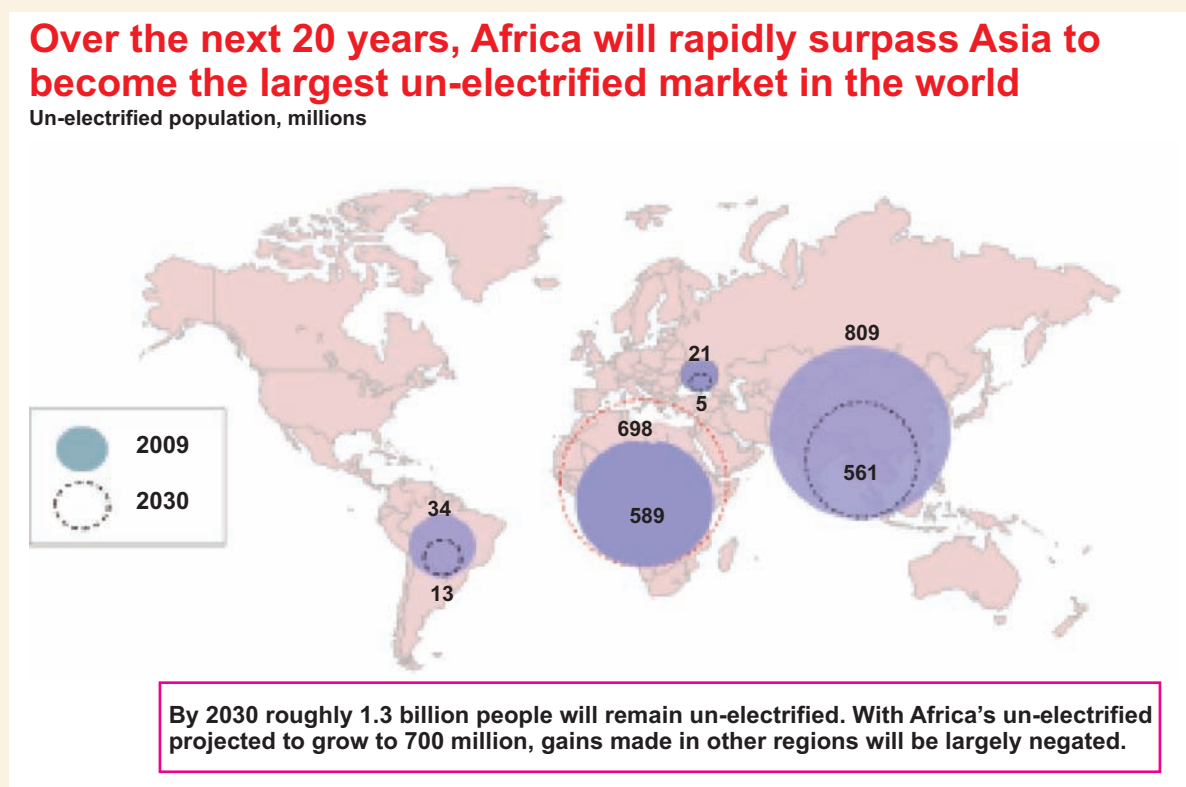
Source: Lighting Africa.

The Need

According to the International Energy Agency (IEA), about 1.6 billion people worldwide lack access to electricity. An estimated 589 million of those live in Africa (See Figure 2). While the rest of the world is enjoying increased electrification levels, Africa's non-electrified population is growing steadily, projected to reach 700 million by 2030. Grid expansion on the continent is failing to keep pace with population growth.

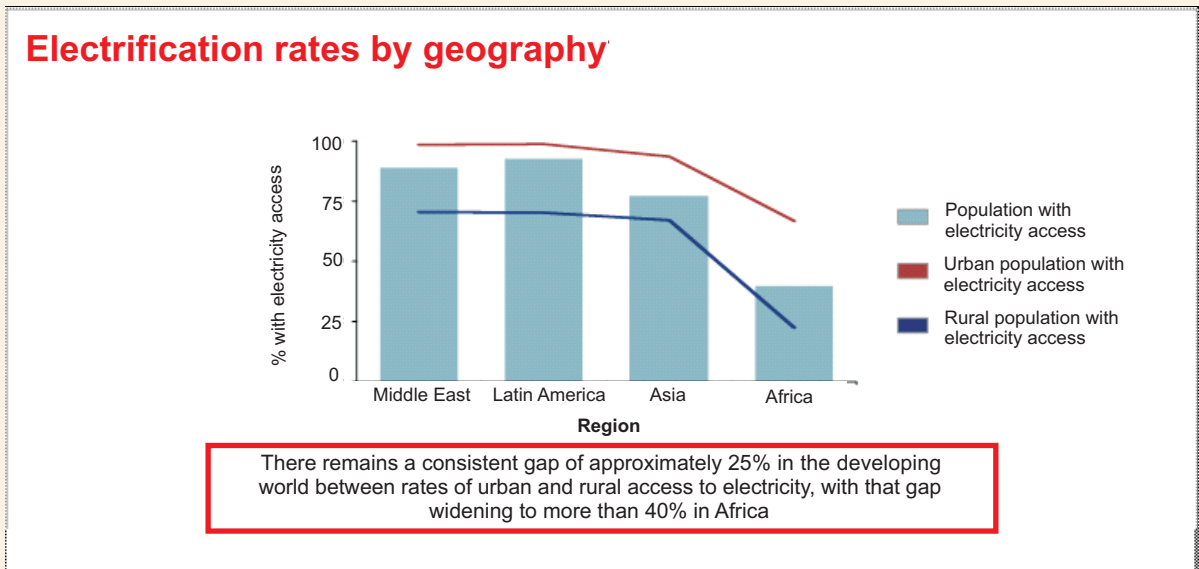
The situation is particularly acute among the rural poor, who account for a major share of those without electricity. As Figure 3 illustrates, a gap of approximately 25 percent typically exists between rates of urban and rural electricity access in the developing world. In the case of Africa however, this gap is estimated at over 40 percent. In addition, on-grid customers (60 million African households) lack reliable lighting. Power cuts and low-quality grid supply affect at least a third and, in some African economies, the majority of this group.

Figure 2: Forecast for Global Un-electrified



Source: International Energy Agency, Electricity Access Database, 2008.

Figure 3: Electrification rates around the globe



Source: Dalberg Research for Lighting Africa's report "Solar Lighting for the Base of the Pyramid – Overview of an Emerging Market" & International Energy Agency, Electricity Access Database, 2008.

Without modern energy services, consumers turn to kerosene lamps as their primary light source, with many requiring additional options to meet their lighting needs, such as candles and biomass. Only the wealthiest households and small businesses can afford battery powered light devices and diesel generators. These lighting alternatives are typically expensive, often dangerous, and environmentally harmful.

Poor quality light also inhibits productivity in Sub-Saharan Africa, making it difficult to work, read, study, or conduct business at night or early morning. This general lack of lighting options, combined with the continent's slow electrification growth rates, is hampering the continent's development.

The Opportunity

Technical advances and competitive forces are producing off-grid lighting products matched to consumer needs. These include:

- **Sharp decreases in the price** of light emitting diodes (LEDs), solar components, batteries, etc. This means that off-grid products are more affordable, narrowing kerosene's upfront cost advantage over modern off-grid lighting alternatives.
- **Increases in effectiveness and quality.** Technical enhancements are yielding better, longer-lasting, environmentally cleaner, and brighter lighting products.
- **Increases in base kerosene prices**, estimated at four percent annual increase over the next few years, combined with increasingly expensive-to-maintain kerosene subsidy regimes still in place in many countries. This suggests that kerosene will continue to lose its cost advantage (and market share).
- **Products are offering more than lighting**, and now include other features that customers are demanding, such as cell phone chargers.

With *Lighting Africa's* support, the African market is benefitting from advances in off-grid lighting and is poised for exceptional growth. Under current growth trends, the market is projected to achieve 40-50 percent annual sales growth, with 5-6 million African households owning portable lights (primarily solar) by 2015. This excludes poor quality battery-powered LED torches (many in the \$1-\$10 range), whose sales are in the millions.



Low cost products in an African market

Under current growth trends, the market is projected to achieve 40-50 percent annual sales growth, with 5-6 million African households owning portable lights (primarily solar) by 2015.

2. Key Accomplishments

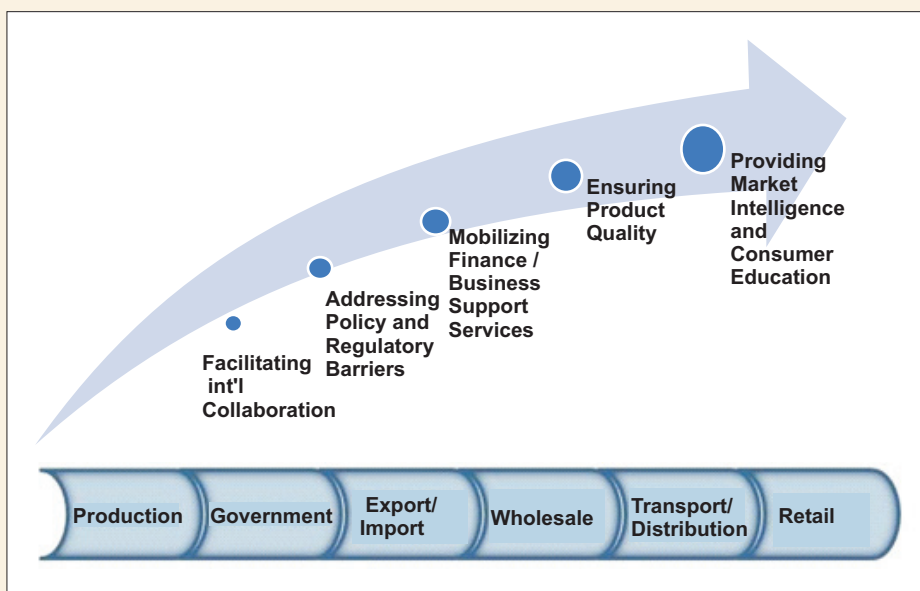
The *Lighting Africa* program consists of five components:

- **Market Intelligence:** Lowers entry barriers into the market, helps inform design of appropriate products for the African market, and provides regular insights and trends to enhance the decision making process.
- **Product Quality Assurance:** Mitigates market spoilage and promotes quality off-grid products by establishing quality specifications and methodologies supporting market growth.
- **Business Support Services and Access to Finance:** Helps create a vibrant market for innovative products by supporting manufacturers, distributors, and retailers and helping them access funding.
- **Consumer Education:** Educates and informs consumers, creates awareness, and generates demand for off-grid lighting products while mitigating market spoilage.
- **Policy and Public Sector Operations:** Engages governments to create a favorable environment for off-grid lighting products.

By implementing these components, *Lighting Africa* acts as “bridge” between the producer and the consumer, filling market gaps and serving as a “matchmaker.” By facilitating international collaboration, *Lighting Africa* links multiple local and international stakeholders to support collective market development for all (See Figure 4).

Key accomplishments for each of the five components in FY 2009/2010 are discussed below.

Figure 4. Lighting Africa Removing Barriers across the Value Chain



Source: Lighting Africa

Market Intelligence

“I have been able to add two more hours of trading each day thanks to a small LED lighting system that costs just \$20.” Eunice Wanjiru, Business Woman, benefiting from a Lighting Africa pilot project for off-grid lighting in Kenya.

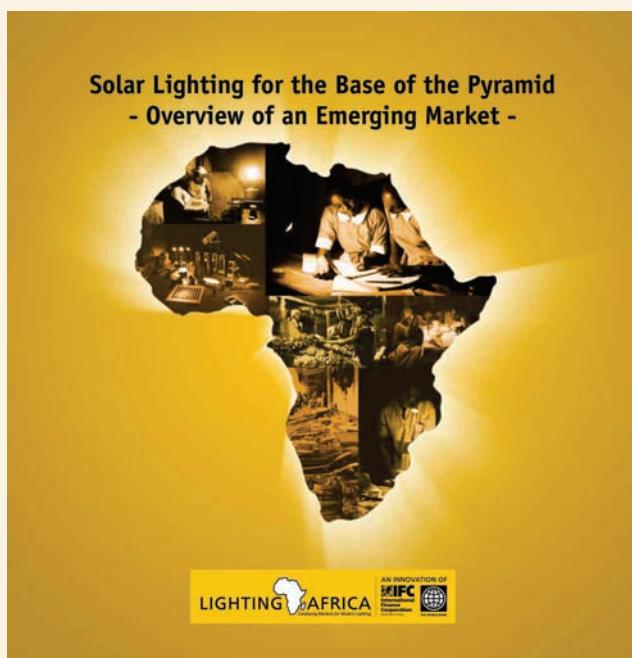
An estimated 600 million people without grid connection in Africa spend a significant part of their household incomes on fuel-based lighting. This amounts to \$10 billion per year in Sub-Saharan Africa and about \$25-38 billion globally (out of a \$185 billion global lighting market). However, this and other market information is largely difficult to obtain. As a result, the lighting industry has not had the confidence that it can earn the returns needed to justify the costs of doing business in this market.

In response, *Lighting Africa's* market intelligence products help build upstream knowledge by helping manufacturers, importers, wholesalers, and distributors understand the market opportunities. The insight helps manufacturers design products to meet consumer needs, identify partners across the supply chain, and develop business models tailored to local market need and conditions. These activities have been identified in conjunction with industry to provide insight and essential market information that is often costly to obtain.

Some key accomplishments over the last two years include:

Market Trends Assessment. Lighting Africa developed a landmark report “Solar Lighting for the Base of the Pyramid—Overview of an Emerging Market” on the solar portable lighting market for the base of the pyramid. The report assesses the solar portable lighting market today, with projected trends over the next five years. This will become a regular publication that will be updated every two years and circulated widely within the global off-grid lighting industry.

The report addresses market trends and statistics at a global level with more detailed analysis for the Africa market and provides pricing curves for lighting products—past and future. It also estimates market penetration rates for Africa and the projected impact of off-grid lighting products and discusses stimulants/drivers for future market growth.



“The report assesses the solar portable lighting market today, with projected trends over the next five years.”

Market Research. *Lighting Africa* completed market research for five countries (Ethiopia, Ghana, Kenya, Tanzania and Zambia) that covers two market segments (households and micro businesses) in both urban and rural areas. The reports were produced over four market research phases, and include data from more than 10,000 consumer interviews. They provide a detailed analysis of both qualitative and quantitative findings that gives manufacturers, distributors, financiers, and others detailed information on consumer insights.

This includes consumer feedback on pricing, design attributes, product preferences, and power generations needs. An umbrella report aggregates findings across the five countries (available at www.lightingafrica.org). The expansion of market intelligence lessons learned to Francophone Africa is underway (See Figure 5). To date, 19 companies have used Lighting Africa market research reports to directly inform their product designs or support their business planning and marketing strategies.

Figure 5. Lessons Learned from Market Research

Clarity: Lighting products need to be easy to understand and use. African consumers need to know what each lighting product offers.

Relevance: Lighting products need to be seen as relevant. African consumers need to be able to identify how each product meets their lighting needs; this information must be presented in a simple way.

Excitement: Lighting products need to capture consumer interest. African consumers need to be stimulated and feel enthused about any product hoping to capture a large market segment.

Credibility: Lighting products need to be seen as capable of delivering their promised service and usefulness.

Trial: Lighting products that are clear, relevant, likeable, exciting, and credible generate high levels of trial purchase.

Affordable: Lighting products need to be affordable and offer good value for money.

Uniqueness: Lighting products should be different enough so they stand apart from the rest of the products in the market, but not so unique that they alienate consumers.

Source: TNS Global Market Research.

Distribution Channel Mapping. Importers, bulk purchasers, and other stakeholders are constantly looking towards identifying conventional and alternative distribution channels. To assist in this effort, *Lighting Africa* conducted an extensive analysis of existing and potential distribution networks. The program has created a data base to identify distribution channels and retail outlets for off-grid lighting products—in Kenya and in Ghana.

Additionally, the program provided distributor education workshops and business development support to link manufacturers with distributors. If producers can establish rural distribution networks and reduce the number of intermediaries between themselves and their local dealers, they can avoid mark-ups and translate savings into lower retail prices.

Value Chain Analysis. To help firms increase efficiency in their value-chains, *Lighting Africa* has conducted basic value-chain analyses of popular consumer goods, starting in Ghana and Kenya. Plans are to replicate these analyses across the continent. The analyses examined multiple cost build-ups, evaluated value-chain options, and assessed opportunities for effective product dissemination targeting specific regions. Baseline data on off-grid lighting products, sales, pricing, and channels were also developed.

Inviting Others to Fill Their Own Information Gaps. *Lighting Africa's* open source web platform (www.lightingafrica.org) continues to thrive, providing an online forum to facilitate collaboration and knowledge exchange.

Information Sharing. *Lighting Africa* regularly distributes reports, news, event information, and briefs to help keep all market players well informed.



© Guy Patrick Massoloka/Lighting Africa

“If producers can establish rural distribution networks and reduce the number of intermediaries between themselves and their local dealers, they can avoid mark-ups and translate savings into lower retail prices.”

Product Quality Assurance

“A year ago I came across the Lighting Africa Web site. It motivated me to develop the portable lamp. Before I didn’t know there was such a need in African countries. I completely leveraged the resources on the site, especially those on Quality Assurance.”
Uniglobe CEO H. B. Oh.

Developing a large, dynamic, and sustainable market for modern off-grid lighting requires careful attention to both product quality and the potential for “market spoiling.” Poor quality off-grid lighting products are already entering African markets. Low income end-users unfortunate enough to purchase inferior goods often waste their money; their bad experiences, which spread rapidly by word of mouth, can undermine consumer confidence in LED and compact fluorescent light bulbs (CFL)-based off-grid lighting technology.

To address this issue, *Lighting Africa* developed a quality assurance program which supports market development, provides technical advisory services to quality oriented companies, and protects the interests of low-income consumers. This strategy does not constrain technological innovation, and recognizes that market segmentation demands a wide variety of products at a range of prices. While very low cost and poor quality products have flourished, quality products are beginning to increase their market share.

Most notably, *Lighting Africa's* Quality Assurance efforts have provided manufacturers with increased incentives and opportunities to differentiate their products in the market. Key accomplishments are outlined below.

Test Methods for Off-Grid Lighting Products. *Lighting Africa* developed standardized tests to evaluate the performance of off-grid lighting products sold in Africa. The test methods are available to bulk-purchasing agents, government regulators, non government organizations (NGOs), importers, and other buyers who need to identify good-quality products or verify compliance with minimum performance levels. Or, they can contract with a test laboratory that will undertake testing. Moreover, a subset of the test procedures with small sample sizes can be used to assess if products are likely to perform well.

Product Testing: Beyond Africa

The program's testing methods are already creating benefits outside Africa. In 2010, following the earthquake in Haiti, the World Bank incorporated test results into the bulk procurement of lanterns for its relief efforts in the country. Additionally, information on quality lighting products was provided to the Bank's Afghanistan team for use in project design and implementation.

Product Performance Verification. *Lighting Africa* tested commercially available off-grid lighting products against the test methodology to verify truth-in-advertising claims and to determine whether products meet minimum performance levels. Of the 32 products tested during this reporting period, only seven passed.

Seven additional products have been tested or are undergoing tests in African laboratories. 29 are being tested in international laboratories. Information on products that passed the tests has been widely circulated to distributors, financial institutions, donors, consumers, and others seeking data on quality products.

Technical Advisory Services. To help increase the number of products that pass future technical tests, *Lighting Africa* provided support to overcome recurrent design and manufacture challenges for off-grid lighting products. Activities included: (1) providing services with companies that demonstrate strong commitment to quality issues; and (2) publishing a series of “need based” technical notes on research issues and best practices. Technical notes issued to date include “Lumen Depreciation”, “Thermal Management for LEDs”, and “Eco-Design”.

Figure 6. Torches Available in the Market Place



Counterfeit LED torch in Kenya



Lighting Africa is working to enhance quality products in the market place

Figure 7. Lighting Africa Product Award Winners

<p>Task Lighting</p> <ul style="list-style-type: none"> • First Place: Greenlight Planet—Sun King • Second Place: Barefoot Power—Firefly 12 LED 	<p>Top Performance</p> <ul style="list-style-type: none"> • First Place: Barefoot Power—PowaPack • Second Place: Sun Transfer—Sun Transfer 2
<p>Ambient/Room Lighting</p> <ul style="list-style-type: none"> • First Place: Barefoot Power—PowaPack • Second Place: D.Light Design—Nova S200 	<p>Best Value</p> <ul style="list-style-type: none"> • First Place: Barefoot Power—Firefly LED 12 • Second Place: Greenlight Planet—Sun King

Product Award Competition. *Lighting Africa* launched an “Outstanding Product Awards” program to recognize and showcase innovative off-grid lighting products and to support the best products. The first *Lighting Africa* Product Awards Ceremony was held in Nairobi, Kenya, as part of the *Lighting Africa* 2010 Conference and Trade Fair. Twenty-four applications were received from firms worldwide. These were rigorously tested and judged in five categories—room lighting, task lighting, portable torch lighting, best value, and top performance.

Winners were selected by a panel of six expert judges who based their decisions on the results of product testing, evaluations by off-grid consumers in Sub-Saharan Africa, and other factors such as price and environmental sustainability. Winners are listed in Figure 7 ¹. In addition to these products, Philips Udaymini and Solux's LED-50 also passed the *Lighting Africa* specifications. Award recipient firms received branding rights to use *Lighting Africa* endorsed logos on packaging materials, marketing support, and other high-visibility promotional activities to help them gain public recognition.

These products demonstrate that the market has made notable advances over the last two years, and is now delivering high quality products at affordable prices—a scenario that did not exist before. The Firefly 12 Mobile and the Sun King, for example, which have both passed *Lighting Africa*'s quality tests, retail for less than \$30.

¹ No award was made in the portable torch lighting category as none of the products submitted passed the testing protocol.

Test Laboratory Capacity Building. Many manufacturers, distributors, NGOs, and other players in the off-grid lighting market lack the capacity to make accurate performance measurements of lighting products. To address this information gap, *Lighting Africa* is establishing low-cost testing services at centers around the globe.

To date, *Lighting Africa* has worked with test laboratories in Germany and China to build their testing capacity. In addition, *Lighting Africa* recently signed an agreement with the University of Nairobi in Kenya to create a test facility; this may also expand to other laboratories in Africa and Asia.

Partnering with Local Standards Bodies. *Lighting Africa* has been working with the local Bureaus of Standards in Kenya and Ghana to establish quality standards for off-grid lighting products.

Technology Improvement Program. *Lighting Africa* is designing a new, cost-shared Technology Improvement Program (TIP) to work with manufacturers and other institutions in Africa and elsewhere to support improvements in off-grid lighting product quality, performance, and reliability, while reducing costs. Entities eligible for financial support from Technology Improvement Program include: industries presently involved in, or with the capability for, production of off-grid lighting products and sub-assemblies; and institutions (e.g., research, development, design, testing, certification) if their activities are directly relevant to off-grid lighting products with an intention of benefiting the African market. This program will be officially launched in 2011.



© Jamie Seno/Lighting Africa.

Winners of the 2010 Outstanding Product Awards

Business Support Services

"Lighting Africa's direct business support has been tremendously valuable in our efforts to expand into the region. From providing honest, direct feedback to connecting us with distributors, experts in the field, and general industry information, our relationship with Lighting Africa has been critical to our success in the region. The program has even been helpful in guiding some of our distributors to get started and expand in the Kenya solar lantern market." Greenlight Planet.

The lack of access to partners and secure business networks across the value chain are key impediments to business development, preventing early interest in market entrance from materializing into product development and commercialization. Moreover, given the undeveloped and somewhat unconventional nature of the off-grid lighting business environment, some entrepreneurs struggle to design suitable products and create business models that leverage the right distribution channels. *Lighting Africa* is assisting companies to overcome these barriers through the following program activities.

Networking Activities. *Lighting Africa* facilitated and/or participated in a variety of business development events over the last two years, including conferences, workshops and trade events. These range from a 2009 Workshop on Product Quality Assurance, to conducting the 2nd Lighting Africa International Business Conference and Trade Fair in Nairobi, Kenya, in May 2010. The conference assembled over 600 participants and more than 50 exhibitors displaying state-of-the-art off-grid lighting products. 85 percent (or 485 conference participants) reported high satisfaction with the conference, side events, and trade fair.

Lighting Africa team members attended/spoke at a variety of other key events including the Africa Rural Electrification Initiative Workshop, June 9-12, 2009, in Maputo, Mozambique which included a *Lighting Africa* session. Other events were the Light+Building 2011 Fair in Frankfurt, Germany; the GEF/UNEP *en.lighten* project steering committee meeting for their energy efficient lighting market transformation project (includes off-grid); and the Asia Development Bank's Clean Energy Forum, which involved a working group discussion on the organization's Lighting Up Asia program.



The 2nd Lighting Africa International Business Conference and Trade Fair attracted individuals from across Africa and beyond

Lighting Africa Web Portal. The *Lighting Africa* website (www.lightingafrica.org) offers a social media platform with virtual networking and information sharing opportunities and tools for registered *Lighting Africa* members. A “virtual home” for international off-grid lighting stakeholders, the web portal is a one-stop shop for developing business-to-business (B2B) linkages, gaining insight into the latest market trends and technical advancements, and sharing knowledge across the industry. It also has a thriving Business Opportunities forum which enables firms to post and receive business leads.

The website has attracted over 2,350 subscribers. With 33,000 user visits and 175,000 page views per month, the portal continues to grow and improve as an effective business support tool. *Lighting Africa* also has established a strong social networking presence, attracting 650 followers of its frequent tweets about new program developments and market insights, and providing Facebook access.

Matchmaking Services. *Lighting Africa* is conducting a number of activities to link local distributors with international off-grid lighting manufacturers. To date, the program has facilitated five partnerships between international manufacturers, local distributors, and bulk buyers who then introduced six new solar lanterns in the market place.

After Sales Service Support. *Lighting Africa* is assisting distributors to set up service and maintenance units to provide after sales support for products sold in the market place. The program is working with ten distributors in Ghana and Kenya to develop their maintenance service support.

Facilitation of Bulk Purchases. *Lighting Africa* is working with government agencies and corporate entities (e.g., Unilever Tea, Kenya) to facilitate bulk purchase procurements for off-grid lighting products.

Retail Audit. *Lighting Africa* has developed a tool to conduct periodic retail audits for monitoring the effect of its interventions and to provide targeted feedback to manufacturers, distributors, and retailers. The audits will channel information on sales performance, new product introduction, pricing, and other key performance data points back to these groups to help them improve their business strategies and refine value chain operations.

Partnership System. *Lighting Africa* has developed a 3-tiered business support system designed to provide companies with additional advisory services as they deepen their commitment to the market, improve product quality, and meet other market development criteria.

- Tier 1 is open to all members of the lighting industry (2,354 members).
- Tier 2 is open to manufacturers, distributors, and other industry stakeholders with products that have met *Lighting Africa* preliminary quality testing (25 members).
- Tier 3 is the highest level of service for manufacturers/distributors that have products which have passed *Lighting Africa* quality tests (six companies).

Services for Tiers 2 and 3 are cost-shared. Figure 8 describes the 3-Tier system in more detail.

Figure 8. Lighting Africa's 3-Tier Service Offering

Tier	Eligibility	Requirements	Benefits
Tier 1. Network	Open to all members of off-grid lighting industry, currently 2,354 subscribers	<ul style="list-style-type: none"> Registration on the <i>Lighting Africa</i> Website Services are available free of charge, aimed to generate interest in the market by the industry 	<ul style="list-style-type: none"> Invitations to conferences, workshops and seminars Access to <i>Lighting Africa</i> research findings, reports, briefing notes Access to <i>Lighting Africa</i> newsletters and periodic publications B2B website linkages
Tier 2. Members	Open to manufacturers, distributors, and other industry stakeholders 25 members to date	<ul style="list-style-type: none"> Products passed <i>Lighting Africa</i> initial pre-screening/testing and/or product received accreditation from international recognized standards or labs approved by <i>Lighting Africa</i> Manufacturer/distributor/stakeholder passed good corporate <i>Lighting Africa</i> governance screening Signed a member Memorandum of Understanding Services are delivered on a cost-shared basis 	<ul style="list-style-type: none"> Introduction to financing institutions Recommendations/guidance on product enhancement/modification, with aim of graduating to Associate Access to internationally accredited product testing labs (cost-shared, after pre-screening) Access to technical capacity building for product design and improvement (cost-shared) Access to periodic field testing of products with focus groups (cost-shared) For other stakeholders, areas for collaboration to be covered in Memorandum of Understanding
Tier 3. Associates	Highest level of service provision to manufacturers and distributors 6 associates	<ul style="list-style-type: none"> Products passed <i>Lighting Africa</i> test methodologies Passed <i>Lighting Africa</i> good corporate governance screening Signed associate Memorandum of Understanding with <i>Lighting Africa</i> For distributors, must be an officially appointed distributor of an Associate company and currently selling a product that passed the <i>Lighting Africa</i> test methodology Services are delivered on a cost-shared basis 	<p>Business Development Services</p> <ul style="list-style-type: none"> Regular meetings with <i>Lighting Africa</i> team to discuss market development plans and business progress Guidance on product development/improvement for new product offerings Service/maintenance capacity building programs for after sales service Access to marketing, sales, and distribution models/reports Access to technical capacity building for product design/ improvement (cost-shared) <p>Product and Business referencing to financial, commercial and non-commercial institutions</p> <ul style="list-style-type: none"> Provision of B2B links and matchmaking with local distributors Authorization to use <i>Lighting Africa</i> product test results for business purposes (e.g., investors, financial institutions, potential distributors) Targeted match-making to bulk buyers Introduction/recommendation to financing institutions to explore funding options <p>Marketing & Consumer Education Support</p> <ul style="list-style-type: none"> Eligible products featured on <i>Lighting Africa</i> website Regular retail audit feedback provided from the market on product sales performance Invitation to participate in <i>Lighting Africa</i> marketing and consumer awareness programs (e.g., product campaigns, road shows, trade fairs etc.) Negotiated media discounts

Source: Lighting Africa

Off-Grid Lighting Stakeholder Association. Twenty-four *Lighting Africa* member organizations signed a Letter of Intent in May, 2010, to form an off-grid lighting stakeholders' association – evidence that a viable off-grid lighting sector in Africa is possible.

Priority activities for the stakeholder association include product quality assurance and supporting the sustainable development of off-grid lighting solutions in developing countries. Other are: facilitating economic, ecological, and social benefits for all stakeholders; and reducing fuel-based lighting systems globally to address climate change by mitigating emissions of greenhouse gases.

The association is an important first step in moving the *Lighting Africa* program towards a self-sustaining operation, and provides an “exit strategy” for the World Bank Group, which has served to jumpstart the off-grid lighting industry and market place.

Access to Finance

“The Lighting Africa Development Marketplace program has given us a chance to expand our markets.” Charles Rioba, Managing Director, Solar World East Africa Ltd.

Providing better access to finance will become a priority as the market for quality lighting products grows, and more companies enter the sector. A lack of financing options—including limited access to long-term growth capital as well as short term working capital and trade finance—are significant barriers to market growth.

Financial institutions (FIs) often lack market comprehension and/or are not convinced of the viability of the market. Therefore, they are hesitant to lend to distributors. High interest rates (up to 40 percent in certain countries) negate the fundamental purpose of alternative financing plans, providing little to no incentive for their utilization. Moreover, available financing is usually security-based, though most suppliers do not hold collateral. Finally, low-income consumers often do not have the initial investment needed to purchase new lighting products.

In response, *Lighting Africa* has been working to address the financing gaps along the supply chain. Although still in development, a number of finance-related activities are ongoing.

Seed Capital Competitions. In 2008, *Lighting Africa* conducted its first Development Marketplace Grant Competition, providing seed funding for innovations in off-grid lighting product development. Over \$3 million was awarded to 16 winning projects that employed a range of business models and approaches to deliver improved lighting products to low-income consumers.

During the last 18 months, the *Lighting Africa* team conducted project supervision visits and provided technical assistance and support to help Development Marketplace winners meet their project implementation goals. Projects were completed in June 2010, and results are being documented. Impacts realized to date include: expanded use of improved lighting products; enhanced manufacturing, marketing, and distribution supply chains; reduced product cost; and increased access to financing.

Others include improved lighting quality for households, increased school retention and improved grades among children in homes with better quality lighting; increased income levels by small and medium sized enterprises (SMEs); and reduced CO₂ emissions. One beneficiary won UNEP's Annual Sasakawa Environmental Prize.

The innovation grant approach was replicated in April 2008 by the Tanzania Rural Energy Agency (REA) in a nationwide competition. The Lighting Rural Tanzania Competition 2010 (LRTC 2010) selected 10 winners, each of will receive up to \$100,000 in seed capital to develop and implement their ideas over a 12-month period.

Leveraging IFC's Investments. *Lighting Africa* is leveraging IFC's investments and advisory services to provide working capital and trade finance to manufacturers and distributors. For example, IFC is providing commercial financing institutions with information, training, wholesale capital, and risk mitigation instruments to help them improve access to finance for stakeholders along the supply chain. In addition, outreach to specialized funds in the energy sector (e.g. E&Co and Acumen) is also underway. Further, *Lighting Africa* explored the potential for financing and risk-sharing arrangements to help consumer goods companies and service organizations offer off-grid lighting products through their retail channels.

By investing in a first-loss partnership to facilitate the acquisition of low-cost, off-grid lighting products through micro-finance institutions (MFIs) or commercial banks, these companies stand to gain from the increased business due to lighting product sales. In addition, *Lighting Africa* has also introduced a number of promising companies to IFC's investment divisions; possible investments are being explored. The above relationships will be developed more concretely over the next year when investments will be made.

Lighting Africa: Access to Finance Overview. This report documents the financing challenges across the solar portable lighting (SPL) value chain in Africa, ranging from the working capital needs of manufacturers to affordability for end-users. It then explores three specific down-and mid-stream solutions for possible IFC support in the context of Ghana and Kenya: (1) a micro finance institution guarantee facility to channel financing to end users (and its alternatives); (2) a corporate financing concept to reach end-users through various corporate relationships; and (3) a commercial bank guarantee facility to channel capital to solar portable light distributors and wholesalers.

Financing Resource Guide. *Lighting Africa* has developed a guidebook with information on relevant funding sources, including seed financing, growth financing, and business resources. The guide includes information and contact data on over 100 financing and assistance programs of potential interest to organizations working in the off-grid lighting and renewable energy market. The guide is regularly updated and features announcements of new funding sources and grant/investment competitions on the program website and through Twitter and Facebook. Our client Greenlight Planet recently won an advertised competition, securing \$250,000 in funding through the Solar for All Competition funded by Deutsche Bank.

Lighting Africa Development Marketplace: One Child, One Solar Light Ghana Solux E.V.

About half of all families in Ghana lack access to the electric grid. During evening hours, many rely on kerosene lamps and other fossil fuel based lighting sources, which are expensive and provide limited lighting. The One Child One Solar Light Project is helping brighten homes and improve living conditions in rural areas of Ghana by providing portable solar lamps to children and their families.

The project works closely with teachers to demonstrate the value and cost effectiveness of solar lamps and has been undertaken in a joint venture between the product manufacturer and Ghanaian distribution partner Solar 4 Ghana. The good relationship between teachers and schoolchildren is ensuring

lamps are used properly, while improved access to micro credit has helped families purchase the lamps.

The project has also built up an independent sales organization in cooperation with local companies and schools. Using this approach, One Child One Solar Light has engaged 50 schools, and regularly carries out events at schools and with women's groups to introduce solar lighting and distribute information and teaching materials. The project employs two teams in different regions of the country and has created assembly, maintenance and marketing jobs. Subsequently, the project has sold 5,000 lamps and developed a commercial platform to sustain and expand sales.



“The One Child One Solar Light Project is helping brighten homes and improve living conditions in rural areas of Ghana by providing portable solar lamps to children and their families.”

© Jamie Seno/Lighting Africa.

Schoolgirls studying with a solar portable light

Consumer Education

“We used to spend a lot of money on kerosene. In the evening when the children were studying it used to emit a lot of fumes that would fill the house. The following morning when the children woke up, they were coughing. But since we got this lamp we have seen a lot of change. In the evening, the children use the lamp comfortably when studying. We don’t get anymore infection; the lamp has been very helpful to us.” Ann Muthoni, Farmer and Consumer.

A lack of education and ability to assess lighting product performance is disempowering consumers. *Lighting Africa*, recognizing the need to grow and sustain consumer confidence in this new market sector, provides accessible, understandable, and unbiased information to consumers.

A consumer outreach campaign in Kenya is helping consumers become knowledgeable buyers. Activities focus on assisting consumers to make appropriate purchasing decisions, while simultaneously developing the market and generating consumer demand for off-grid products. The campaign, which will extend to Ghana, is actively promoting proven, reliable products that have passed the quality assurance testing discussed earlier.

At present, the campaign has targeted 9 million people —4 million in Ghana and 5 million in Kenya. Its goal is to generate demand for off-grid lighting products and achieve sales of 100,000 units per year in these countries, reaching about 500,000 people with improved lighting annually.

The campaign reaches out to urban and rural consumers through a broad range of marketing and public awareness activities customized to meet local market needs. This includes road shows, direct marketing, and local radio programs. The campaign is working closely with media, Tier-3 private sector associates, and civil society.



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Posters used for the consumer education campaign in Kenya

Policy and Public Sector Operations

“There is an overall need for stakeholders to drive the off-grid lighting policy process and advance the sector. The IFC and World Bank, through Lighting Africa, will need to continue to be the major drivers for this. The private sector cannot do this on its own! Even international players are small in the lighting field and require policy support/interventions.” Albert Butare, Lighting Africa Policy Advisory Group.

Lighting Africa is working with governments in Sub-Saharan Africa interested in expanding access of their rural populations to modern electricity and lighting services. *Lighting Africa* has launched a comprehensive policy study identifying key policy barriers and mitigation strategies, based on detailed case studies of eight countries—Cameroon, Democratic Republic of Congo (DRC), Ethiopia, Ghana, Kenya, Rwanda, Senegal, and Tanzania. In addition, *Lighting Africa* is supporting rural energy agencies in Ethiopia, Mali, Senegal and Tanzania in developing off-grid lighting programs which can be integrated into their rural energy/electrification interventions. Program accomplishments include:

Off-grid Lighting Policy Study. *Lighting Africa* is developing a comprehensive policy study, based on case studies for each of the eight countries identified above. Activities involve identifying policy and regulatory barriers that are perceived as impediments by the industry, such as distorting subsidies, prohibitive taxes and tariffs. Others include inadequate regulatory standards, customs problems, administrative procedures, poor coordination between grid and off grid electrification, and overall acceptance of low-cost lighting strategies into planning activities. Based on the country cases, the study identifies, analyzes, and recommends practical solutions to mitigate the barriers. The recommendations include electrification planning and accounting, pro-poor targeting sustainable subsidies, improved tax and duty regimes, favorable regulatory frameworks, and effective application and enforcement of existing policies/regulations.

This information is being used to engage African governments in discussions towards the longer-term goal of developing an enabling environment for the expansion of affordable, quality off-grid lighting services. To that effect, the study also identifies good practices among the participating countries. For example, Kenya's recent decision to abolish import tariffs on LED-based lighting products in 2010 is a first, important step in improving the regulatory and policy framework for off-grid lighting. Kenya's advance will hopefully be replicated in other African countries.

The study will be made available on the *Lighting Africa* web portal and feed into international efforts at promoting efficient lighting. For example, it will contribute to the policy formulations of the GEF/UNEP *en.lighten* program –where *Lighting Africa* was invited to chair the working group on off-grid lighting.

Project Advisory Group (PAG). A Project Advisory Group was created to guide the *Lighting Africa* policy program. Participants include senior level government officials and private sector leaders familiar with policy and regulatory issues pertaining to low-cost lighting. The Project Advisory Group provides high-level feedback on *Lighting Africa* policy activities and includes broad-based representation from both East and West Africa.

Stakeholder Workshops. A series of workshops were conducted at the country and regional levels to bring together governments, private sector companies, donors, regional organizations, and other stakeholders to identify and agree on ways to remove policy barriers. Particular attention was given to bringing together importers and customs officials to increase clarity about current regulations and facilitate smoother imports. Sample workshops include:

- At least one country level stakeholder workshop has been held in each of the eight target countries in 2010— Cameroon, Democratic Republic of Congo (DRC), Ethiopia, Ghana, Kenya, Rwanda, Senegal, and Tanzania.
- For cross-country policy and information exchange, regional workshops were held in Ghana on March 8, 2010, and in Kenya on February 23, 2010.
- A workshop was held to bring all the countries together from East and West Africa on May 20, 2010, in conjunction with the 2nd International Business Conference and Trade Fair.

Supporting African Governments in Integrating Off-grid Lighting in Their Rural Energy/Electrification Programs. *Lighting Africa* is working with rural energy agencies (REAs) in Ethiopia, Mali, Senegal and Tanzania, supporting the development of off-grid lighting programs that these agencies can integrate in their rural energy/electrification activities. Additional countries are expected to be added in FY11/12.

Lighting Africa is providing technical assistance to REAs to adapt *Lighting Africa's* five components to specific circumstances of each country and to replicate successful experiences from Kenya and Ghana—*Lighting Africa's* pilot countries. Assistance includes: providing information on quality assurance principles for off-grid lighting; providing market research information; providing information on product quality; helping governments to identify local manufacturers/distributors in their countries through public advertising; helping to integrate consumer awareness strategies into national programs; identifying candidate organizations for bulk purchasing; and supporting governments to identify policy barriers to off-grid lighting and recommended solutions through stakeholder meetings/workshops.

Where feasible, the implementation of off-grid lighting programs is integrated into World Bank projects. For example, the World Bank's Tanzania Energy Development and Access Expansion Project has incorporated several pilots promoting the inclusion of low-cost lighting services into the Tanzania Rural Energy Agency's activities. These include LED lanterns and solar charging stations at schools benefiting from photovoltaic electrification (Sustainable Solar Market Packages), and facilitation of volume purchases of solar home systems (SHS) and lighting devices by agricultural cooperatives in the country. A grant competition for innovative ways of providing lighting services in rural areas (LRTC 2010) was modeled on the Lighting Africa Development Marketplace.

Together, these elements enable *Lighting Africa* to synchronize a coordinated push to reduce and remove regulatory hurdles and to accelerate penetration of modern off-grid lighting products throughout the African continent.

3. Moving Forward

Table 1. Planned Lighting Africa activities, FY 2011

COMPONENT	PLANNED ACTIVITIES
Market Intelligence	<ul style="list-style-type: none"> • Distribute existing market research reports • Conduct market research/value chain analysis in other priority countries • Provide routine audit reports to distributors/manufacturers
Product Quality Assurance	<ul style="list-style-type: none"> • Prepare “Need Based” Technical Notes • Adopt Testing Protocols in Kenya/Ghana by local standards boards • Build/install testing capacity in West Africa and in Asia • Test off-grid products in Africa and provide results to submitting firms • Develop quality seal based on already developed technical specifications and test protocols • Launch new cost-shared Technology Improvement Program (LA/TIP) • Develop capacity in Africa to conduct product test by setting up a testing lab in Kenya
Business Support Services	<ul style="list-style-type: none"> • Implement 3-tier Partnership System and associated services • Conduct matchmaking between distributors/manufacturers • Plan for 3rd International Lighting Africa Business Conference & Trade Fair (2012) • Continue to expand web portal; facilitate member networking/exchanges • Plan/Implement/Finance International Stakeholder Association
Access to Finance	<ul style="list-style-type: none"> • Identify finance institutions and specialized funds to become <i>Lighting Africa</i> partners • Conduct tailored market assessment reports and provide product test results for partner finance institutions to build knowledge/confidence in the off-grid market, products, and players • Leverage IFC financing programs, specialized funds, micro finance institutions and other financial institutions to reduce access to finance gap • Develop partnerships with bulk buyers (governments, firms). • Update financing resource guide
Consumer Education	<ul style="list-style-type: none"> • Conduct outreach to consumers/consumer groups on off-grid lighting products in Ghana/Kenya—focus on rural poor • Circulate results of product testing to consumers through distributors, media, etc.
Policy and Public Service Operations	<ul style="list-style-type: none"> • Finalize eight country policy studies and cross country analysis and recommendations • Implement recommendations to mitigate policy barriers in at least four countries • Incorporate <i>Lighting Africa</i> component into at least four World Bank/government projects/programs
Program Expansion	<ul style="list-style-type: none"> • Replicate <i>Lighting Africa</i> in other African countries • Replicate <i>Lighting Africa</i> in other regions (e.g., Asia)
Monitoring and Evaluation	<ul style="list-style-type: none"> • Monitor, evaluate, document, and report program progress • Carry out an impact evaluation of off-grid lighting

Source: Lighting Africa

4. Program Implementation

In its first year, *Lighting Africa* was principally administered from the World Bank and IFC Headquarters in Washington, D.C. This reflected program priorities of engaging the international lighting industry, developing the program's focus, and setting up an African program infrastructure.

In the last two years, efforts have focused on decentralizing the program to Africa and moving deeper into in-country implementation. The transition to more local management has brought a number of benefits, including:

- Direct “on-the-ground” support to manufacturers looking to enter off-grid lighting markets and to those working with the program, including consumers.
- Identification of distributors to source appropriate products and mapping of actual and potential distribution channels for product dissemination.

Management Team

During this reporting period, *Lighting Africa* was jointly managed from Washington, DC (World Bank and IFC Headquarters) and Nairobi, Kenya (implementation team).

The management team is comprised of the following:

- Ms. Dana Rysankova, World Bank *Lighting Africa* Program Manager (based in Washington, DC).
- Mr. Patrick Avato, IFC *Lighting Africa* Global Program Manager (Washington, DC, recently moved to Istanbul, Turkey).
- Mr. Arthur Itotia Njagi, IFC *Lighting Africa* Project Manager (based in Nairobi, Kenya).

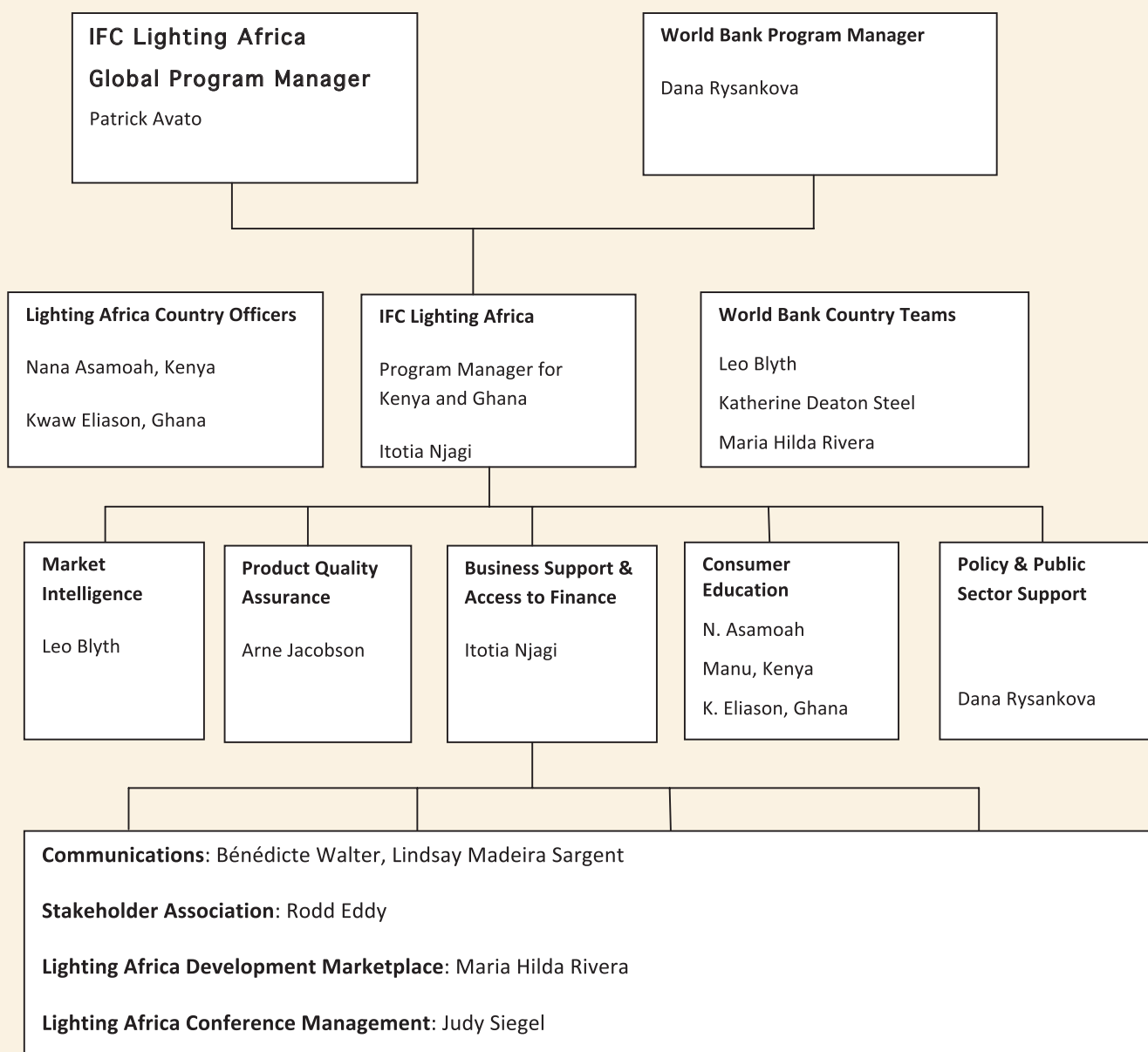
Additionally, a number of task leaders have been assigned to coordinate and manage specific task activities. Figure 9 provides the overall management structure for *Lighting Africa*.

Budget

The *Lighting Africa* budget for FY 2009 and 2010 is provided in Table 2. This includes a summary of expenditures by key activities, as well as the sources of funds. In total, \$6,864,859 was spent in this timeframe.

Table 3 provides a summary of *Lighting Africa* donor commitments since program inception (FY 2007), funding commitments/projections to date (FY 2010), and remaining balance of funds.

Figure 9. Lighting Africa Organizational Chart



Source: Lighting Africa

Table 2. Lighting Africa Budget: FY 2009-2010 (in US\$)

Activity	Funding Disbursements
Market Intelligence	\$ 809,485
Product Quality Assurance	1,189,842
Business Support Services and Access to Finance	231,318
Policy and Public Sector Operations	349,521
Outreach	638,806
Consumer Education	181,275
Lighting Africa 2010 Conference	196,357
Monitoring and Evaluation	72,058
Web Portal	170,197
	SUB-TOTAL
Development Marketplace Awards	3,838,859
	3,026,000
TOTAL DISBURSEMENTS	
	\$ 6,864,859
	Funding Sources
Africa Renewable Energy Access Grants Program/Netherlands	\$ 667,121
Asia Sustainable and Alternative Energy Program	77,751
ESMAP (Core, Denmark, UK DFID SME, SIDA funding)	666,248
Good Energies	30,000
GEF	1,672,077
Luxembourg	200,688
Norway	152,207
IFC	118,507
Public-Private Infrastructure Advisory Facility	117,259
Renewable Energy and Energy Efficiency Partnership	119,000
	SUB-TOTAL
Development Marketplace Awards	3,820,858
Africa Renewable Energy Access Grants Program/Netherlands	600,000
Global Environment Facility	1,000,000
Good Energies Inc.	100,000
Public-Private Infrastructure Advisory Facility	1,000,000
Renewable Energy and Energy Efficiency Partnership	144,000
World Bank	200,000
	SUB-TOTAL
	3,044,000
TOTAL FUNDING SOURCES	
	\$ 6,864,859

Source: Lighting Africa

Table 3. Lighting Africa Cumulative Budget Funding Commitments, Expenditures and Remaining Balance (in US\$)

Funding Sources	Total Funding Commitments Planned to Date (since 2007)	Total Expenditures To Date (FY 2010)	Balance of Program Funds Available
Africa Renewable Energy Access Grants Program/Netherlands	\$ 2,500,000	\$ 1,284,509	\$ 1,215,491
Asia Sustainable and Alternative Energy Program	80,000	80,000	-
ESMAP (Core, Denmark, UK DFID SME, SIDA funding)	1,375,000	1,375,000	-
Global Environment Facility	6,496,000	3,329,814	3,166,186
Good Energies Inc.	130,000	130,000	-
IFC	564,000	395,808	168,192
Luxembourg	500,000	217,142	282,858
Norway (WB & IFC)	400,000	277,357	122,643
Public-Private Infrastructure Advisory Facility	1,350,000	1,117,259	232,741
Renewable Energy and Energy Efficiency Partnership	263,000	263,000	-
World Bank	200,000	200,000	-
TOTAL FUNDING COMMITMENTS	\$ 13,858,000	\$ 8,669,889	\$ 5,188,111

Source: Lighting Africa