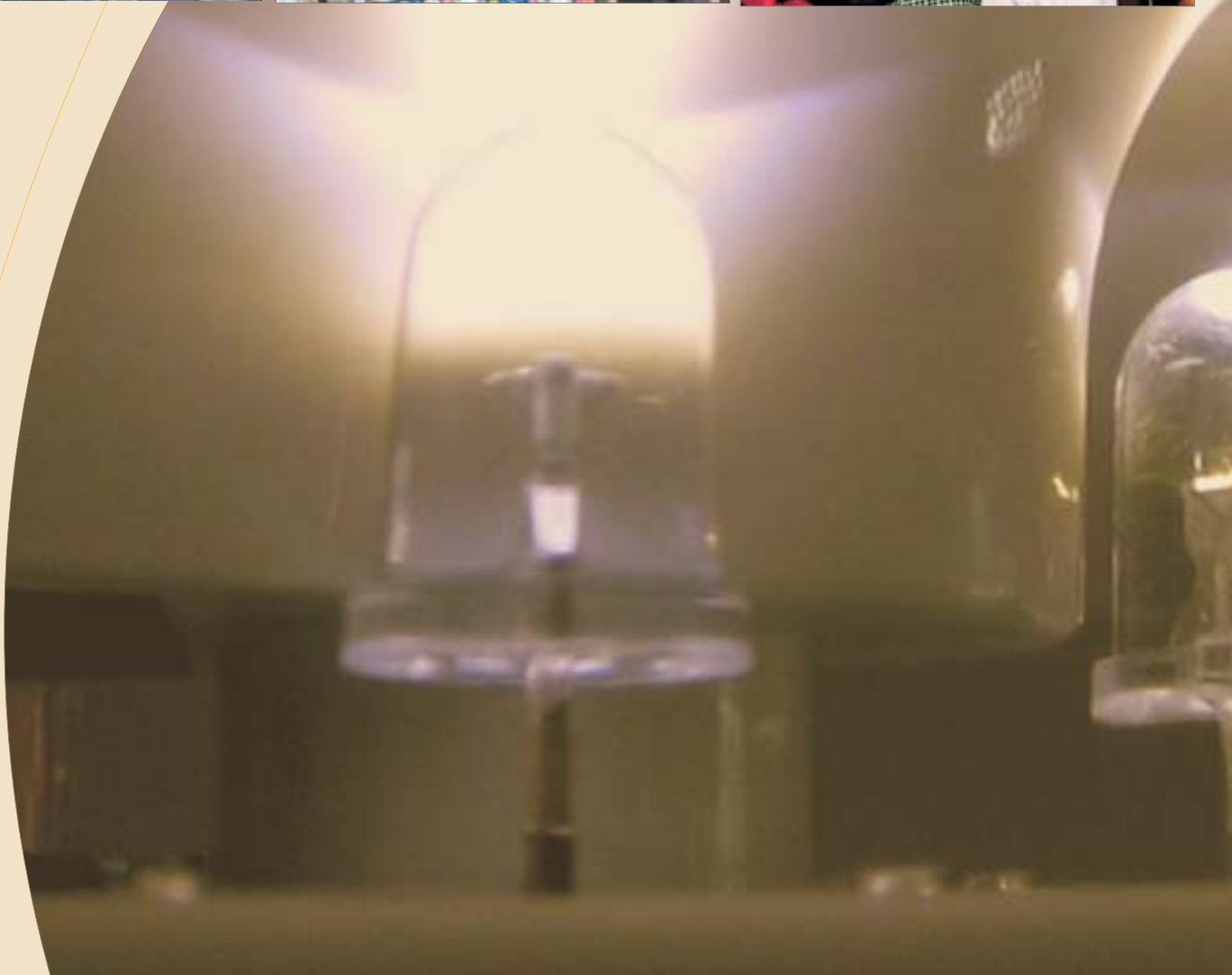


LIGHTING AFRICA

Catalyzing Markets for Modern Lighting





Light Emitting Diodes (LEDs) have a long life, are portable, and rugged—providing high quality light with low energy

“... the rural lighting market, as many markets for low income people in developing countries, is not very well known or explored. It is essential that governments and international organizations such as the World Bank, NGOs, and various companies get together in a network to work out the appropriate business models.”

Gerard Kleisterlee
President and CEO of Philips

What is *Lighting Africa*?

Lighting Africa is a World Bank Group initiative aimed at providing up to 250 million people in Sub-Saharan Africa with access to non-fossil fuel based, low cost, safe, and reliable lighting products with associated basic energy services by the year 2030.

Jointly managed by the World Bank and the International Finance Corporation (IFC), *Lighting Africa* addresses the lighting needs of rural, urban, and peri-urban customers without electricity access—predominantly low income households and businesses. *Lighting Africa* offers an alternative to current lighting options for this market, which is dominated by costly, inefficient, poor quality, and often hazardous fuel based products, such as kerosene lamps and candles.

Lighting Africa is designed to contribute to the Millennium Development Goals (MDGs) by reducing poverty and enhancing quality of life. It is a cornerstone of the World Bank's Clean Energy and Development Investment Framework and the Africa Energy Access Scale-up Plan.

Linking Lighting and Development

Modern lighting can

- ▶ extend the working day for small and medium enterprises (SMEs) thus expanding production, enriching income opportunities, improving working conditions, and increasing customers
- ▶ enhance safety and security via outdoor lighting for personal, business, and community activities
- ▶ create conditions to attract teachers, retain students, expand time for student reading and studying both in the classroom and at home, and improve grades and school retention rates
- ▶ extend productive time in the home, providing opportunities for income generating activities such as the development of informal cottage industries
- ▶ increase gender equality for women
- ▶ provide opportunities for adult literacy and higher education programs
- ▶ improve health services delivery and thus reduce productivity loss due to illnesses

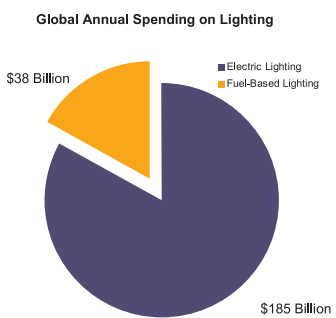
Why Lighting Africa? Why Now?

Currently, 1.7 billion people worldwide are without electricity. The International Energy Agency (IEA) predicts that by 2030 (absent major policy changes), projected investments in grid electricity expansion will leave 1.4 billion people without modern energy services for basic human needs and economic development. The problem is most acute in Sub-Saharan Africa where over 500 million people presently lack modern energy, with rural electricity access rates as low as 2%.

Among the poorest of the poor, lighting is often the most expensive item among their energy uses, typically accounting for 10-15% of total household income. Yet, while consuming a large share of scarce income, fuel based lighting provides little in return.

New advancements in lighting technology, such as compact fluorescent light bulbs (CFLs) and light emitting diodes (LEDs), promise clean, portable, durable, lower cost, and higher quality lighting. The challenge is to make these products accessible to the half billion “energy poor” in Africa. With expenditures on fuel based lighting estimated at US\$38 billion annually, the

potential exists to engage the international lighting industry in this new market area, while serving consumers, bolstering local commerce, creating jobs, enhancing incomes, cleaning the air, and improving health, safety, and quality of life.



Sources: IFC Lighting the Bottom of the Pyramid; Evan Mills, International Association of Energy Efficient Lighting and Lawrence Berkeley National Laboratory

Lighting Africa Objectives

The initiative will facilitate the transition to modern lighting services by:

- **catalyzing the private sector**, including strengthening ties between the international lighting industry and local suppliers and service providers to profitably manufacture, market, and distribute significantly lower cost products
- **facilitating consumer access** to a range of affordable, reliable, and high quality lighting products and services
- **improving market conditions** for the scale-up of modern lighting products by reducing existing technical, financial, policy, information, and institutional barriers
- **mobilizing the international community**— governments, private sector, international organizations and non-government organizations (NGOs)—to aggressively promote penetration of modern lighting services for the poor in Africa.

Lighting Africa seeks the rapid scale-up and delivery of affordable, non-fossil fuel lighting, and especially opportunities for dramatic cost reductions. It builds upon the institutional capacities already existing in Africa and globally, with a bottom-up focus on consumer needs.

Lighting Africa is technology neutral and open to a range of modern energy options for delivering low cost, high quality lighting services. It works with public and private sector stakeholders across a variety of sectors to reduce transaction costs, mitigate market risks, and promote commercial discipline. For example, *Lighting Africa* seeks out government programs in health, education, water, and other sectors to advance low cost lighting in their efforts, while simultaneously working with private rural industries, businesses, cooperatives, and NGOs to promote and disseminate lighting products to their customers.

Modern lighting for vendors can extend working hours, boost incomes, and enhance security

Lighting Africa Activities

Lighting Africa builds upon IFC's leadership in the Lighting the Bottom of the Pyramid (LBOP) project. *Lighting Africa* also benefits from World Bank experience in supporting off-grid electrification programs across over 30 countries worldwide. *Lighting Africa* is a multi-pronged initiative addressing both demand and supply-side constraints to improve access to better lighting. Activities include

- ▶ **supporting market research** to better understand consumer demand behavior and preferences, and local supply, marketing, and distribution channels
- ▶ **strengthening ties between the global lighting industry and local service providers** to design, develop, and deliver low cost lighting products. Examples include a Development Marketplace competition, facilitation of business-to-business linkages, and strengthening of small and medium enterprises (SMEs)
- ▶ **financing facilitation** to increase access to affordable financing for suppliers and end-users, reduce investor risks, mobilize local financial institutions (and micro-finance), offer World Bank Group financing, and apply Clean Development Mechanism (CDM) methodologies to bring down consumer costs
- ▶ **developing standards, certification, and labeling** to improve product quality and increase consumer awareness and confidence in new-to-market lighting products and services
- ▶ **aggregating market demand** through policy support, bulk market purchasing, risk sharing, and linkages to cross sector programs
- ▶ **stimulating knowledge sharing and capacity building** to include a business-to-business web portal, training and train-the-trainers programs, public-private partnerships, institutional strengthening, and development of new business models and toolkits.

Lighting Africa focuses on meeting lighting needs across the African continent. Activities are demand driven, focusing on support for countries interested in aggressive promotion of modern lighting for those lacking energy access.

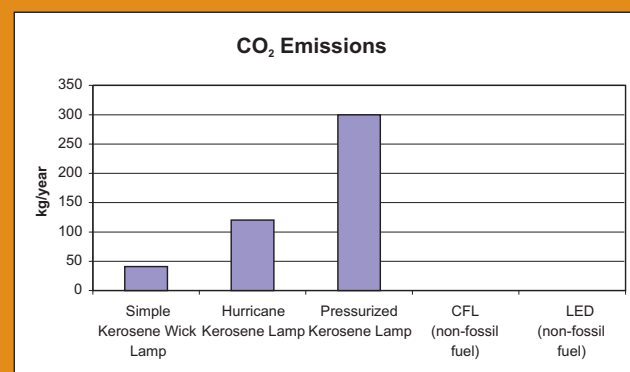
Expected Outcomes

The following are just some of the expected outcomes of the *Lighting Africa* initiative:

- ▶ easy access to improved, modern lighting products and services for the poor
- ▶ substitution of fossil-fuel based lighting sources with better quality lighting at lower costs
- ▶ improved quality of life for consumers
- ▶ enhanced capacity and increased incomes for local entrepreneurs and businesses
- ▶ effective engagement of global lighting manufacturers in a new market segment
- ▶ reduced greenhouse gas emissions from displaced fossil fuels
- ▶ uptake of the *Lighting Africa* business model by African countries, regional programs, donors, multilateral organizations, and the private sector

As part of the initiative, a set of performance indicators are being established and on-going monitoring and evaluation will be conducted.

Carbon Dioxide Emissions by Lighting Source (kg/year)



Source: Jones, R. Jianping D., Zachary G., Ilan G. and Mills, E. Alternatives to Fuel-Based Lighting in Rural China, Proceedings of Right Light 6. May, 2005, China.



Dr. Evan Mills

Night market shoe seller in Dar es Salaam (Tanzania), with one handmade kerosene tin lamp (left), and 1-watt LED (right)

Project Sponsors

Current *Lighting Africa* sponsors include

- ▶ The World Bank Group (WBG)
- ▶ The Energy Sector Management Assistance Program (ESMAP)
- ▶ The Global Environment Facility (GEF)
- ▶ The Public-Private Infrastructure Advisory Faculty (PPIAF)
- ▶ Bilateral donors such as Norway, Luxembourg and the United Kingdom
- ▶ The European Commission (EC)
- ▶ The Renewable Energy and Energy Efficiency Partnership (REEEP)
- ▶ Good Energies, Inc.

Who Should Participate and What Can You Do?

Lighting Africa is seeking a range of partners to participate in program implementation.

- ▶ **For Governments:** *Lighting Africa* offers a means to rapidly deliver modern lighting services, especially to the rural poor.
- ▶ **For Donors:** *Lighting Africa* provides an opportunity to support an innovative, large-scale, and public-private sector-based solution to a core energy challenge in Africa. Further, the project has the substantial potential for replication at the national, regional, and global levels.
- ▶ **For International Lighting Manufacturers/Assemblers:** *Lighting Africa* offers a unique opportunity to test and enter a large, undeveloped, and high growth market for off-grid lighting solutions. For companies already in the market, *Lighting Africa* can help to expand or diversify products and services to an existing customer base.
- ▶ **For Local Distributors/Service Providers:** *Lighting Africa* offers an opportunity to leverage existing networks with new products and into new markets.
- ▶ **For NGOs:** *Lighting Africa* is searching for experienced and qualified NGOs to support project promotion and implementation.

- ▶ **For Financial Institutions:** *Lighting Africa* seeks to create innovative business models to deliver modern lighting to unelectrified rural areas, and is looking for financial institutions, micro-finance institutions, and investors to serve as partners.

To date, hundreds of private, public, and civil society entities have registered as *Lighting Africa* partners.

Why is the World Bank Group Supporting *Lighting Africa*?

Though improved products such as CFLs and LEDs have a significant role to play in the off-grid marketplace, they remain out of reach for many households and small businesses in Africa. For the poorest of the poor, lighting options are restricted typically to inferior and costly kerosene lanterns and candles.

The private sector can play an important role in addressing this market, yet a number of barriers hinder investments in bottom of the pyramid markets and regions. These include lack of information on consumer needs and ability/willingness to pay, high upfront costs of new product development and market entry, policy barriers including subsidies for kerosene lanterns, institutional barriers in identifying capable partners for product sale and delivery, and legal concerns such as protecting intellectual property rights.

The World Bank Group can help mitigate barriers, bridge market gaps, and facilitate cost-effective lighting choices for the poor. By providing access to market intelligence and expertise, mobilizing governments to address policy concerns, supporting financing and risk mitigation instruments, and serving as an honest broker between public, private, and civil organizations, the World Bank Group can support industry efforts to transform markets and increase benefits for those living in poverty.

For More Information

Lighting Africa is jointly managed by the World Bank and IFC.
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