



Barefoot Power (BFP)

The Challenge

Energy access is a crucial pathway to economic success in the developing world. The lack of a reliable source of light limits productive work hours to the daytime, hindering education efforts and local business development. At present, 1.6 billion people worldwide do not have access to electricity.

Families in developing countries collectively spend over \$10 billion annually on kerosene. Kerosene pollutes the environment, deteriorates indoor air quality, increases likelihood of fires and injuries, and is estimated to cause over 1.6 million deaths from respiratory problems every year. There are approximately 513 million kerosene users in Uganda, Kenya, Indonesia, and India alone who are liable to these hazards. For instance, an estimated 2.5 million people—of which 15% are children—are injured each year in India from fires caused by overturned lamps. Clearly, the poor need access to cheap, safe, efficient, and environmentally friendly lighting to help them stop burning their money and to create micro-energy assets.

So far, energy developments have been directed from the top down and have focused on medium to large centralized power generation. These projects require huge investments, are focused on supply to large power users, and very often take decades to reach the poor. The rate of rural electrification is barely keeping up with population growth.

Barefoot Power's Solution

Barefoot Power (BFP) is an early-stage company that specializes in low-cost, renewable, rural electrification systems. BFP estimates that globally 1.5 billion people spend \$10-\$30 billion a year on kerosene, 5-10 times more than the top-down organizations (governments and multinational institutions) spend on rural electrification. BFP's best-selling white LED rechargeable and solar powered lamps can be replaced every 12 months and sell for \$5 and \$13 respectively, representing three to six months of current expenditures on kerosene and batteries.

By 2013, BFP is estimated to generate **\$5.5 million dollars in incremental income** to local bulk buyers, franchisees, and retail shops in Kenya and Uganda.

BFP offers eight different home lighting sets. Each set has two methods of recharging the battery — solar panels or a battery charger. A set using a battery charger is usually half the price of a solar set, but may require paying a charging fee each week to a local battery-charging entrepreneur.



BFP's MISSION

Offer a **cheaper, safer, and cleaner** alternative to kerosene through **low-cost, expandable** lighting systems.

BFP's key customers are its national importation partners. These local distributors purchase BFP's lamps in bulk and distribute them to regional distributors and retailers in target countries. BFP also works closely with local microfinance institutions (MFIs) to provide credit for prospective customers. The MFIs provide financing to end-users for BFP's higher-end \$50-\$250 products and to micro-energy entrepreneurs for several of BFP's \$5-\$50 products to enable cash sales to villagers.

Social Impact

BFP's operations provide 1) additional incremental income to bulk importers, franchisees, and small retail shops; 2) kerosene savings to business and household users; and 3) elimination of health risks from kerosene burns and/or lung damage from indoor pollution, increasing worker productivity.

BFP'S IMPACT

BFP is estimated to provide clean low-cost lighting to over **1.87 million households** across rural Kenya and Uganda and help an additional **274,000 small businesses** stay open later by 2013.

In addition to the positive impact of its products on end consumers, BFP aims to create 15-30 national importing businesses which will help support local economies in Uganda, Kenya, Indonesia and India, amongst others. This will, in turn, lead to additional incremental income for importers, franchisees, and small retail shops in each target country, **creating an estimated 1,000-3,000 job within three years.** Affordable LED lighting systems present an opportunity to build small-scale local enterprises to market the products. BFP believes that with a micro-loan, an entrepreneur can immediately generate a weekly \$8 net profit when selling less than 1 unit per day.

\$8.8 million dollars will be saved over the next 5 years by not buying kerosene lamps but rather clean affordable lighting.

In 2009, BFP has sold over 50,000 lamps and is expected to supply an **additional 4 million lamps over the next four years.** These lights which will benefit both households and businesses will provide a cost savings of over \$8.8 million dollars. The households and businesses benefit from cost savings incurred by switching from kerosene to BFP's LED lamps, and businesses generate incremental income by being able to stay open later. BFP lamps also give children the opportunity to do schoolwork at night, which creates long term opportunities and a brighter future.

Basic Metrics	2010	2011	2012-2013	Total
# of lamps	209,300	567,200	3,329,944	4,160,244
Cost Savings from BFP lamps	\$114,000	\$756,000	\$8,000,000	\$8,870,000

BFP's lamps help promote a cleaner environment by using LED technology, which means a decline in greenhouse gases from kerosene emissions and a reduction in the disposal of dry cell batteries. The replacement of kerosene also leads to significant health benefits, which contributes to higher productivity and reduced health care costs.

Partnership with GBF

GBF invested in the Barefoot Power Trade Finance Fund (BFP TFF), a working capital facility managed by Oikocredit. BFP TFF will lend to BFP's trading subsidiary, Barefoot Power Hong Kong, on evidence of firm orders from customers. The customers are largely national importation businesses with linkages to MFIs who will be vetted by Oikocredit. This facility enables BFP to access working capital to meet growing global demand for its products. This in turn enables BFP to sell more lamps and improve the livelihood of customers at the base of the economic pyramid, thereby generating a social economic impact of \$27 dollars for every \$1.

For every \$1 dollar invested in BFP, BFP will generate \$27 of social economic impact