Barefoot Power, a member of the Business Call to Action since 2012, provides affordable, safe and clean energy through independent solar power kits while reducing the carbon footprint.

- Forge partnerships that improve energy access around the world. As of Dec 2014, we have reached over 3.7 million people. We aspire to triple our reach in the next 5 years.
- Offset fossil fuel consumption in homes, especially kerosene that is so commonly used in rural households. Each kerosene lamp saves about 200 pounds of CO$_2$ emissions per year.
- Save households money and time for lighting and phone charging. In Kenya, for example, an average household saves more than $80 on kerosene expenses per year and more than $5 and 2 hours per week to charge their phones when they switch to solar.
- Create appropriate jobs in each market where we work.

### Initiative Description

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### Business Model

Over 1.2 billion people – or 20 percent of the world’s population – are still without access to electricity and billions more live in areas where brownouts are common. Barefoot Power is a global, for-profit social enterprise that manufactures and distributes solar lighting and phone charging products along with accessory devices.

Barefoot Power has one of the most extensive product lines in the micro-solar industry, including Go portable lamps and Barefoot Connect LED solar rechargeable home energy kits powered by 1.5W to 60W solar panels. All products offer a ‘plug-and-play’ installation system that is easy to use and comes complete with the lighting source, solar panel, cabling, battery and phone charging adapters. Families can have their homes electrified in one hour or less.

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1 World Bank 2014. http://go.worldbank.org/6ITD8WA1A0
Barefoot Power products are designed to be aspirational, affordable, durable and simple to use. The retail prices for these products in developing markets range between $15 and $400. The products are expected to last for 3 to 5 years with the original battery and LED, depending on the product and usage. The solar panels can last beyond ten years and all products come with a 2-year manufacturers’ warranty.

How it Works

Design, import, and manufacturing

Barefoot Power products are designed in Australia, where the company is headquartered. Barefoot Power China manufactures, assembles and exports high-quality solar kits from Shanghai to its subsidiaries and trusted partners around the world. Quality controls are implemented along the production line, and a percentage of all production batches are tested upon completion.

Barefoot Power uses a customer-focused design process as it continually innovates to improve the product range. The Barefoot Go Lamp’s design, for example, has been adapted over time for the activities for which the company has observed customers using the portable lamp. The Barefoot Connect cabling system has been recently updated based on customer feedback requiring a more flexible switch placement system. Barefoot Power also conducts field-testing on products before releasing them into the market.

Barefoot Power’s subsidiaries in Kenya, Uganda, Ghana and India import and distribute the company’s products to last-mile customers, while in other places, partners handle last-mile distribution. Distribution models include micro-franchises, microfinance organizations, retail shops, lending through agricultural cooperatives and other community-based organizations, corporate social responsibility programs, government rural electrification projects and Barefoot’s own innovative “Light Up A Village” program.

In-country distribution:
Many Pathways to the Last Mile
Families living off-grid spend a lot of money on kerosene, candles and diesel generators over the course of a year, but the incremental spending pattern is a mismatch with up-front purchase of solar power. For the smallest solar lamps, a family may only need to save for a week or two to be able to afford the purchase; larger kits typically see a payback period of six to 12 months (compared to current energy expenses). In order to improve the affordability of the solar home kits, the company partners with microfinance institutions, community-based organizations, agricultural cooperatives and sets up other donor-based funding schemes such as “Light Up A Village” to lend to villagers.

Barefoot Power Kenya partners with KTDA, the Kenya Tea Development Authority, to lend to a network of 550,000+ smallholder tea farmers. Barefoot Power India partners with ESAF’s microfinance branch to lend to rural Indian families with schoolchildren so that kids can read at night. Also in India, the company partnered with TERI, The Energy & Research Institute, where Barefoot’s kits light up houses and power a clean cookstove combustion fan to reduce deforestation deep in the Satkosia Tiger Preserve.

In Central America, the company partners Solubrite pairs up with Microserfin and Banco Delta in Panama to lend to resellers, so that the micro-entrepreneur can buy in bulk, which enables them to grow their business faster. In Nicaragua, Solubrite partners with Fundenuse and MiCredito to lend to consumers as well as small businesses.

Other partners find alternative avenues for consumer finance. In Papua New Guinea, Barefoot’s exclusive importer Solar Solutions PNG works with a variety of network partners to directly sell products as well as provide financing. Some of their resellers such as Courts PNG offer their customers a “Hire Purchase” and “Lay Buy” purchasing facilities (installment plans where the product remains with the seller until fully paid). Increasingly, corporations such as BNG Trading and Colgate are offering their employees low- or interest-free loans for Barefoot’s solar products.
Founded in 2005, Barefoot Power has so far impacted the lives of several million households in over 20 countries. Through the sale of over 300,000 solar lighting kits, the company has achieved both business and development impact.

**Business Impact**

Social and business impacts are one and the same for Barefoot Power. Each distribution point for Barefoot Power represents local jobs as well as healthier, safer homes. The company’s revenue comes from the sales of the solar systems: currently, 50 percent of revenues come from in-country distribution and micro-entrepreneur sales, and 50 percent come from global importers. Total company revenues have grown by 25% each year for the last three years in its transition from a start-up to a growth-stage company.

**Development Impact**

The Barefoot Power model has generated significant development impacts, including:

**Reducing health hazards associated with burning kerosene for light**

Safe solar lamps have reduced the need for kerosene, thus avoiding fires, fumes, and other health risks associated with using kerosene for light.

**Saving money**

The United Nations Millennium Villages Project deemed the Barefoot Power Firefly rechargeable desk lamp to be among the most affordable products to reduce energy poverty. By switching from a kerosene lamp to a solar lamp such as Go 250, the average consumer saves about $5 per month or $60 per year on kerosene – money that can be used for other necessities. Connect home power kits, when compared with diesel generators or battery-powered torches, save even more money in each household (depending on local prices).

**Increasing economic and learning opportunities**

The solar kits can generate income by providing a recharging facility for mobile phones and allowing communication between off-grid villages and cities, which is important both for individuals and businesses. Being able to charge a mobile phone at home saves a walk to the phone charging station and the phone-charging fee. Men and women can continue to work at home after dark, while students can enjoy a few extra hours of study time at night or bring lanterns to school. Bright light at night makes it easier to do things at night like read, cook, sew, and make music or art or do business.

**Environmental impact**

Reduced demand for fuels like firewood and fossil fuels means reduced deforestation, reduced need to drill, refine, transport, distribute, purchase and burn fossil fuels like kerosene and diesel. Including the embodied energy of manufacturing solar kits, each unit represents a significant reduction in carbon emissions.
Key Success Factors

Trade Finance and Consumer Credit
The European Union, which supported the Barefoot Angels fund in 2011, has set up a €1 million revolving trade finance fund that allows Barefoot Power to extend credit to its distribution partners. In order to support importers in low-income countries, this fund helps to reduce the risk of capital constraints, without which limits the credit terms Barefoot Power can offer to its customers. From there Barefoot Power’s in-country partners network with other actors to provide consumer financing, thus extending credit across the entire value chain. Financing the value chain is key to our success.

Partnerships
In order to reach rural, last-mile customers with consumer finance options, Barefoot Power subsidiaries and distributors form partnerships with micro-finance institutes and other community-based organizations. These types of partnerships are key to improving affordability for low-income families, and externalize the debt/credit facility from Barefoot Power’s direct management.

Affordable, useable products and training
From the beginning, Barefoot Power has invested in designing easy-to-use products at an appropriate price point for the target market. Training is done to provide selling skills, installation skills and technical skills required for after-sales and warranty service.

Efficient business methods
Barefoot Power carefully manages its operating expenses and inventory purchases, making them a lean and efficient business.

Next Steps
Building on Successes toward Profitability
Barefoot Power continues to build new partnerships in order to extend our reach and impact around the world. A successful model of social enterprise start-up, we are on track to achieve profitability by the end of this business year.

Innovations that improve lives