

Introduction

Barefoot College International

Barefoot College International (BCI) is a globally recognized non-profit organization that empowers **rural women** through solar energy & education. By training women as **solar engineers (Solar Mamas)**, BCI provides clean, renewable energy to some of the most remote and under-served villages in the world. This grassroots approach not only addresses **energy poverty** but also promotes **gender equality** by placing women at the forefront of climate action.

Executive Summary

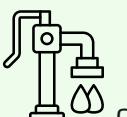
Many rural communities face severe **energy poverty**, limiting access to essential services like education, healthcare, and digital inclusion. Existing infrastructure is inadequate, which perpetuates poverty and undermines efforts to build self-sufficient, resilient communities.

The proposal tackles this issue by expanding the **Solar Mamas** project with **stronger solar systems** for both homes and communities. It includes more powerful equipment and resources, and training more women to manage and maintain the systems. By **improving energy access**, this proposal fosters economic empowerment, better health outcomes, and enhanced digital connectivity and education.

Projected Impact



24/7 Power for Community Facilities in the village, reduced dependence on fuel by **90%** leading to savings of about **\$15 per month** per household



Providing clean water for over **500** people in the community, reducing waterborne illnesses by **40%**, and saving time for community members, especially women & girls who fetch water.



Delivering digital education to **100+ students annually** in the community, increasing secondary school graduation rates by **25%**



5000+ patients consultations per year in the community, improved maternal and neonatal survival rates, reduced child mortality from preventable diseases

Our Team



Kaustubh
Mhaisekar



Meenakshi
Sharma



Nirmit
Ghughu

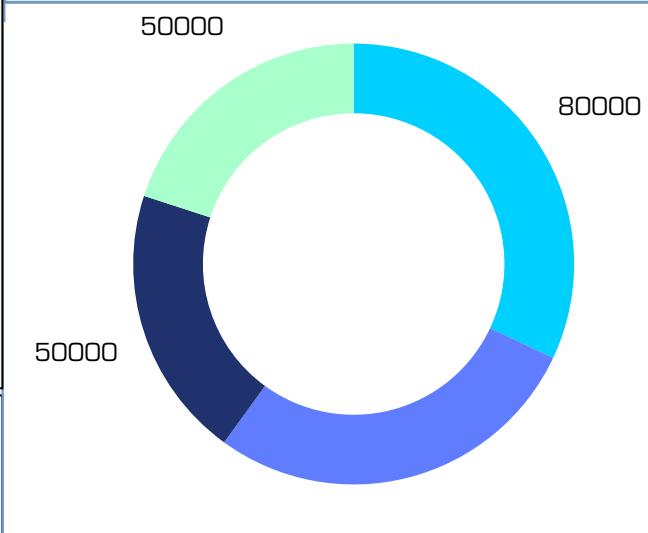


Prarthna
Pahuja

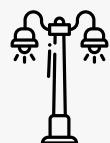


Tanu
Gangrade

Grant Utilisation



Energy Poverty: A Dark Crisis



Without electricity, there is no lighting available after dark, making it difficult to leave the house after sunset



Basic amenities such as fans, phone charging, clean water access, light bulbs, radio etc are unavailable



Clinics can't refrigerate vaccines, power medical equipment, or provide safe childbirth at night



Women and girls bear the heaviest burden, spending hours collecting firewood or fetching water



Students can't study after dark, and lack of internet and digital devices limit learning outcomes & opportunities

Solar Mamas Around The World



Zanzibar, Tanzania

Solar Mamas electrified off-grid Maasai villages, enabling night-time birthing in rural clinics and safer learning environments for children.



Guatemala

Solar Mamas brought light to remote mountainous communities, replacing kerosene lamps and reviving Mayan women's leadership.



Vanuatu

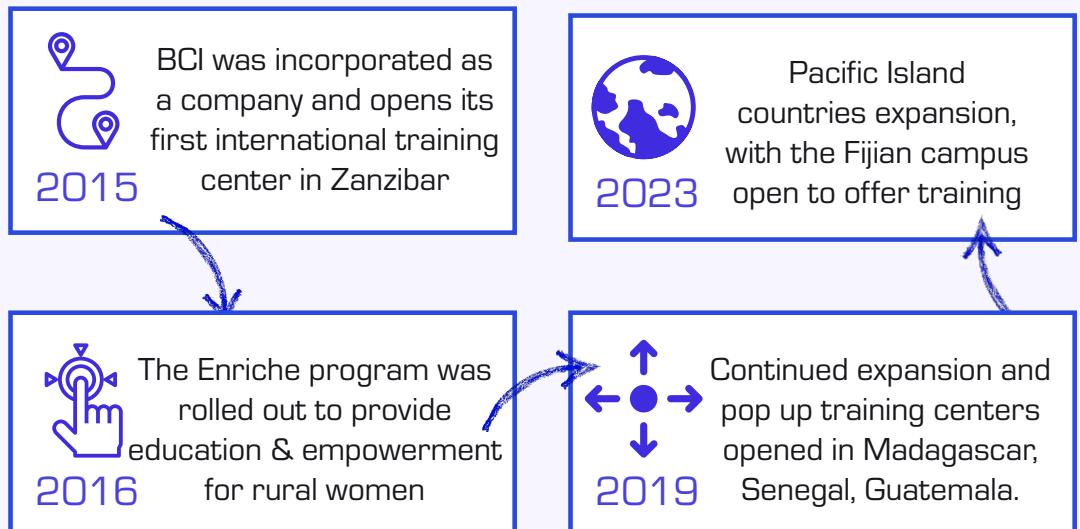
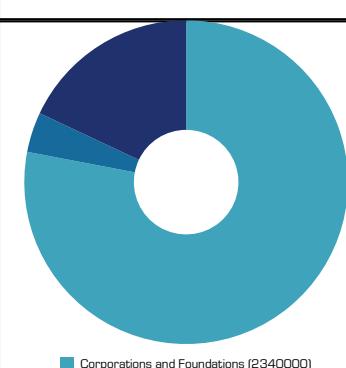
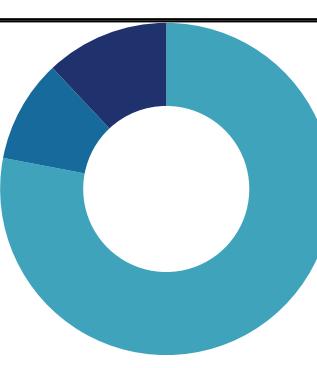
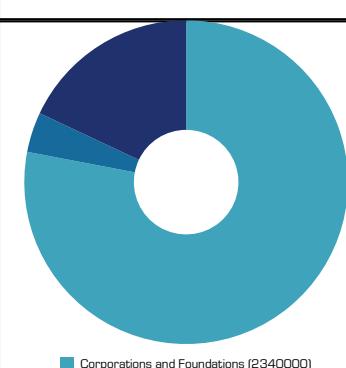
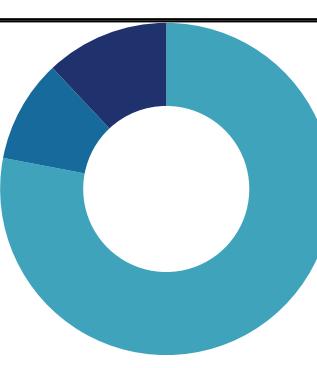
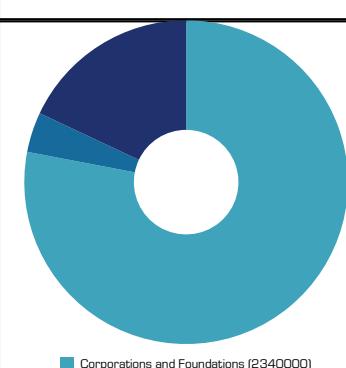
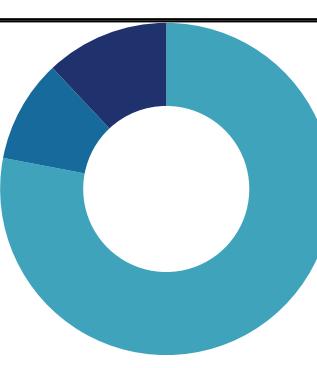
After Cyclone Pam, Solar Mamas restored energy access to disaster-hit islands, ensuring resilience through solar-powered recovery.



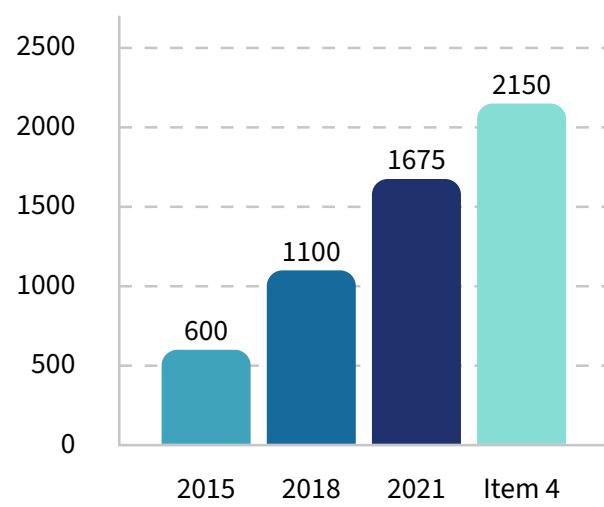
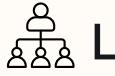
Senegal

Solar Mamas provided sustainable energy access in regions far from the national grid, improving education and livelihoods.

Background

 Mission Statement		 Global Impact				
BCI's core belief is that women from marginalized communities are powerful agents of sustainable change. They believe providing vocational and educational opportunities to women and training them as Solar Mamas will ensure long term climate, economic & social resilience and <u>eradicate energy poverty</u> for rural communities globally.						
 History	 Who are Solar Mamas?					
	<p>Solar Mamas are rural women, often with little or no formal education, who are trained by BCI to become solar engineers. Through an intensive training program, these women learn to assemble, install, repair, and maintain solar panels and home lighting systems. They then return to their non-electrified villages and set up rural electronic workshops and bring clean, renewable energy to their communities. This not only provides sustainable lighting and reduces reliance on harmful fuels, but also empowers the women with new skills, financial independence, and a respected role as agents of change within their communities.</p>					
 Problem	 Current Programs	 2024 Annual Budget				
<p>There are about 930 million people in the world without access to electricity. People in such households, especially women face a major hindrance in economic opportunities, education, & healthcare.</p> <ul style="list-style-type: none"> Over 33% of the global population is still dependent on wood based fuels for their primary household energy consumption- making them prone to respiratory problems, ocular diseases, risk of fires and accidental burnings. These households spend up to 30% of their income on resources like kerosene, firewood, charcoal etc. Less than 10% of the women in such households have livelihood skills they can derive income from, as they have to spend a significant portion of their day on unpaid domestic work like collecting firewood, pumping water etc. Without access to radios or the internet, communities may remain cut off from government schemes, support networks etc can also lead to social exclusion and further marginalization. 	<p>BCI works with grassroots communities to improve livelihoods, protect planetary and human health, and to foster overall growth and development of these communities. They address 15 of the 17 United Nations Sustainable Development Goals through these 3 programs:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Solar Training rural women to become Solar Engineers aka Solar Mamas </div> <div style="text-align: center;">  Enrich Empower women with life skills, confidence, and knowledge to become agents of sustainable change </div> <div style="text-align: center;">  Livelihoods Develop local craft & vocational skills enabling individuals to generate income & become self reliant </div> </div>	<table border="1"> <tr> <td>Funding - \$3M</td> <td>Expenses - \$2.9M</td> </tr> <tr> <td>  <ul style="list-style-type: none"> Corporations and Foundations (2340000) Online (120000) Self Funding (540000) </td> <td>  <ul style="list-style-type: none"> Operations (2262000) Development (290000) </td> </tr> </table>	Funding - \$3M	Expenses - \$2.9M	 <ul style="list-style-type: none"> Corporations and Foundations (2340000) Online (120000) Self Funding (540000) 	 <ul style="list-style-type: none"> Operations (2262000) Development (290000)
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 Size of Organization						
 Full time staff: 84		 Volunteers: 6				

Impact and Effectiveness

	Current Impact																
	Environmental		Health & Education		Financial												
 4.2k+ Solar Mamas	 90% Reduction in Fossil Fuel usage	 78% Improvement in Carbon Offset	 30% Increase in educational attainment	 70% Reduction in ocular respiratory diseases	 50% Increase in household income	 35% Reduction in energy costs											
 Business Model				 Partnerships													
<p>BCI operates as a not-for-profit social enterprise that empowers rural communities—especially women—through hands-on training in solar engineering, artisan crafts, and community leadership. Its business model combines philanthropic funding with earned income from the sale of artisan products and solar services, reinvesting proceeds to sustain and expand community-led initiatives. This approach prioritizes self-reliance, low overhead, and reinvestment into local development.</p> 																	
 Solar electrified 175,000 households  3000+ tons of carbon emissions avoided in the last 3 years  More than a 100 million liters of kerosene saved due to shift to solar  \$1.4 million saved by stopping fuel usage		<h3>Communities Electrified</h3>  <table border="1"> <thead> <tr> <th>Year</th> <th>Communities Electrified</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>600</td> </tr> <tr> <td>2018</td> <td>1100</td> </tr> <tr> <td>2021</td> <td>1675</td> </tr> <tr> <td>Item 4</td> <td>2150</td> </tr> </tbody> </table>		Year	Communities Electrified	2015	600	2018	1100	2021	1675	Item 4	2150	<h3>Measuring the impact</h3> <ul style="list-style-type: none"> Performance measurement focuses on three core areas: Environment, Women, and Economic Empowerment. Additional domains include domestic, health, productive, education, and public impact. Global Indicators are used to specifically track progress toward SDGs. Routine monitoring is conducted, with data collected and analyzed with a baseline assessment 6 months after solar equipment is installed by Solar Mamas in their communities, and 2 further evaluation after 12 and 24 months. 		 Leadership <p>Sue Stevenson: Director of Strategic Partnerships and International Development Prayag Ichangimath: Director of Solar Program Development and Innovation Manu Singh: Director of ENRICH+ and Educational Program Development John Cheesemond & Steven Sandler: Directors of Finance and Regulatory Compliance</p>	
Year	Communities Electrified																
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Project Proposal

⚠ Current Limitations and Challenges

Limited Power Output

Existing solar infrastructure in the communities provide only basic energy and lighting, restricting the ability to power larger devices or support community infrastructure.

Digital Divide

Many Solar Mamas and their communities lack reliable internet access and digital devices, limiting opportunities for online education, medicine, and digital financial services.

Digital Literacy

While some digital tools have been introduced, many Solar Mamas have only minimal training in using mobiles, tablets or internet resources, restricting their ability to leverage technology for broader community benefit

Energy Poverty

The absence of dependable electricity directly limits access to quality education and healthcare. Students can't study after dark, clinics can't refrigerate vaccines etc—perpetuating poverty and slowing community progress.



Our Proposal

An **uplift of the current Solar Mamas project** to create more resilient and economically active communities. This proposal aims to empower existing under-served communities by providing access to **more reliable and powerful, self-sufficient solar energy**. This initiative will combine household systems with larger community-based solar solutions, installing equipment and resources to create a foundation for economic growth, improved healthcare, and digital inclusion.

Community Level Energy System (\$80k)

- BCI will install centralized solar micro-rids using lithium battery storage, and hybrid inverters.
- The system will be supported by distribution infrastructure including poles, meters, and cabling to power key community facilities.
- Solar Mamas will be trained to handle installation and basic maintenance.

Household Level Energy Access (\$70k)

- Each household will be equipped with a solar home lighting system that includes a solar panel, a battery, and LED lamps.
- In addition, solar lanterns will be distributed to ensure portable lighting options.
- Solar mamas will assist in deployment, user orientation, and minor troubleshooting within the village cluster.

Healthcare infrastructure (\$50k)

- A solar-powered healthcare package will be established, including refrigerators for vaccine and medicine storage, fans, lighting, and a water pump to supply clean water.
- BCI will train auxiliary healthcare workers from the community and develop locally relevant content to support primary care delivery.
- A solar backup system will ensure uninterrupted operation of basic health services.

Educational resources (\$50k)

- BCI will deploy a digital education kit composed of laptops, projectors, lighting, and fans powered by the solar infrastructure.
- Community-level instructors will be trained to use these tools for blended learning environments.
- Tailored educational content will be developed and delivered using this setup.

Project Proposal

 Goals	 Projected Impact																
<ol style="list-style-type: none"> The overall goal is to give beneficiaries the self-sufficient energy means to achieve a GDP per capita level of \$1000 per year. Deliver baseline electricity of 1000kWh per person per year through a mix of village micro-grids and solar home systems. Achieve universal household electrification within the target community in < 24 months, eliminating kerosene and diesel for lighting and phone charging. Equip and solar-power core social services — one primary clinic and one school — with 24/7 electricity for refrigeration, digital learning, lighting, ventilation, and water pumping. Build resilient local capacity by training at least 7 community members (with gender parity emphasis) as Solar Mamas/technicians and two auxiliary healthcare workers. 	<div style="display: flex; justify-content: space-between;"> <div data-bbox="1500 390 2162 434" style="width: 45%;"> <p>Immediate Community Level Impact</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">24/7</td> <td style="text-align: center; padding: 5px;">500+</td> </tr> <tr> <td>Powered community facilities</td> <td>People get clean water supply</td> </tr> <tr> <td style="text-align: center; padding: 5px;">5000+</td> <td style="text-align: center; padding: 5px;">100+</td> </tr> <tr> <td>Annual patient consultations</td> <td>Students gain digital education</td> </tr> </table> </div> <div data-bbox="2191 390 2845 434" style="width: 45%;"> <p>Long Term Global Impact</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">90%</td> <td style="text-align: center; padding: 5px;">40%</td> </tr> <tr> <td>Reduction in diesel dependence</td> <td>Cuts in waterborne illnesses</td> </tr> <tr> <td style="text-align: center; padding: 5px;">\$15</td> <td style="text-align: center; padding: 5px;">25%</td> </tr> <tr> <td>Per month cost reduced per household on kerosene</td> <td>Increase in secondary school graduation rates</td> </tr> </table> </div> </div> <div data-bbox="1759 876 2577 952" style="text-align: center; background-color: #e1f5fe; padding: 10px;">  - How is this proposal innovative? </div>	24/7	500+	Powered community facilities	People get clean water supply	5000+	100+	Annual patient consultations	Students gain digital education	90%	40%	Reduction in diesel dependence	Cuts in waterborne illnesses	\$15	25%	Per month cost reduced per household on kerosene	Increase in secondary school graduation rates
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 Scalability <p>This project is designed with a modular and community-driven approach, making it easily replicable across different regions. By standardizing core components—such as household solar kits and microgrid installations—the model can be adapted to suit various community sizes and energy needs. Once piloted successfully, local solar mamas can be trained to install and maintain systems, creating a network of grassroots energy champions. Partnerships with local governments and NGOs can further support replication, allowing the model to expand organically without heavy reliance on centralized infrastructure.</p>	<ul style="list-style-type: none"> Energy as a Foundation for GDP Growth: This proposal is strategically aligned with the 1000 kWh per person per year threshold—directly targeting the energy-GDP link to unlock sustained economic development, not just basic access. Integrated Infrastructure Approach: Instead of isolating sectors (energy, health, education), this program coordinates energy deployment in a unified plan—ensuring simultaneous upliftment in health, education, and livelihoods from a shared power backbone. Local Ownership and Gender-Led Implementation: By training “Solar Mamas”, the program shifts technical roles to local women. This community-led model is designed to reduce dependence on external technicians or agencies. Scalability Through Modularity and Cost-Tracking: The model is modular—combining solar-home systems and scalable micro-grids which allows it to be adapted to villages of varying sizes and making it replicable in other regions with minimal adaptation. 																
 How else can Goldman Sachs help?	<div style="display: flex; align-items: center;">  Evaluation <p>The project will be evaluated through a framework using both quantitative and qualitative tools:</p> <ul style="list-style-type: none"> KPIs will track outcomes across energy access, healthcare, education, and local capacity building—such as the number of households electrified, patients treated, students using digital tools, and women trained as Solar Mamas. Baseline surveys with beneficiary households will assess improvements in energy reliability, cost savings, and service access. and focus group discussions will capture user satisfaction and qualitative insights. School and clinic records will provide service usage data. Monthly field visits and technician reports will verify functionality and address any service gaps. Feedback loops with the community will ensure the program remains adaptive and accountable. </div>																
<ul style="list-style-type: none"> Strategic Partnerships for Scaling Impact: BCI can leverage Goldman Sachs' experience in initiatives like One Million Black Women or 10,000 Women to drive economic growth and opportunity. Skills-Based Volunteering and Mentorship: Goldman Sachs employees can provide pro bono expertise in areas such as financial literacy, digital skills, entrepreneurship, and business management, serving as mentors and coaches for women entrepreneurs. Marketing and Communications: Volunteers with expertise in marketing and communications can help expand its digital presence through collaborations with some of Goldman Sachs' publications like Womenomics. 																	

Conclusion



Women: The World's Most Undervalued Asset

Women are the world's most undervalued asset – and yet, they hold the key to transformative, lasting change. At Barefoot College International, we've seen firsthand how investing in rural women unlocks ripple effects that strengthen entire communities.

Globally, women continue to face systemic barriers in education, employment, and leadership, limiting not only their potential but the world's growth. According to a McKinsey report, closing the gender gap could add **\$28 trillion to the global GDP**.

BCI's work proves that when women are trusted with knowledge and tools, they become leaders, innovators, and change-makers. They bring light — literally and figuratively — to their villages. This is not just about equality; it's about survival, sustainability, and smart economics. Let's stop seeing women as beneficiaries and start recognizing them as the driving force behind global progress.

Niembain Charlotte- Grandmother and Solar Mama



**"WHEN THE PANELS ARRIVED, I WAS SO HAPPY.
VILLAGES WILL BE BRIGHT FOR THE FIRST TIME.
PEOPLE WILL BE ABLE TO MOVE SAFELY
DURING THE NIGHT."**

Niembain Charlotte is a 60-year-old grandmother and former farmer from Cameroon who became a "Solar Mama" through BCI. Charlotte had left school early to fulfill family responsibilities and became a widow in 2007, raising a daughter and grandson on her own. After training, Charlotte began installing solar home lighting systems in Mpagne, a remote rainforest village accessible only by a difficult clay road. Her work brought solar electricity to 2,800 villagers in areas previously dependent on wood and kerosene for lighting. As a Solar Mama, she not only installs and maintains solar systems but also serves as a role model, demonstrating that age and educational background are no barriers to leadership and technical expertise.



"Empowering women is no longer an option, it is an economic and business imperative. At Goldman Sachs, we believe that when women do better, we all do better"

- WOMENOMICS: COVID-19'S IMPACT (June 2021)



Marta's Journey

Once a domestic worker & widowed mother of 4 in rural Guatemala, Marta overcame personal tragedy and poverty to become a trained solar engineer through BCI. With her daughter, she installed solar lighting systems in 100 homes across 3 villages, bringing light to 700 men, women and children. The installations brought families their first Christmas with clean, renewable light—saving the community approximately \$800 and improving safety and dignity. Marta's story demonstrates how BCI's model empowers women to become agents of change, not only electrifying homes but also spreading knowledge within their communities.