



2016 Impact Report



### A Note From Jonathan

As BioLite approaches its fifth full year of operation, I'm humbled to look back on the origins of our organization; we began as campers seeking renewable fuel-based cooking but our perspective transformed when we learned that reliable personal-scale energy was a fundamental need shared by half the planet. Ever since that fateful day at a clean combustion conference, we have dedicated ourselves to building a business that could re-imagine the way we cook, charge, and light our lives away from the grid.

In these five years we have grown from a team of two to a team of 80, we have reached over 100 countries, and brought new energy solutions to hundreds of thousands of families, including 20,000 homes in emerging markets where these solutions have a profound impact on health, climate, and financial well-being. We've built a strong start to our journey but we have so much more to do – and it is not our journey alone. Our community of stakeholders has been instrumental in helping us bring energy everywhere and our progress is because of you.

I am proud to introduce to you our first ever Annual Impact Report. Inside you will find highlights from 2016, a summary of our company sustainability report, and stories from partners and customers around the world. You make our impact possible and these are just a few of the ways that manifests in our organization.

Thank you for believing in our work and for supporting a new way of doing business where the future of energy is shared by everyone.

**Jonathan Cedar**  
Co-Founder & CEO, BioLite

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# Parallel Innovation: The Business Of Impact

Tackling energy poverty is a tall order and requires immense time and resources to solve the complex challenges that come with that. BioLite operates using a unique business model called Parallel Innovation that enables us to rise to the challenge: by serving both outdoor recreationalists and emerging markets alike, we are able to reinvest the revenue from our outdoor sales into the market-building costs of our programs across India and sub-Saharan Africa. Our engineers and designers work on both sides of the business, yielding invaluable insights from two distinctly different audiences united by a common need for reliable energy access.



# Road To Impact: Documenting The Journey

In 2016 we pulled back the curtain with a 10-part series dedicated to the business of change and what it really takes to bring Energy Everywhere. From motorcycles to messes to magicians it was an honest look at the work our team does every day.



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Scaling Up

Read the entire series at [BioliteEnergy.com/Road-To-Impact](https://bioliteenergy.com/Road-To-Impact)

# Impact By The Numbers:

100,000

People breathing cleaner air

61,607

Tons of CO2e offset by the HomeStove

20,000

Households cooking with the HomeStove

54,612

Watt hours generated by the HomeStove in 2016

55

BioLite staff members across India, Kenya and Uganda

95%

Customers who still use the HomeStove after 3 years

12,100

Hours of burn testing for the new HomeStove 2

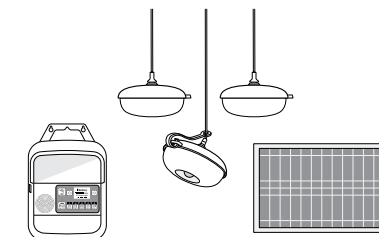
# 2016 Year In Review

- OUTDOOR RECREATION
- EMERGING MARKETS

Expanded the Energy Ecosystem with the launch of PowerLight Mini, SolarPanel Series & CookStove



Completed development of 2nd generation HomeStove



Kickstarted our 1st Bluetooth product, the BaseLantern, securing 4,860 backers and raising over \$800k.

Launched pilot testing of preliminary home system concept for off-grid structures.

## PRODUCT DEVELOPMENT

Signed \$8 million, long term purchase agreement for carbon credits with the Norwegian government



Acquired UN's Clean Development Mechanism project allowing the generation of carbon credits

Eliminated 16% tax on cookstoves in Kenya

Secured clean cookstove VAT exemption in Rajasthan, India

Reduced clean cookstove duty from 25% to 10% across E. Africa

**Gold Standard**  
Submitted request for issuance of 20,000 carbon credits generated in India & Uganda

## MARKET DEVELOPMENT

Road To Impact Blog Series Launches



Brought you into the lab and inside the tech with our Inside the Tech Series

Harvard Business Review features Road To Impact Ch 5

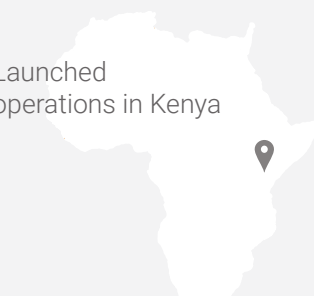


Opened up 27 new countries

Widened distribution base to 13 partners

## PARTNERSHIPS

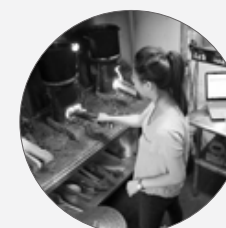
Launched operations in Kenya



Received Red Dot Product Design Award for PowerLight Mini and SolarPanel 5+



reddot award 2016 winner



Launched 24/7 HomeStove Durability Tests at BioLite HQ

PowerLight Mini named a Fast Company Innovation By Design Finalist



Reached 20,000 households with the BioLite HomeStove

## AWARDS

JAN

FEB

MAR

APR

MAY

JUN

JUL

AUG

SEP

OCT

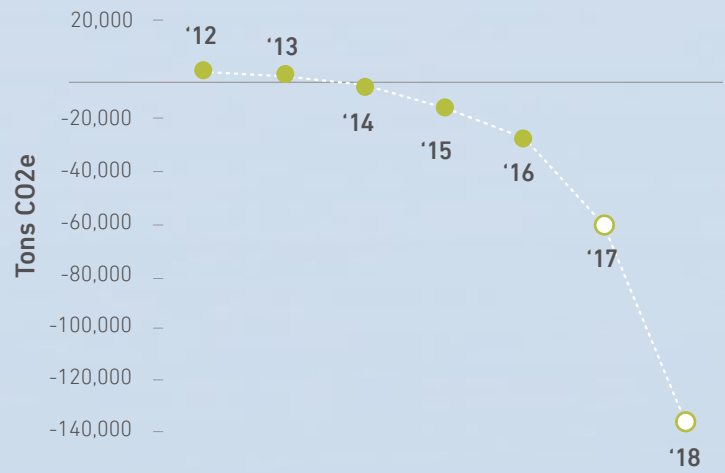
NOV

DEC



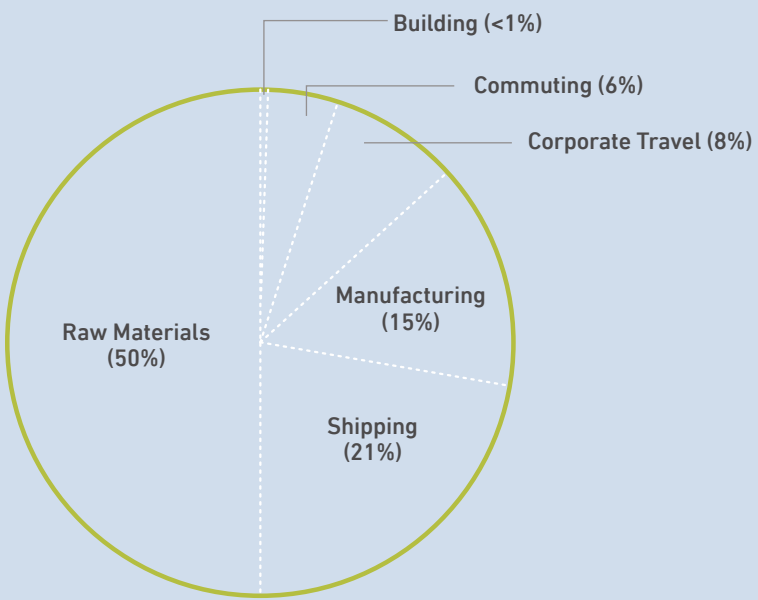
Corporate Sustainability Summary

BioLite is dedicated to creating positive environmental, health and social impact through the development and distribution of safe, affordable, and desirable clean energy technologies for households living in energy poverty in the developing world. Since BioLite's inception we have sought to minimize our own resource consumption and create products that have a net benefit to humanity and to the planet; monitoring our carbon footprint is the first step in understanding whether we are achieving this goal. Over the past two years, we have gone to great lengths to measure and offset our carbon footprint dating back to our first operating year, 2012. Between 2015-2016, BioLite emitted in aggregate 5,730 tons of CO2e and it will continue to offset these emissions.



BioLite's Lifecycle Analysis By Year  
\* The impact for 2017 and 2018 has been calculated by combining sales projections with historical greenhouse gas emissions

2015-2016 Emissions Summary



**Fun Fact:**  
Over 60% of the employees in BioLite's Brooklyn headquarters either walk or bike to work the majority of the week.

The majority of BioLite's emissions come from raw materials and product assembly follow by transport of final products. As we continue to grow, these will be core areas of sustainability for us to monitor and measure.

How We Measure Our Carbon Footprint:



Reaching Zero With Clean Cook Stoves

Unlike many organizations that buy credits from a third party, BioLite produces its own carbon offsets from our clean cookstove work across India and sub-Saharan Africa.

When a household uses a HomeStove, they reduce the amount of greenhouse gas emissions that would have come from their previous smoky open fire. This savings is independently verified by Gold Standard Foundation and CDM, the leading carbon accreditation bodies.

For every ton of greenhouse gas emissions saved (measured in tons of carbon dioxide equivalent), BioLite generates a carbon credit. Every year we retire credits equivalent to our footprint to offset our carbon impact as an organization.



1:19

For every ton of carbon BioLite produces as an organization, we offset 19 tonnes through our customers' use of the HomeStove. Aside from offsetting our own footprint, these surplus credits can be sold to governments or other companies seeking their own sustainability solutions. Revenue generated from these sales get re-invested into our work in emerging markets, enabling us to reach even more households living in energy poverty.

# STORIES OF IMPACT

In 2016, the BioLite community expanded to over 100 countries around the globe. Whether our ambassadors are cooking meals on the road in Canada, charging with solar panels in Chile, lighting campsites in Greenland or recommending the HomeStove to neighbors in Uganda, they each bring energy everywhere in their own way. Today, we'd like to introduce you to a few of these community members.



BioLite Ambassador



BioLite Customer



BioLite Team



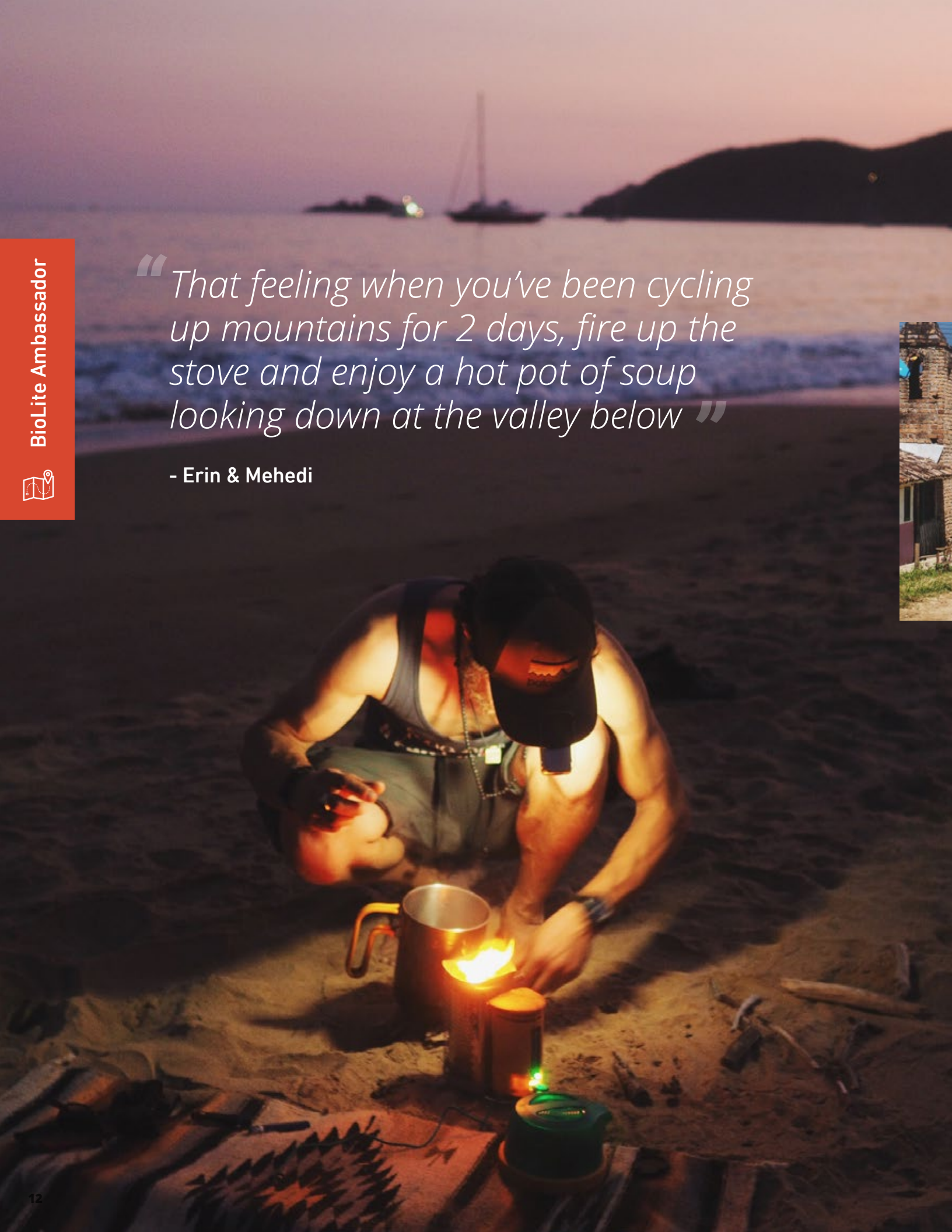
BioLite Partner



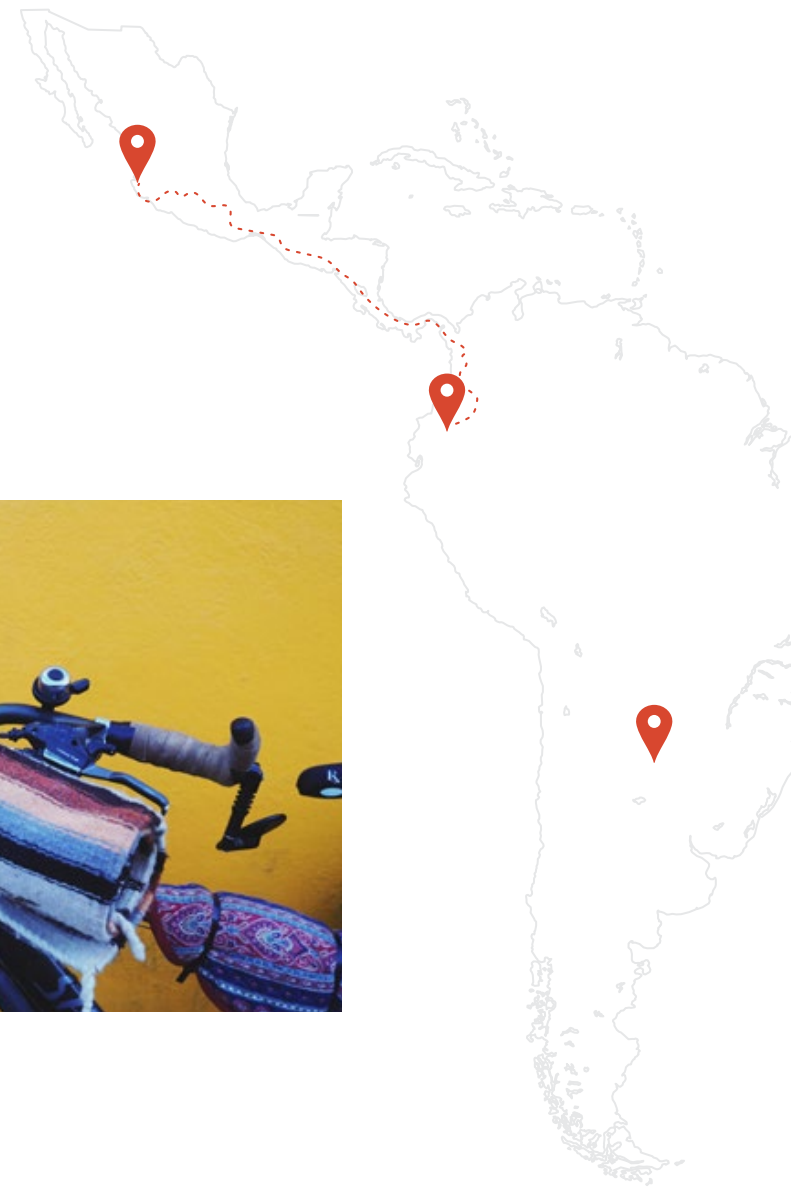
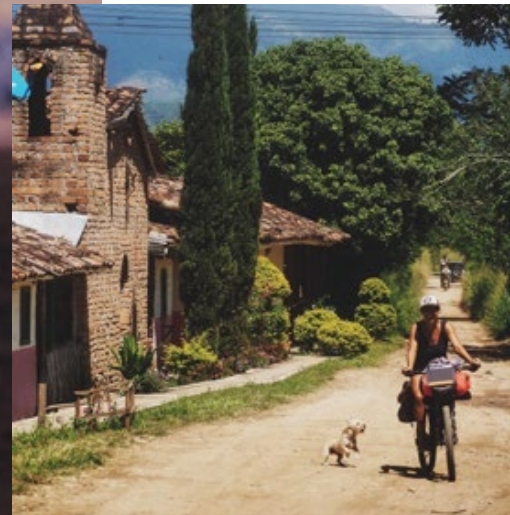


“That feeling when you’ve been cycling up mountains for 2 days, fire up the stove and enjoy a hot pot of soup looking down at the valley below”

- Erin & Mehedi



Erin cycling through a village in Columbia (below left).  
Erin's bike set up pictured with her PowerLight Mini (below right).



There is nothing greater than knowing you climbed that mountain with your own will and determination,” says Erin, a BioLite ambassador, who along with her partner Mehedi, embarked on a 10,000 mile bike tour from Mexico to Argentina last year. In 2016, they pedaled their way through Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, and into Ecuador. They’ve crossed mountain ranges, miles of dusty road, by scenic volcanoes, and windy coastlines.

Erin & Mehedi’s bikes are not just their mode of transportation, they are mobile homes, carrying everything they need to eat, sleep and recharge. When you’re responsible for pedaling around your entire life, every ounce adds up. We worked closely with Erin & Mehedi to compile an off grid kit that could meet the needs of a multi-year bike trip complete with a CampStove, KettlePot, SolarPanel 5+ and PowerLight Minis.

Most days are full of grueling cycling followed by completely off grid camping sessions, but with unlimited access to energy, powering their travels becomes easier. With this kit they are able to cook warm meals twice a day, fully charge their PowerLight Minis so they can pedal extra miles at dusk and have extra power to charge their gps and cameras. A warm meal and multiple power sources are simple luxuries that mean Erin and Mehedi (and their gear) can end each day recharged and ready for whatever adventure lies ahead.

Follow their travels on Instagram:  
@mehedi.505 & @erinazouz





*“Now when I sit by the stove I’m not bothered by smoke and cooking is much more comfortable”*

**- Goretti, Uganda**

## The Power Of A Good Neighbor

How These Ugandan Customers Are Bringing Energy Everywhere

After sale service is a crucial component of BioLite’s model in Emerging Markets, it helps us set each customer up for success and encourages long term HomeStove adoption. As part of this service, every HomeStove customer receives at home training from a local sales agent and access to support anytime they have a question. We’ve seen that customers who have great experiences are more likely to share that experience with friends and neighbors. As a growing brand, recommendations from a trusted source are a great way to help us build recognition and expand our customer base. A perfect example of how powerful word of mouth can be are our customers Goretti and Mary.

Goretti is a community leader living in a village near Kampala, Uganda. She purchased the HomeStove in 2014 and has used it every day since. Goretti’s so impressed with the HomeStove that she invites friends over to experience the benefits of a smokeless stove first hand. During these meetings she offers to connect anyone who’s interested directly with BioLite. Word of Goretti’s new stove made way it’s to Mary, a neighbor who jumped at the chance to explore an alternative cooking method. The smoke from her open fire had made cooking a painful task, it caused her eyes and nose to sting and she worried about her children’s health as they were constantly coughing and sneezing. As Mary watched Goretti cook a meal with no smoke and charge a phone through the HomeStove’s USB port, she asked to get in touch with BioLite.

One year later, Mary, now a HomeStove owner, finds cooking comfortable. She can boil water for morning tea without causing her children to wake up coughing. Her family even offers to help her cook meals and after eating, they enjoy plugging an LED light into the HomeStove and sharing stories from the day. Mary’s favorite part about becoming a HomeStove owner is the savings. Her old cooking fire required excessive amounts of firewood but her HomeStove is efficient and uses 50% less fuel. She purchases less wood and is saving 50,000 UGX (15.00 USD) each month. That extra money is going directly towards her children’s school fees. Following Goretti’s lead, Mary invites neighbors in to show off her HomeStove and explains how they can easily become a HomeStove owner.





BioLite, Keep Burning

In 2016, BioLite introduced a new generation of the HomeStove. In a pre-launch field visit we were met with kindness and skepticism. The top concern of households was durability and longevity, and while we could promise that we had designed it to be durable, we didn't have the data to back it up. As an unknown brand we were asking families to take a big chance with little information. Despite a lot of momentum behind our impending launch, we pushed pause to go back and get that data.

Back at the lab, our engineers kicked off a durability blitz. Andrew and Venky (pictured right) designed a custom testing rig that ran the HomeStove's PowerPacks through cycles of constant use. We hired "burners" in both Bhubaneswar and Brooklyn to feed our stoves 24/7. All in all, we logged 1800 hours of extreme use, monitoring both combustion and electrical performance. By pushing our stoves to the limit we got data to back up our durability claims, as well as caught and fixed potential quirks that forestalled future customer service calls down the road.

Six months later, we have a superior product and a much stronger understanding of customer troubleshooting, which will be invaluable to long-term adoption and support. It was an epic few months where the global team banded together, everyone in our Brooklyn office spent at least one overnight session, while our sales agents in Bhubaneswar also worked around the clock.



1,936 hours spent burn testing

13,500 lbs of biomass burned

0 HomeStove PowerPack failures



The Power Of Microfinance In Emerging Markets

Affordability is a key to making the HomeStove accessible to our customers in emerging markets. At BioLite, we've found that microfinance institutions play a key role in making our products more accessible to rural customers across India and East Africa. Microfinance Institutions (MFIs) enable low-income families to access small loans, which they can use to invest in businesses and assets that can generate income and improve living standards. In 2015, we began partnering with local MFIs to open our network to new customers who can easily adjust their loans to include our product. In Rajasthan, India, we work with Fullerton's Gramshakti program, which offers various financial services to 48,000 villages and 1.3 million customers across nine states in India.

Today, we work directly with ten Fullerton branches. BioLite sales agents host HomeStove demonstrations when customers meet for their loan disbursement. Our sales agents also accompany the Fullerton team on loan collection meetings to villages and small towns. Interested customers with good credit history are eligible to finance the HomeStove with their existing loans. Once the loan is secured, BioLite schedules a home delivery. Upon arrival, families learn to light the stove and receive training on how to maintain it over time.

As we expand across Fullerton's 260 branch network, we will have the opportunity to reach hundreds of thousands of new customers. Beyond Fullerton, we work with 5 other MFI partners that are providing financial services to our customers across Uganda and Kenya. Thanks to these partnerships, we are reaching thousands of new customers at a pace we haven't experienced before.

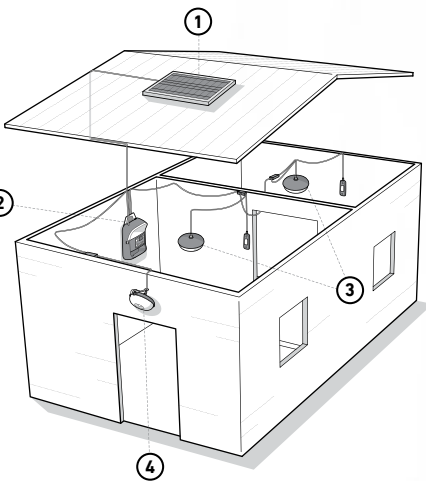




# Serving The Future Home

When you see “future home” what comes to mind? Maybe flying cars, robot butlers, or even refrigerators that tell you when your milk is expired – here at BioLite we’ve got a different take on the Future Home: one that affects half the planet, where basic energy needs are met through an ecosystem of products that harness, store, and utilize energy on a personal scale.

Like what mobile phones did for telecommunications in emerging markets, BioLite aims to bypass outdated infrastructures and offer affordable, modular solutions that can transform how a family operates in their home. Safer fires to cook with; brighter lights to read with; and accessible power to charge with – together, these changes can impact everything from personal health to education to gender equality.



In late 2016, BioLite took its next major step in fulfilling our vision of the Future Home with the pilot launch of a portable solar light & power system that can transform an off-grid structure into a smart home instantly.

2017 is a big year for BioLite. With pilot testing underway and HomeStove 2 in full distribution, we embark on the next chapter of bringing Energy Everywhere. With a holistic offering of products designed for households not served by a traditional grid, we seek to offer a future of energy that can be shared by all.







For more information on the methods and calculations presented, view our full 2015-2016 Environmental Sustainability Report at [bioliteenergy.com/2016-sustainability-report](http://bioliteenergy.com/2016-sustainability-report)