



2018 Impact Report



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FROM THE CEO

At BioLite, the only thing we're more obsessed with than building amazing technology is structuring a business that can sustainably reach the hundreds-of-millions of people who need access to energy.

For the past 5 years, we've invested as much in our market development as our products themselves, and in 2018 that market system began to gain substantial traction.

In 2018 BioLite's Kenya-based emerging markets team helped over half-a-million people gain access to clean energy. And we're proud to say that our products are having a huge impact on people's lives; 53% of our 2018 customers purchased modern energy for the first time, and they were able to afford the purchase despite more than half of our customers earning incomes below the Kenyan national poverty line of \$3.10 per day. In a word – we've begun to achieve impact at scales well beyond the reach of traditional philanthropy.

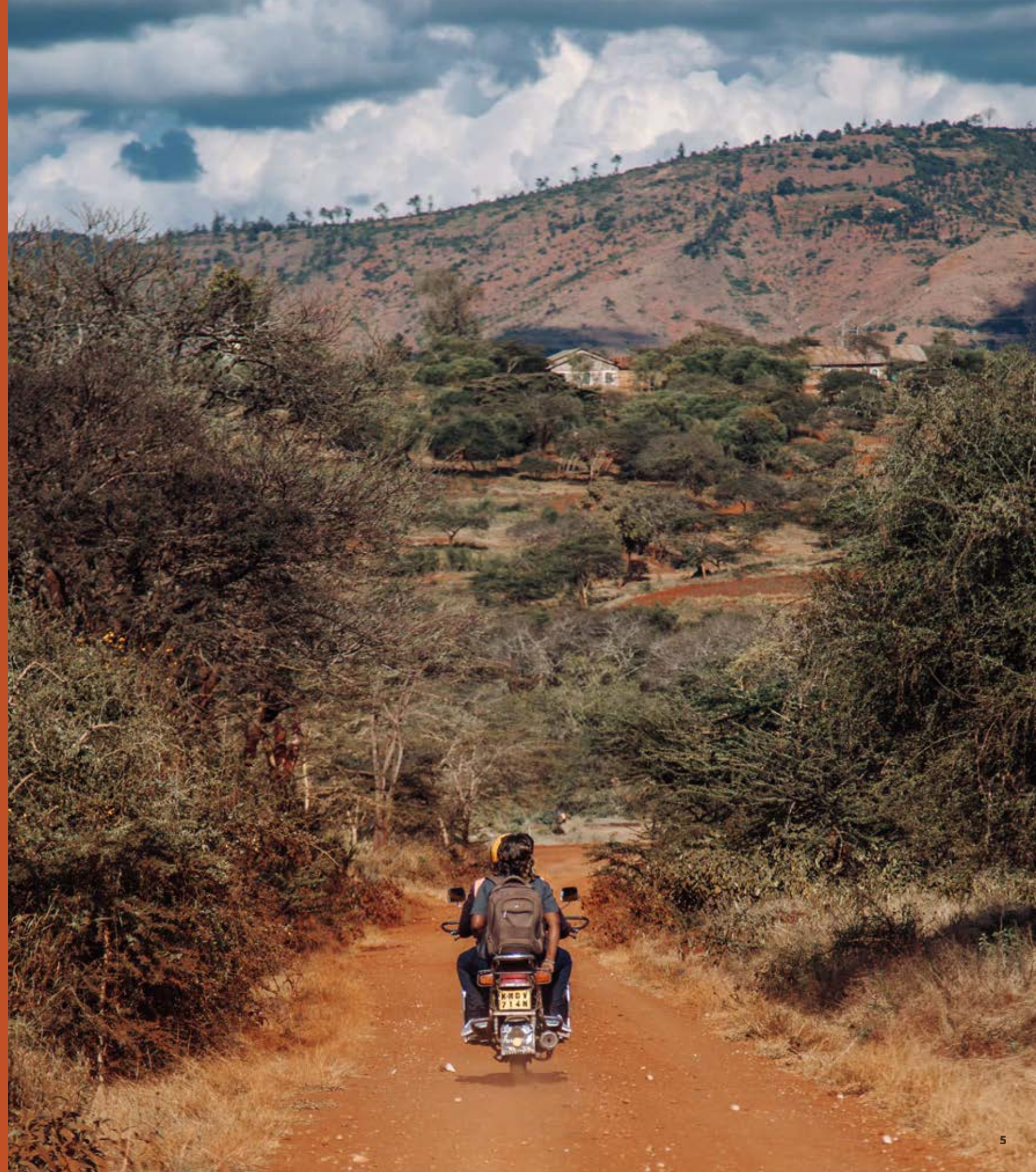
Scale is a big deal at BioLite and to be successful our technologies must be delivering real value, our distribution partnerships reaching the right customers, our consumer loans meeting the economic needs of our customers, and our service teams must keep this system functioning every day. Building on this success, we anticipate reaching over one million individuals across Sub-Saharan Africa in 2019.

A common trait among all of our products no matter the market is the user-centric design that infuses every solution; we saw this affirmed by rapid growth of SolarHome 620 in East Africa and with the breakout hit of the HeadLamp 330 in the outdoor market. A new category for BioLite, this entry into the headlight space continues to deliver on our promise of being an end-to-end energy solution for life away from an outlet.









I'm incredibly proud to share the data, stories, and insights inside this year's report – it is a powerful representation of Parallel Innovation in action and our ongoing commitment to bringing clean, affordable energy to those who need it most.

Thank you for your continued support and for helping us bring Energy Everywhere.

Jonathan Cedar
Co-Founder & CEO, BioLite



IMPACT BY THE NUMBERS

	2014	2015	2016	2017	2018	
People Accessing Cleaner Energy	20,975	41,085	100,000	127,235	515,262	
Watt Hours of Electricity Generated by the BioLite Ecosystem	7,755,425	27,517,028	69,314,508	123,141,204	347,011,663	
Tons of CO2e Offset by HomeStove	8,316	30,583	75,253	137,300	206,285	
Installed Electrical Generation Capacity Through the Sale & Installation of SolarHome 620 + HomeStove	8,390 W <i>(HomeStove Only)</i>	16,434 W <i>(HomeStove Only)</i>	32,358 W <i>(HomeStove Only)</i>	72.68 KW	433.55KW	
Staff Members On Emerging Markets Teams Across US, Kenya, Uganda	10	25	55*	30	47	
Net Promoter Score Across Kenya & Uganda	94.82%	94.71%	95.45%	97.85%	98.52%	
Fuel wood Savings by BioLite Customers (\$)	\$1.72M	\$4.86M	\$12.72M	\$25.53M	\$41.38M	
Tonnes of Wood Avoided	3,539	11,262	31,895	65,792	99,992	

* At the end of 2016, India Operations were shutdown leading to a reduction in staff. 2017 numbers represent growth of team primarily across Kenya and Uganda.

MEASURING WHAT MATTERS

Understanding Impact Through Lean Data

In 2018 BioLite was the focus of a Lean Data Report conducted by our partners **at Acumen**. Designed to help social enterprises build impactful businesses, this report collects data on performance, customer feedback, behavior, and how a solution is actually playing out in daily life for households.

The Methodology: A two-part interview project with 193 BioLite customers* in Kenya. Conducted by local researchers, Phase One explored questions about prior behavior and motivation for purchase while Phase Two – four months later – followed-up to see real-time impact on each customer's life.

* According to Acumen, this sample size provides a 95% confidence level



The Results: Understanding Our Customer

64%

of respondents are female with an average household size of 5.5

Conclusion: Reaching female heads of household is a critical part of the buy-in process. It also creates added benefits for women and children like time saved and extra time for studying.



53%

live below the \$3.10/day poverty line in Kenya

Conclusion: We are reaching households that need this most and our payment systems are providing paths to purchase – and we can always do more.



On average, customers owned 1.9 normal phones and 0.6 smart phones.

Conclusion: Phone charging as a feature of our products remains a core driver in value proposition – also indicates accessibility for PAYGO systems.



Before BioLite: Expensive Energy

Prior to BioLite, customers relied on expensive and inefficient energy in their homes.



93%

of SolarHome 620 customers lit their homes with dangerous, polluting kerosene

\$1.73

And spent an average of \$1.73 weekly on lighting and charging (\$90/year)

71%

of HomeStove customers used a three stone fire for cooking



\$3.32

And spent an average of \$3.32 weekly purchasing fuel (\$173/year)

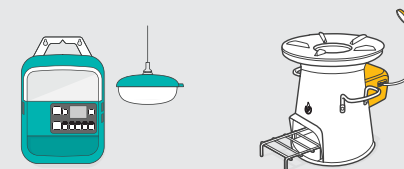
3 Hours

Customers spent an average of 3 hours each week traveling and gathering fuel sources.

Life with BioLite: Getting on the Energy Ladder

86%

of customers interviewed in Phase Two **moved up the energy ladder**, meaning BioLite provided a cheaper, cleaner, and more reliable source of power than their previous options.



What Is The Energy Ladder?

The Energy Ladder is a concept used to describe the journey of off-grid households transitioning from rudimentary energy sources (like open fires and kerosene) to more efficient means of electrification (like solar grid connections).

Each step up the ladder unlocks a series of benefits related to reliable energy access: time saved, expenses avoided, improved health, and economic opportunity.

What BioLite Customers Have To Say



Reliable Light

"Sometimes my kids wanted to study but I did not have money for kerosene, forcing them to sleep without studying. But for this [SHS] I will not pay for anything and they will be able to study without interruption."

- Elizabeth



A Healthier Home

"The traditional stove had a lot of smoke. We are enjoying the [HomeStove] very much. My kitchen is very neat, I am planning on connecting the main house directly with the kitchen since no smoke is coming out of it. We shall get a cupboard and shelves since the utensils will not get ruined by the smoke!"

- Sophia



Word Of Mouth

"There are about three of my friends who want the stove because it is really nice. It is smoke free and the torch provides light. There is even one of my friends in my house right now, that I am telling about the stove."

- Mary

CARBON FOOTPRINT

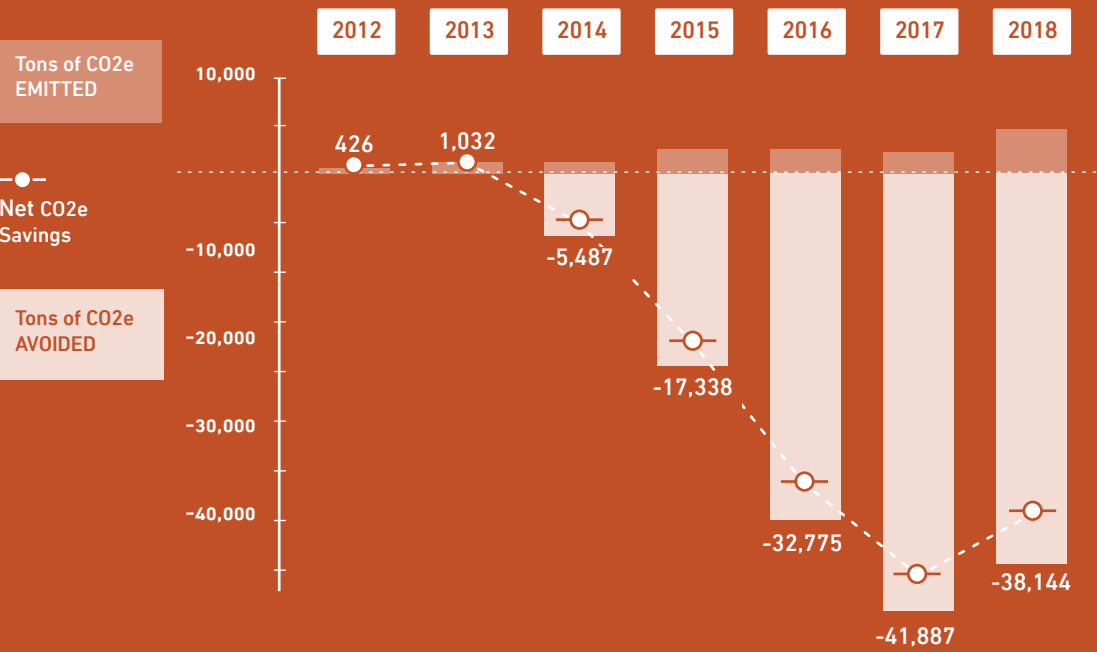
Corporate Sustainability Summary

BioLite's 2018 carbon footprint analysis reveals some key conclusions and trends. First, BioLite's products result in a significant reduction in greenhouse gas emissions compared to emissions produced from BioLite operations [see Lifecycle Analysis graphic]. In 2018, BioLite emitted a total of 4,097 tCO₂e. This carbon footprint is up markedly from years past, driven primarily by greatly expanded sales. BioLite continues to implement and explore new means of greenhouse gas mitigation within its operations. In addition to greenhouse gas mitigation, BioLite will continue to offset its entire carbon footprint through a combination of BioLite carbon credits and third-party-verified credits purchased from trusted partners.

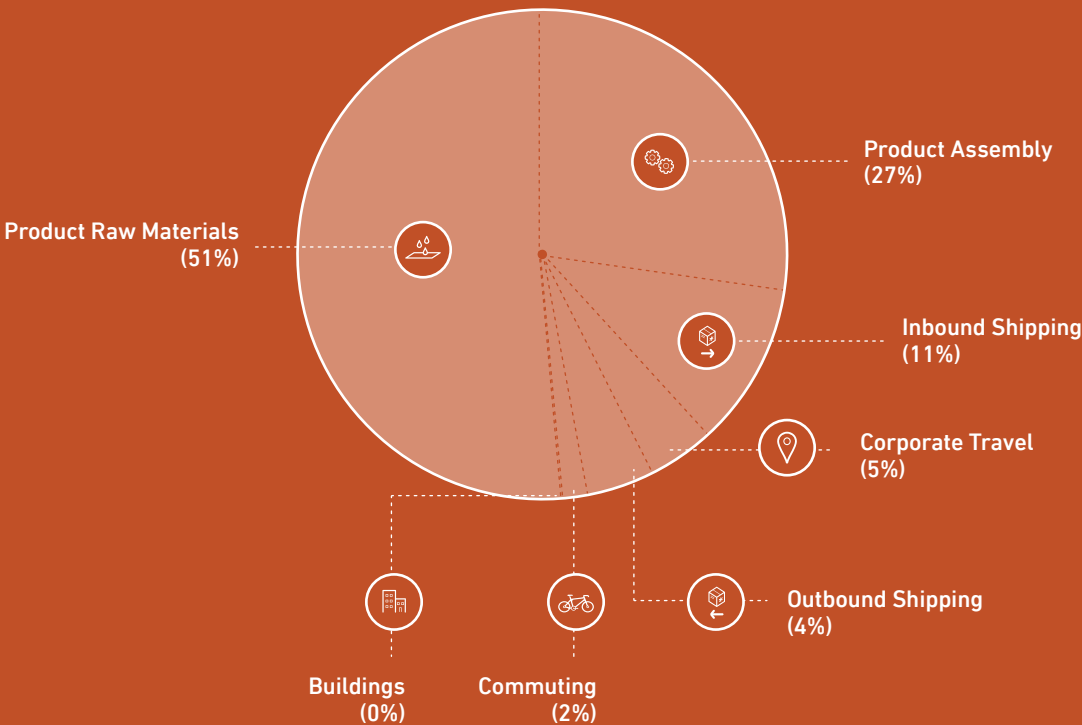
Second, as BioLite grew in 2018, the company's carbon intensity, as defined by emissions per product manufactured, remained relatively constant, as BioLite saw increased sales volume of both low and high emission products. For a complete analysis, download our 2018 Sustainability Report.

↓
Download The Full
2018 Sustainability Report
[BioLiteEnergy.com/Impact2018](https://www.BioLiteEnergy.com/Impact2018)

BioLite's Lifecycle Carbon Impact By Year



BioLite's 2018 Emissions By Function



BIOLITE FILMS PRESENTS

CONNECTING THE WATTS



In 2018, BioLite produced Connecting The Watts, a 3-part mini doc series that explores personal-scale innovations in energy in east Africa and their surprisingly interconnected impact on economy, communication, climate, and more. The series debuted during a traveling solar powered film festival called Oscillation Transia and launched officially in March 2019.

A project over two years in the making, each short film follows the power of energy through a different lens. When watched as a series, a broader picture emerges of a micro-revolution of practical solutions that begin with the individual. This revolution is bigger than BioLite - it's a network of families, farmers, teachers, meteorologists (watch episode two), engineers, and service agents all working together to find ways to empower people to power themselves.

The future of energy looks different in east Africa - and things are looking bright.



View Online At

[BioLiteEnergy.com/CTW](https://www.BioLiteEnergy.com/CTW)



PART I

Grid In The Sky

East Africa & The Solar Revolution



PART II

Forest For The Trees

Where Cooking & Climate Connect



PART III

Mobile Money

The Power Of Digital Currency

STORIES OF IMPACT

Every year we select a few of our favorite stories from the community to show how BioLiters near and far are bringing Energy Everywhere. This year we're excited to introduce you to an organization helping us unlock affordability across emerging markets, our first-ever Parallel Ambassador, and a thru-hiker who served as our first HeadLamp 330 beta-tester.



PARTNER SPOTLIGHT



OUTDOOR



EMERGING MARKETS

Unlocking Affordability:
Angaza's Pay-As-You-Go Technology

Beyond leapfrogging telephone lines, mobile phones have come to dominate the way business is transacted in East Africa. Whether it's buying corn from a stand or a solar lighting solution, mobile transactions empower the unbanked to participate in markets that used to be out of reach.

While mobile phone ownership is opening up new avenues for communication and business, it's also creating a paradox: if your phone is your wallet and you don't have access to a charge, your wallet is effectively frozen when you run out of battery. Having reliable access to a charge is one reason that BioLite's power generating appliances like the HomeStove and SolarHome 620 have become so popular.



The BioLite SolarHome 620 is embedded with Angaza's Pay-As-You-Go technology, allowing customers to pay for their system over time

However, many of our customers earn less than \$2/ day and finding upfront capital for those purchases becomes a major obstacle, no matter how reasonable the price. This year, we partnered with Angaza to bridge the financing gap and unlock affordability across the markets in which we operate.

Angaza embeds a revolutionary Pay-As-You-Go (PAYG) system into the hardware of our SolarHome 620. This metering and monitoring technology allows customers without existing credit profiles to pay for their solar home systems in small increments over time via a mobile phone.

By removing the upfront cost barrier of purchasing solar, Angaza's PAYG financing technology has quadrupled the rate at which distributors can transition off-grid families to solar. This year, BioLite enabled distribution partners to sell 70,000 PAYG solar products to off-grid consumers. This reach means over that 350,000 throughout Africa have been able to stop purchasing kerosene and adopt, clean reliable solar energy. With Angaza's help, we'll be able to scale our operations and reach the customers who need solar the most with better products, delivered at better prices.





Around the Bend: The Healing Power of Moving Forward Through Nature

"[Thru-hiking] is very empowering - it's such an intense and incredible feeling. I find myself craving the mystery of what's around the next bend or what's on top of the next mountain." - Jet.

Jet Garner is a Navy Veteran who was medically retired after two tours in Afghanistan. Upon returning home, he became interested in reconnecting with the outdoors. After participating in a Sierra Club program attempting to measure the impact of nature on the effects of PTSD on veterans, he began planning his first solo long distance hike - 1200 miles on the PCT.

"I thought, a thousand mile walk, how bad could that be?"

Jet, BioLite Ambassador

Turns out, brutal, humbling – and life-changing. There was challenging elevation, harsh weather, and exhausting days. There was also captivating landscapes and an undercurrent of self-reliance that enabled Jet to reconnect with himself and the world around him. Unfamiliar territory was no longer grounds for stress, but opportunities for constant wonder and discovery. "I was totally hooked," says Jet.

This summer, Jet set out to hike the Colorado Trail. As an experienced thru-hiker, his gear requirements were strict. When it came to a head lamp, he needed one with limited ounces and long run times. He agreed to put ours to the test. After a few days, Jet found himself slipping HeadLamp 330 on well before dusk so he could hike past sunset. He no longer felt rushed to get camp set up before dark and took his time on the trail wherever he wanted.

Jet wrapped up his Colorado Trail trek in July 2018 and reports that HeadLamp 330 has earned a permanent spot in his pack. He's been using it regularly to light evening hikes and while guiding kayak tours in Point Reyes National Seashore.



STORIES OF IMPACT
Colorado Trail, United States



We don't have to run out of light anymore. It's a big, huge difference for me. Not only for me, for the whole family too

Jane, Professional Marathon Runner



Photo credit: Jon Humphries

Staying Connected to What Matters Most

It started on a chilly night around a fire (a BioLite FirePit, to be exact). Our team was tending flames at an elite Athlete conference hosted by Clif Bar. After sunset, temperatures dropped significantly and a woman came over to warm up by the fire.

"THANK YOU for this! I'm not used to this cold," she said, shivering and smiling.

As we talked around the fire, we learned that Jane was a professional runner in California, but her family was back home in Moiben, Kenya. Missing them often, she calls and texts daily to stay in touch, but their off-grid home makes reliable contact difficult.

"I try their phones and they'll be off and I'll start worrying 'is everything ok?'"

Over the past year, Jane directed a portion of her race winnings to building a new home for her family – almost complete, it lacked one critical final touch: power.

When we told Jane about the SolarHome 620, she could hardly believe what she was hearing – and invited us to join her on a trip back home. In August, Jane's family worked closely with the local BioLite team to install a SolarHome 620 at their new home. To document the process and introduce our first-ever Parallel Ambassador (with a foot in east Africa and a foot in the outdoors) we launched [our latest short film, Run Home.](#)

"We don't have to run out of light anymore," says Jane. "It's a big, huge difference for me. Not only for me, for the whole family too." The new system allows her nieces and nephews to work on homework after the sun goes down and everyone's phone can remain on. Now Jane knows that no matter how far she travels her family is always reachable.

Jane is a powerful example that no matter where we are in the world, energy helps us stay connected.



ONE TEAM TWO HEADQUARTERS

In 2016, we officially opened up our doors in Nairobi. Today, we have a brand new office, a team of 47 and have scaled our distribution in the region.

2019 will be a year focused on expanding to new geographies to reach even more off grid communities and our teams both in Brooklyn and Nairobi are more connected than ever in supporting our shared mission of bringing Energy Everywhere.





For more information on the methods and calculations presented, view our full 2018 Environmental Sustainability Report at [BioLiteEnergy.com/Impact2018](https://www.bioliteenergy.com/Impact2018)