



# IMPACT REPORT

UPGRADING LIVES

2019



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# WELCOME TO UPGRADING LIVES

It has been nine years since M-KOPA was conceived and we helped kick-start the wider pay-as-you-go (PAYG) solar market. The concept for our business model was first sketched out by our founders on a whiteboard in May 2010. Pilot sales in Kenya started two months later.

Our intention was to build a profitable, sustainable and scalable company that would endure the ups and downs of economic cycles. At the same time, impact was not to be a by-product of our operations. It was an essential part of the proposition that we now bring to millions of people on a daily basis.

Since then we have built one of the world's most advanced PAYG platforms. We use it to provide low-income homes with affordable asset financing for connected solar technology and other life-changing products and services.



The average off-grid household in Kenya spends around \$0.50 per day on kerosene, candles and batteries for lighting, radio and phone charging. This is an expensive outlay for a household that has a per capita income of \$2 per day. People remain stuck in a rental, - or sachet - economy, paying for expensive services or small portions of perishable items.

We give millions of people a pathway to ownership with an M-KOPA system that sits at the heart of the home, connecting lights, phones, radios, TVs, fridges and more. We are driving a clean energy revolution by helping low-income, off-grid homes leapfrog traditional grid infrastructure. This creates shared value by making people healthier, wealthier and more productive.

We have become an essential service for many customers who simply cannot afford to purchase power and appliances outright. Instead, they pay only a small deposit, with the balance paid over time through affordable daily or weekly instalments. This leads to low levels of default, by offsetting the need for customers to buy kerosene, batteries and other poor energy substitutes.

It is all made possible by harnessing GSM, machine-to-machine communications (M2M) and solar technology powered by our proprietary enterprise platform, M-KOPANet. Revenues arrive exclusively in the form of mobile micropayments of \$0.50 or a dollar at a time. That our predominantly low-income customers have a choice about making these payments, is the motivating force in our business. We need to provide them with outstanding customer service and products that truly make a difference in their lives.

We believe that there is still much more to be done to improve lives. We look forward to sharing more insights on these in the years to come.

Jesse Moore,  
CEO



Elizabeth Littlefield,  
CHAIR OF THE BOARD




# CUSTOMER SAVINGS

## FAMILY GAINS

The power of our business is that we deliver a better, safe alternative for household energy that saves our customers money. Approximately 80% of the households we serve are low-income, earning \$2-3 per day per household member.

To date, we have sold over 750,000 off-grid solar systems, providing 3 million individuals with clean, safe lighting solutions.

Crucially, the wide majority of households report they save money by displacing kerosene and phone charging expenditure with M-KOPA. Our customers save approximately \$650 over 5 years, which amounts to over \$400 million in increased household budgets across our customer base.

Household savings translate to family gains. 25% of customers use available cash to purchase food and 24% dedicate extra funds to children's education. Many choose to use these savings to acquire additional life-changing assets and services from M-KOPA.

Since inception, M-KOPA has unlocked nearly a quarter of a billion dollars in micro-loans for low-income customers across East Africa, creating a pathway out of poverty.



*Mrs. Mutinda from Athi River,  
“M-KOPA helps me get clean  
and bright light, while paying  
less than I did for kerosene.  
Now I have more money at  
the end of the week to spend  
on my family.”*



KENYA      UGANDA      TANZANIA

**\$233 million**  
CREDIT UNLOCKED  
FOR HOUSEHOLDS



**\$650**  
HOUSEHOLD SAVINGS  
OVER THE LIFETIME OF  
EACH SOLAR SYSTEM



**\$400 million**  
SAVINGS ACROSS THE ENTIRE  
CUSTOMER BASE

TARGET FOR 2030:

**20 million lives with  
improved energy  
access**



## HOUSEHOLD SAVINGS TRANSLATE TO FAMILY GAINS

**71%**

HOUSEHOLDS SAVE MONEY BY REPLACING  
KEROSENE AND PHONE CHARGING EXPENDITURE  
WITH M-KOPA

**25%**

M-KOPA CUSTOMERS USE AVAILABLE  
CASH TO PURCHASE FOOD

**24%**

DEDICATE EXTRA FUNDS TO  
CHILDREN'S EDUCATION





# ECONOMIC INCLUSION

## FLEXIBLE AND AFFORDABLE CREDIT

Accessing financial services remains one of the greatest barriers to development and economic inclusion. Despite gains in micro-finance, low-income individuals still suffer from lack of collateral, low financial literacy and non-existent borrowing histories.

PAYG asset financing unlocks a wide marketplace to life-enhancing products and services, made affordable with flexible, micro-loans. In total, we have issued 1,000,000 loans for initial Solar Home Systems and subsequent upgrade purchases.

SOLAPESA, our PAYG cash loan introduced in 2018, exemplifies this model. Following repayment of their solar system, 55,000 customers have attained a \$50-70 loan to support household needs and invest in enterprises.



Alice Mburu from Thika

"M-KOPA has opened up ownership opportunities for me. I started out with the M-KOPA Solar Home System without TV. After completing my payments, I upgraded to TV. It means I can now own products that were previously out of reach."

## BUILDING CREDIT HISTORIES

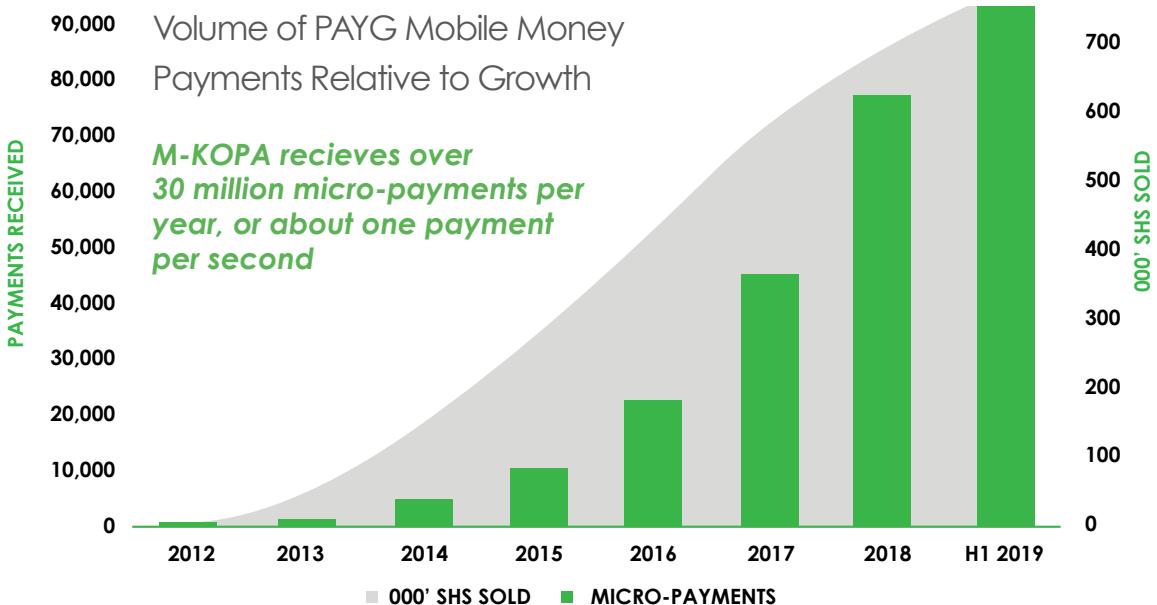
We work with the Kenya Credit Reference Bureau (CRB) to support customers in establishing credit histories to attain greater loans from traditional financial institutions. To date, we have enabled over 450,000 low-income Kenyans to establish creditworthiness and we are proving, with our portfolio performance, that the unbanked population is just as trustworthy with credit as the general Kenyan population. We are committed to pioneering the use and sharing of credit information to unlock opportunities for our customers.

## CONSUMER CONFIDENCE

In 2018, M-KOPA received over 30 million mobile money payments – each one signifying a vote of confidence.

With limited available cash on hand, our customers opt to send \$0.50 - \$1.00 every day to M-KOPA for solar appliances, fertiliser, cook stoves and more. They do this to improve their economic situations by realising savings and earnings. When asked, our customers regard payments for solar systems as a crucial expense, ranking just below school fees, food and medical needs.

Since inception, we have processed nearly 100 million mobile money payments from low-income households, with volume growing 170% CAGR over seven years.



**TARGET FOR 2030:  
10 million loans issued**

# CLIMATE ACTION

## CLEAN ENERGY

Achieving Sustainable Energy Access (SDG7) by 2030 requires a new approach to energy creation and delivery. Improvements in solar panel (PV) economics and efficiency have also helped economic growth on a global scale. Scaling PAYG Solar has brought those benefits to low-income homes throughout Africa.

Based on GOGLA's Impact Framework for the Off-Grid Solar Energy Sector, we estimate that M-KOPA Solar systems will avoid 1.7 million metric tonnes of carbon dioxide and black carbon over their lifetimes. This widespread removal of toxic kerosene lanterns across East Africa equates to taking a coal-fired power plant offline for 150 days.

## EFFICIENT APPLIANCES

Maximising the power output of our systems to enable modern energy services not only delivers value to customers but also minimizes carbon footprints. When M-KOPA brought Solar TVs to market in 2016, our model was four times more efficient than comparable models.



*Lucas Ochieng from Kisumu,  
"I struggled to raise the initial  
deposit for the Solar Home  
System. The starter package  
has enabled me to access  
affordable clean energy. I  
hope to upgrade to the full  
Solar Home System."*

*Leah Njeri from Thika,  
"I began with M-KOPA's  
(refurbished) Starter model.  
I am always looking out for  
the next product and I look  
forward to owning my own  
fridge in future."*

We invest in R&D and product co-development with best-in-class hardware designers such as Phillips. This has ushered in a new generation of products that deliver more energy services with less power, setting important industry standards as the sector expands globally. Notable energy efficiency improvements include:

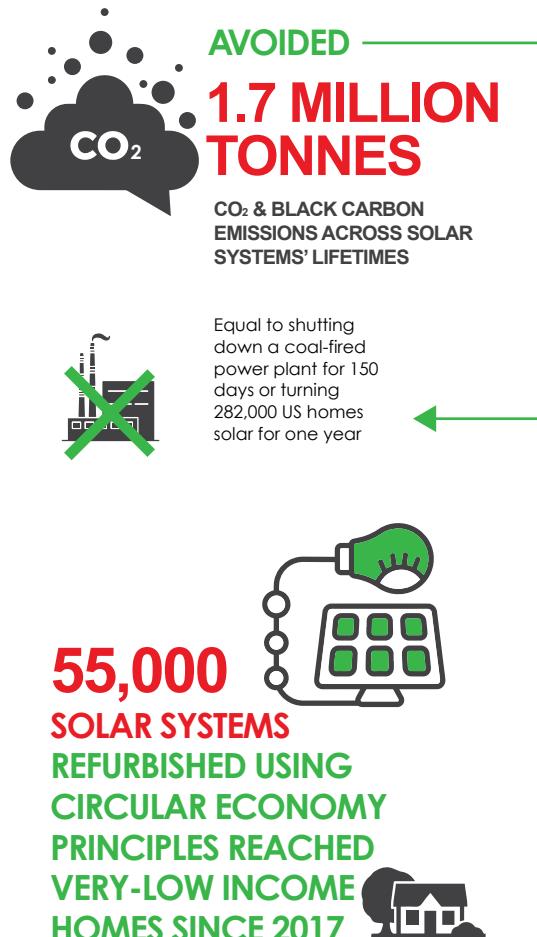
- Bulbs that are 10% more luminous yet require 20% less power
- Solar Fridge, powered by an 80W panel and capable of 36-hours of continuous power in the event of no sun
- TVs that are 3 times more efficient than the highest-rated in the UK

In fact, if all the homes in the UK had our 32" TV, the country would reduce energy demand by 1,000 MW.

## CIRCULAR ECONOMY

Giving a second life to returned, yet restorable, components through circular economy principles has brought 55,000 very low-income households onto the PAYG pathway. The introduction of our Starter product, a modified, economical version of our Classic system, arose from the need to reach very low-income customers (\$1.00-2.00 earnings per day). Today, we're seeing many of our customers upgrade to larger systems with their new household savings.

In 2018, we restored approximately 80% of the e-components returned. This helps to avoid emissions along global supply chains, reduces the need for materials, increases affordability for customers as well as upskills workforce with technical skills.



## RESPONSIBLE E-SOLAR WASTE MANAGEMENT

Safe disposal of solar panels, batteries and appliances is central to our sustainability efforts.

We partner with e-waste specialists in Kenya and Uganda and have recycled over 120 tonnes of non-repairable electronic components in the last two years.

**TARGET FOR 2030:  
30 million tonnes  
of CO<sub>2</sub> avoided**

# LIVELIHOODS IMPROVED

The social impact of replacing kerosene lanterns with solar energy is significant and growing.

Customers consistently report feeling safer at night with bright lighting in homes and when walking at night with a high-power torch. They find comfort in knowing children no longer sleep next to highly-flammable, open-flame lanterns, and women are freed from the taxing burden of fetching kerosene fuel.

## FREE FROM HARM

Across Africa, indoor air pollution kills nearly 600,000 people every year, and kerosene fires cause immeasurable suffering. Women and children, who spend more time in the house, are impacted the most. When customers replace kerosene lanterns with M-KOPA Solar systems, they protect themselves and family members from hazardous toxins and dangerous fires.



*Mary Musau from Athi River,  
"My daughter had breathing  
complications because of this  
kerosene lantern. Since we started  
using M-KOPA Solar, her health has  
improved greatly. I am free to live  
life without constantly  
worrying about her."*

## TIME TO DO MORE

Nearly half of our customers acknowledge that an M-KOPA Solar system enables more time to pursue productive activities, whether that is getting a new job, working longer hours, or supporting a business. We estimate that more than 140,000 M-KOPA customers directly generated income through local phone charging services, hosting movie screenings, or using solar lighting for a business in 2010. This has increased household budgets by as much as 32%. Anecdotal evidence suggests that the women of these households are the ones who capitalize on solar ownership, enjoying increased agency in the home and, thereby, shifting the role of women in rural communities.

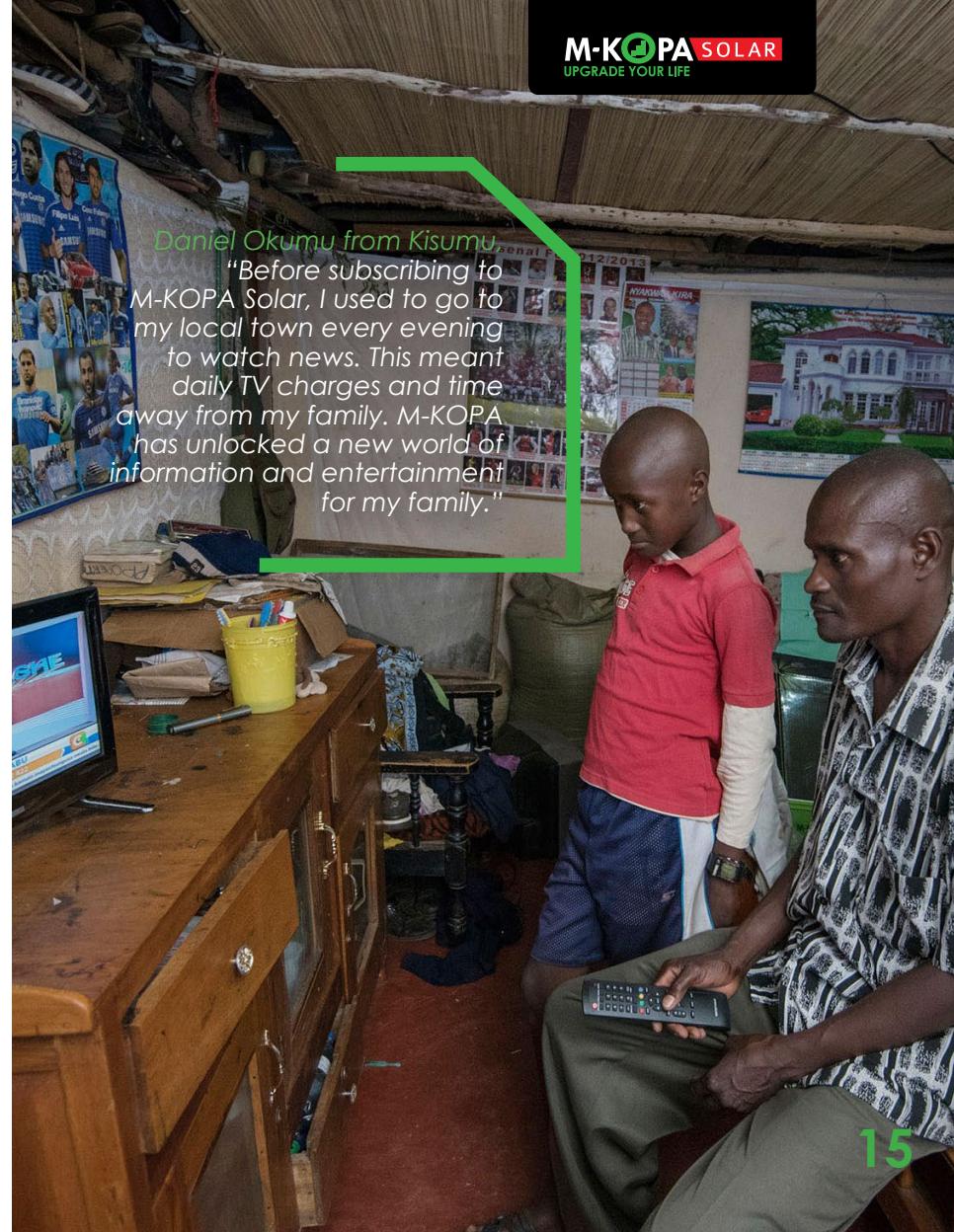
## ACCESS TO INFORMATION

Off-grid homes with radio, smartphones and television now have access to similar information channels as the citizens in developed markets. One-in-three M-KOPA households have a TV, with many more benefitting from access to critical information. We have also put over 30,000 internet-enabled smartphones in the hands of our customers.

These technologies help disseminate more knowledge and skills, ensuring millions have a pathway into the information economy and civic life.

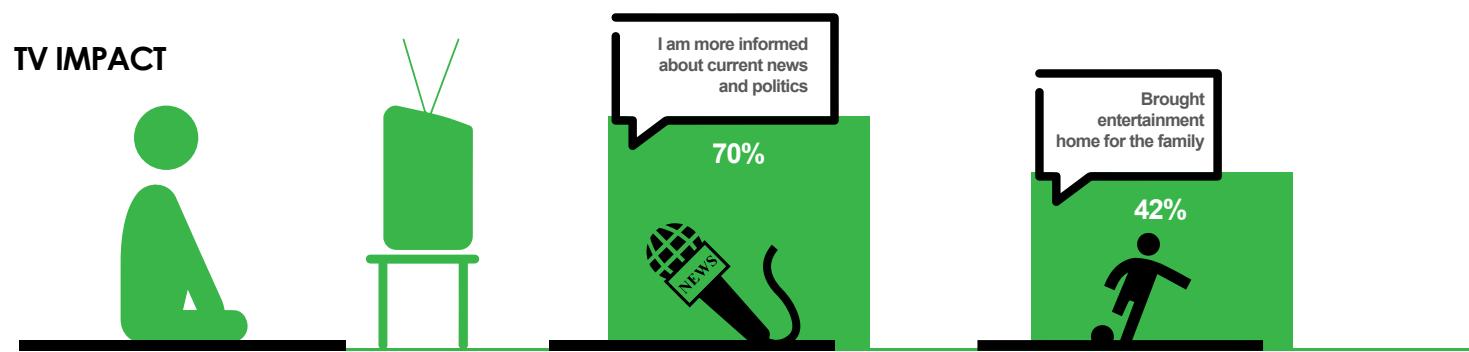
The majority of new television owners in Kenya feel that they are more engaged in civic and political life since getting their system. First-time television owners in off-grid homes widely report an improvement in their lifestyle because they feel more informed.

**TARGET FOR 2030:  
500,000  
customers  
directly  
generating  
income**



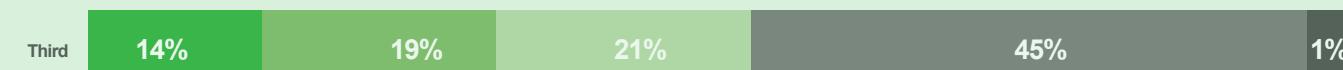
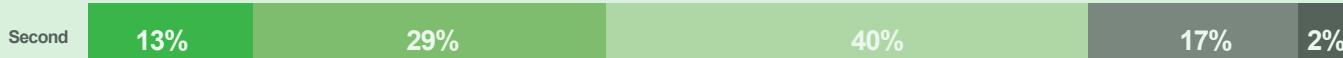
*Daniel Okumu from Kisumu*

*"Before subscribing to M-KOPA Solar, I used to go to my local town every evening to watch news. This meant daily TV charges and time away from my family. M-KOPA has unlocked a new world of information and entertainment for my family."*



Source: M-KOPA Market Research, Kenya, 2017, n=250 M-KOPA Customers

### BENEFITS EXPERIENCED BY M-KOPA CUSTOMERS



Security Time with my family in the evening Children's homework House chores Lighting my business Other

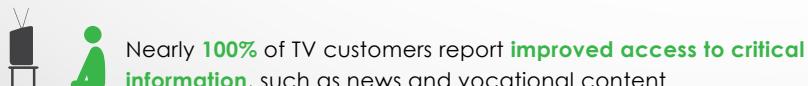


Source: Altai Consulting/GOGLA, Kenya, 2018, n=331 M-KOPA TV Customers

## INCOME GENERATION



## PRODUCTIVITY

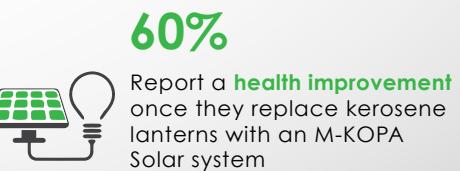


## HEALTH & SAFETY



One-in-three customers experienced a physical accident, health complication or loss from harmful kerosene lanterns

### MOST COMMON INCIDENTS INCLUDED:

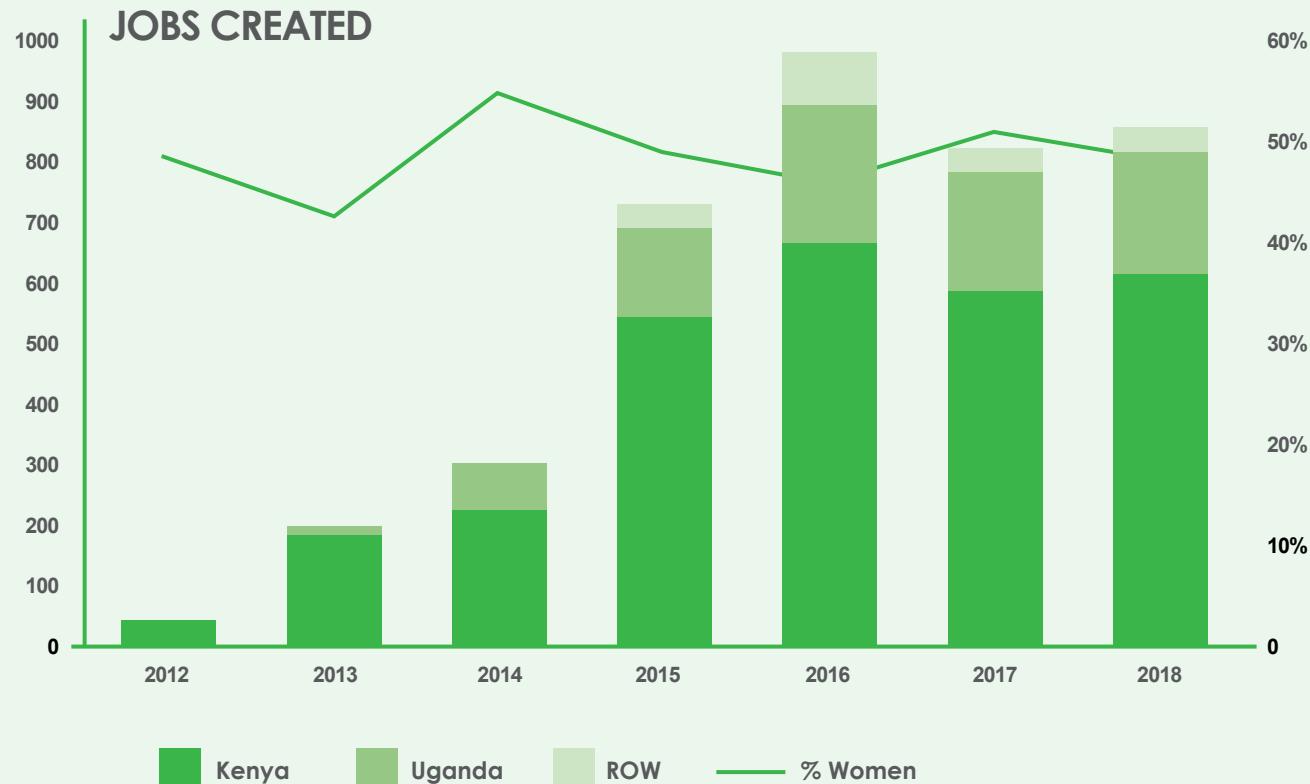


# JOB GROWTH

## SUSTAINING GREAT JOBS

We currently provide full-time employment to 855 staff globally, 50% of whom are women. We have more than 2,100 active direct sales representatives (DSRs) across East Africa; 60% of these solar entrepreneurs are aged 30 years or younger, and have been recruited from the last-mile communities that we serve. Since 2012 we have invested over \$63 million in recruiting and sustaining our workforce.





**TARGET FOR 2030:**  
**2,000 full-time staff and 10,000 sales agents**

*Felista Njeru, Customer Care Deputy Operation Manager (Nairobi, Kenya),*

"I was in the first cohort of five Customer Care Representatives at M-KOPA. I am also proud to have helped set up the first M-KOPA Shop. M-KOPA has helped me chart a career path and discover work that I am truly passionate about."



*Felix Musau, Field Sales Manager (Machakos, Kenya),* "I joined M-KOPA

in 2012. I am happy to have grown from an agent to a Senior Field Sales Manager. I am particularly proud of growing the Machakos Shop to be amongst the top performing in Kenya.

All I can say is hard work pays at M-KOPA."



*Samuel Mutua, Product Manager (Nairobi, Kenya),* "I joined M-KOPA in

2012 as a Customer Care Representative. From screening the first ever customer to working in the product development team, I am happy with the challenges and growth the job offers. I have served and learned in five different positions and I have been able to plan my career path."



*Lucy Koinato, Direct Sales Representative (Kajiado, Kenya),*

"I joined the M-KOPA Sales Team in December 2018. It has been exciting learning how to convince customers to switch from kerosene to Solar. April and May 2019 were personal highlights for me, as I was the highest - performing DSR in the company over those months."



*Caroline Njenga, Project Management Officer (Nairobi, Kenya),*

"Joining the Engineering team has been a huge learning curve. I have had great exposure in travelling to China to work with our manufacturing partner. M-KOPA U made a lasting difference - it was surprising just how important the soft skills learning has been."



*Harini Hewa Dewage, Battery Research Lead (Woking, UK),*

"Battery performance is core to the M-KOPA customer proposition and the growth of our industry. It is incredibly rewarding to be working at the cutting edge of energy storage and to be doing it with world-leading industrial and academic partners."



*Cyprian Kitonsa, Training Senior Lead (Kampala, Uganda), "I joined M-KOPA as a Customer Care Trainer in 2015 and I value the opportunities for growth. The most exciting thing about my job is mentoring new staff members around culture, their roles and their careers. I am proud to have been part of the team that set up the M-KOPA U programme in Uganda."*



*Jemimah Ayoma, Field Test Manager (Nairobi, Kenya), "I love being part of the team that tests customer suitability on all our different products. It's always a highlight moment for me when a new generation of the M-KOPA Solar Home System is launched in the market. Understanding customer behaviour and developing products that meet a real need is incredibly fulfilling."*



# METHODOLOGY

M-KOPA is committed to a consistent, industry-aligned approach to impact measurement, and actively participates on GOGLA's Impact Working Group.

Impact estimates are based on the distribution of M-KOPA products sold directly across East Africa and indirectly in other regions.

Underlying data are based on annual customer surveys spanning 2013-2018, market research conducted by independent agencies and analytics gathered through our business intelligence platform. Many of the results presented herein are based on GOGLA's Standardized Impact Metrics for the Off-Grid Solar Energy Sector, aligned with the IRIS Metrics. We have adjusted variables, where needed, based on best available and historical data specific to our product range and markets.





[www.m-kopa.com](http://www.m-kopa.com)