

# Impact Report



SUMMER 2013

# A welcome from Steve

As CEO of SolarAid I'm proud to introduce you to a charity that has brought the benefits of safe, clean light to over 3 million people in East Africa. Being based in Kenya means that I get to see first-hand the impact solar lights have on families. Each customer that buys a solar light benefits instantly: from the savings made from spending less on dangerous kerosene, to better health from reducing indoor air pollution, to the extended study time the lights provide school children. It is a humbling experience to see this each and every time, but even better is the phenomenal rate at which we're getting these lights into homes. When I began in 2010 we were selling 800 lights per month; that figure has risen to 50,000 and is still growing.



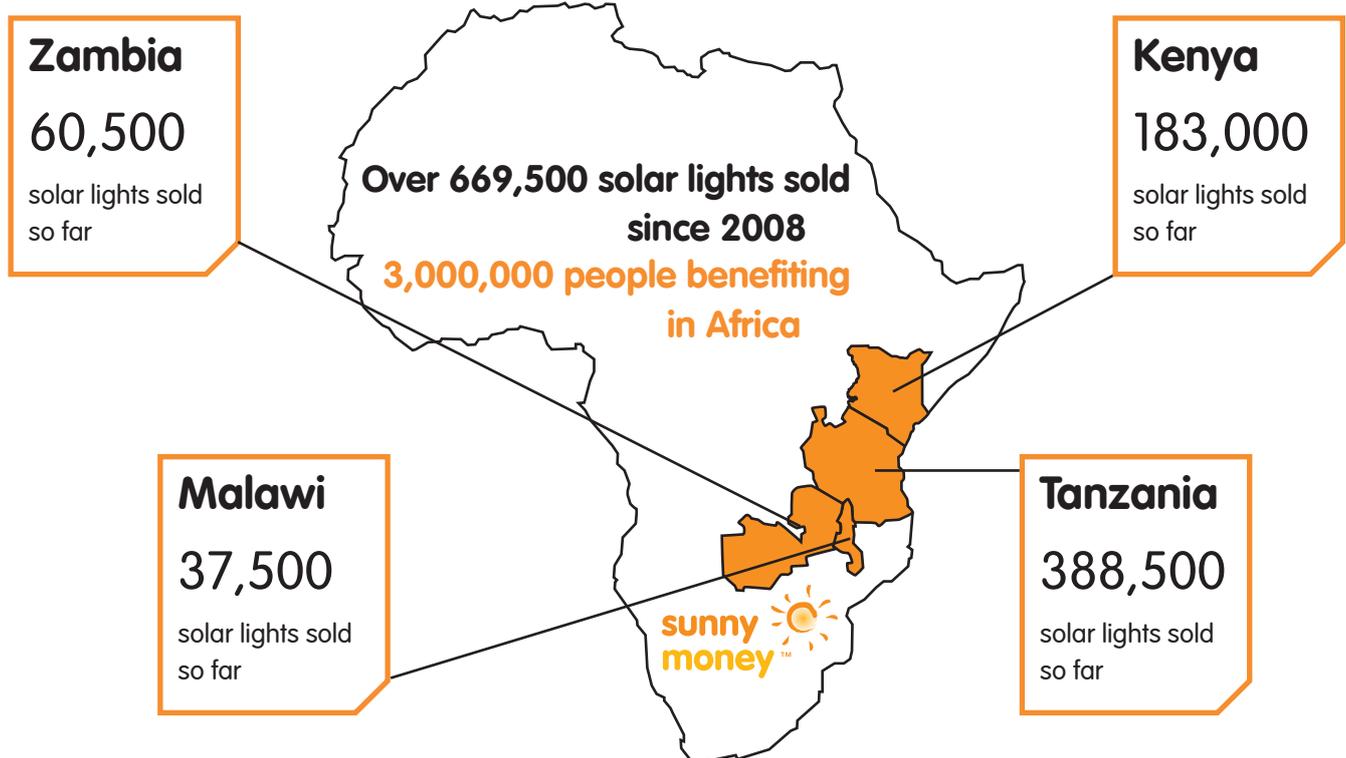
PHOTO: ALICE VRANCH

I'm proud of what we've achieved, but at SolarAid we are passionate that no home in Africa should rely on the dangerous, costly, dull light of a kerosene lamp. That's why we've made it our mission to eradicate the kerosene lamp from Africa by 2020. I'd like to thank you for taking the time to read a little more about how and why we intend to do this. The impact a solar light can have on a single family is transformative; imagine what the effect will be across a whole continent.

STEVE ANDREWS

## Where we work

SolarAid sells solar lights through its social enterprise SunnyMoney. Read on to find out why this business-based approach is essential to creating a sustainable solution to the energy crisis in Africa.



SALES TO END OF AUGUST 2013

# The energy crisis

**600 million people in Africa have no access to electricity.** Families are either forced to spend valuable hours in the dark or to use dangerous, expensive alternatives for lighting, such as kerosene, candles and battery lights.

Without light, opportunities for earning, learning and socialising are severely limited. The productive day is cut short so that children cannot study, parents cannot work and families have little time together. When darkness falls millions depend on costly, polluting kerosene to light their homes, schools and businesses. This dependency locks people into a cycle of poverty; draining their income, damaging their health and causing fatal burns and fires. It also emits black carbon which has a tremendous impact on climate change (more on that on page 5).

*“Energy is the thread that connects economic growth, increased social equity and sustainability. But, widespread energy poverty still condemns billions to darkness, ill health and missed opportunities for education and prosperity.”*

– UN SECRETARY GENERAL BAN KI-MOON

91% of the rural population of sub-Saharan Africa have no access to electricity

Families can spend up to 25% of their household income on kerosene

Kerosene lamps emit black carbon which significantly contributes to climate change

## Our goal

SolarAid’s goal is to eradicate the kerosene lantern from Africa by 2020.



PHOTO: SOLARAID\STEVE WOODWARD

To do this, we work to give rural African families access to pico (small) solar lights.

Pico-solar lights are reliable, safe and cost-effective. They charge during the day to give clean, free light at night. They do not require costly installation or maintenance and provide instant light in remote rural areas the electricity grid might never reach.

With over 600,000 solar lights shining across Africa as of August 2013, SolarAid has already made access to this safe, clean light a reality for over 3 million people.

# Our impact

Solar lights have a tremendous impact on the health, education and income of families in Africa. They are also much better for the environment. We have a focus on research and impact measurement at SolarAid so that we can truly understand the effectiveness of our work.

## HEALTH

A SOLAR LIGHT REDUCES THE RISK OF INDOOR AIR POLLUTION, FIRE AND POISONING.



In sub-Saharan Africa indoor smoke causes around 400,000 deaths a year. In addition, the danger of fire from open flames and kerosene lamp explosions is substantial. Due to the inhalation of particulates, using a kerosene lamp is estimated to be similar to smoking 170 cigarettes a year.

Happily, our research shows that seven in ten solar light users have noticed an **improvement in health** since buying their solar light.

*"[The kerosene lantern] was polluting the air, my kids were having eye infections and they were coughing a lot. It was costing me a lot for their treatment."*

Dickson Murumbi, Kenya

## INCOME

A SOLAR LIGHT CAN HELP LIFT MILLIONS FROM FUEL POVERTY.

Lighting is often the most expensive item in the household budget of Africa's poorest families, typically accounting for 10–15% of total household income. In an average UK household that would equate to £3,500-£5,500 per year for lighting alone.

*"I have seen a lot of changes. I have started a business for my wife and I have more money too."*

Noorkisaruni Osono, Kenya



In Tanzania, kerosene use by solar light customers has been reduced by 75%, **saving families nearly £50** a year; these savings covered the cost of the light in just over one month. Our research shows that savings are commonly spent on food, school costs and farming inputs. For some, they can be a way to start a small business, giving families hope for a better future.

## EDUCATION

A SOLAR LIGHT ALLOWS CHILDREN TO STUDY MORE AT NIGHT.

Doing homework is a difficult task for children with no access to electricity. Those who can afford to study at night do so by the poor light of a candle or kerosene lamp.

*"Some learners are now selected to good schools within [the district], a thing that has created history at our school."*

Mr Ngwira, Pangilo School, Malawi

Our early research shows that, on average, the children of solar light customers are doing **double the amount of homework** every evening. In Malawi, two-thirds of head teachers we spoke to said the **performance of children with solar lights had improved**, as well as increased attendance, motivation and concentration in class.



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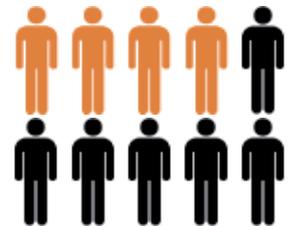
## ENVIRONMENT

A SOLAR LIGHT HELPS TO PROTECT THE ENVIRONMENT.



Over 290 million people in Africa use kerosene as their main source of lighting. Each kerosene lamp emits over 2.5 kilograms of carbon dioxide per litre burned, as well as black carbon, or soot, which adds even more intensely to global warming. Black carbon (soot) emitted by kerosene lamps contributes the same amount to climate change as 50% of the CO<sub>2</sub> released in the UK during a whole year.

Thanks to having a solar light, customers that SolarAid have interviewed use 1.5 fewer kerosene lamps regularly. Over **40% cut kerosene use completely** after buying a solar light.



**4 out of 10 no longer use kerosene**

## WELL-BEING

A SOLAR LIGHT CAN SUPPORT FAMILY TIME.

As well as making families reliant on dangerous and costly lighting, living without electricity is a barrier to social activity and opportunity.

In Malawi, solar light customers we interviewed commented on the benefits of having freedom of lighting. Poverty is not just about money; the dignity that comes from having choices and an improved standard of living gives families hope for a better future.

*"I am very happy because the living standard of our family is more like one in town now."*

Mphatso Gondwe, Malawi

# Our model



SolarAid believe that sustainable development is vital to the ambition of eradicating the kerosene lamp from Africa by 2020. This is why we have created an innovative model based on trade not aid.



SolarAid does not give lights away; we sell them at a full but fair retail price through our social enterprise SunnyMoney. We create markets for pico-solar lights in remote African communities where low volumes mean that their sale is currently challenging. SunnyMoney undertakes the expensive and difficult task of building trust in, and access to, solar lights in areas with little infrastructure and poor retail networks. We know that when a thriving market takes shape, other players will enter the market, ensuring better supply, reduced prices and more availability to all.

This business-based approach not only gets solar lights to people quickly but provides job and business opportunities. We know that for some it is a struggle to find money to invest in a light so SunnyMoney also works on financing initiatives, such as pay-as-you go technologies, to make the technology more accessible in future.

SunnyMoney's field teams visit an area, provide access to the lights through schools and then move to the next area. This maximises our reach and means more people get the opportunity to see how life-changing these lights are for themselves. As a social enterprise wholly owned by SolarAid, all of SunnyMoney's income is reinvested back into our work. Donations are therefore recycled time and time again, giving more people access to clean and safe solar technology.



***"SunnyMoney has cracked the code on the distribution side of solar lanterns in East Africa"***

– DR. WIEBER BOER, CEO OF TONY ELUMELU FOUNDATION

# The bigger picture

SolarAid supports SunnyMoney as it builds sustainable markets for pico-solar lights across Africa by campaigning and lobbying for wider business and policy development, ensuring fair tax policies on solar and encouraging both government and industry investment. SolarAid believe that building partnerships and collaborating with others is the most effective way of eradicating the kerosene lamp from Africa by 2020.

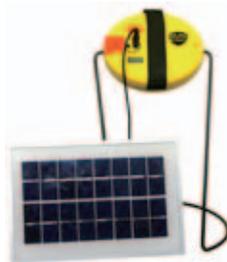


# The solar lights

We are a product-neutral distributor of solar lights.

We sell more than 10 different types of lights, all rigorously tested and World Bank approved. They are durable, reliable, tested to meet a five year lifespan and all come with a warranty. We work with our customers to ensure they are getting what they want from the lights, feeding this back to manufacturers to drive improved standards. Below are our customers' current favourites:

The d.light S2 is our biggest seller and most popular light. A study lamp giving out four hours of bright light, it provides a focused beam making it ideal for studying or working.



The SunKing Pro from Greenlight Planet has three brightness settings and lasts at least 30 hours. With a display screen showing the hours of light available, and phone charging capacity, it is especially popular with teachers.

The d.light S20 has two brightness settings: eight hours of dispersed light - ideal for lighting rooms; or four hours of focused light - ideal for studying. It has a handle for hanging or carrying.



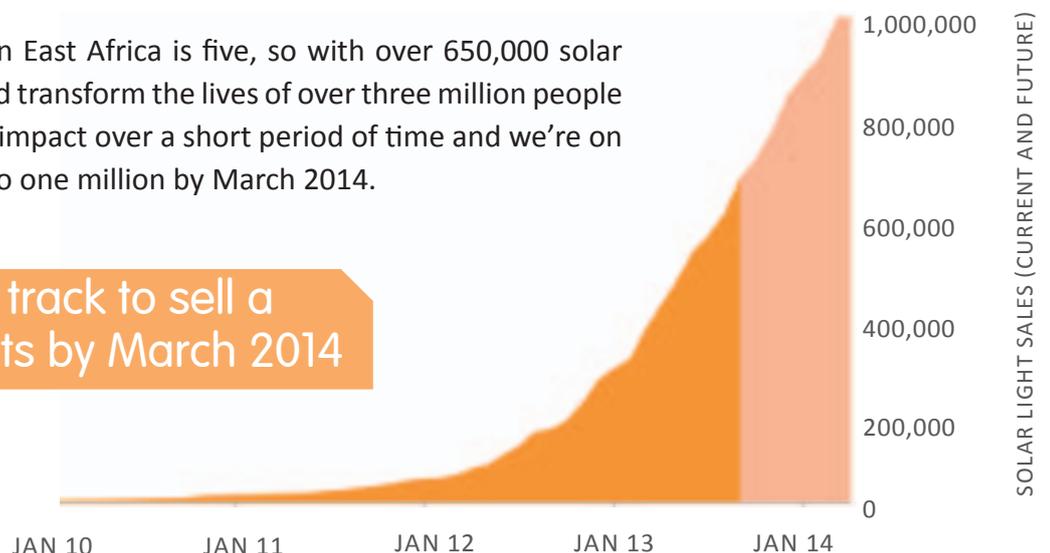
To see more lights sold in Africa, visit [www.sunnymoney.org](http://www.sunnymoney.org)

## SunnyMoney sales

SunnyMoney sales figures have been growing exponentially since 2011. At the end of 2011, 45,730 lights had been sold; in 2012 this increased by 450% to 206,290 and in August this year we sold our 600,000<sup>th</sup> light.

The average household size in East Africa is five, so with over 650,000 solar lights sold our work has helped transform the lives of over three million people already. That's a tremendous impact over a short period of time and we're on track to bring the total sales to one million by March 2014.

We're on track to sell a million lights by March 2014



SOLAR LIGHT SALES (CURRENT AND FUTURE)

# Meet a solar customer

In 2012 Sithembile Kasambala bought a solar light for her children.

Sithembile lives in Malawi and five of her seven children go to the Karonga Demo School. After meeting SunnyMoney the teachers of the school were able to demonstrate solar lights to pupils, some of whom were seeing solar technology like this for the first time. Pupils went home and told their parents - mothers like Sithembile.

*"I heard from my children after [SunnyMoney] staff visited us at our school... before we were using kerosene which was expensive to buy... [Now] my children are able to study during the night [and] we live a happy life now, when darkness comes we are able to light our home for a long time..."*

Sithembile made a big decision putting her trust in the advice of the teachers at her children's school by spending £5 on a solar study lamp. This was a big purchase for the household of nine, whose main income comes from their small family farm.



MAP OF MALAWI



PHOTO: SOLAR AID/STEVE WOODWARD

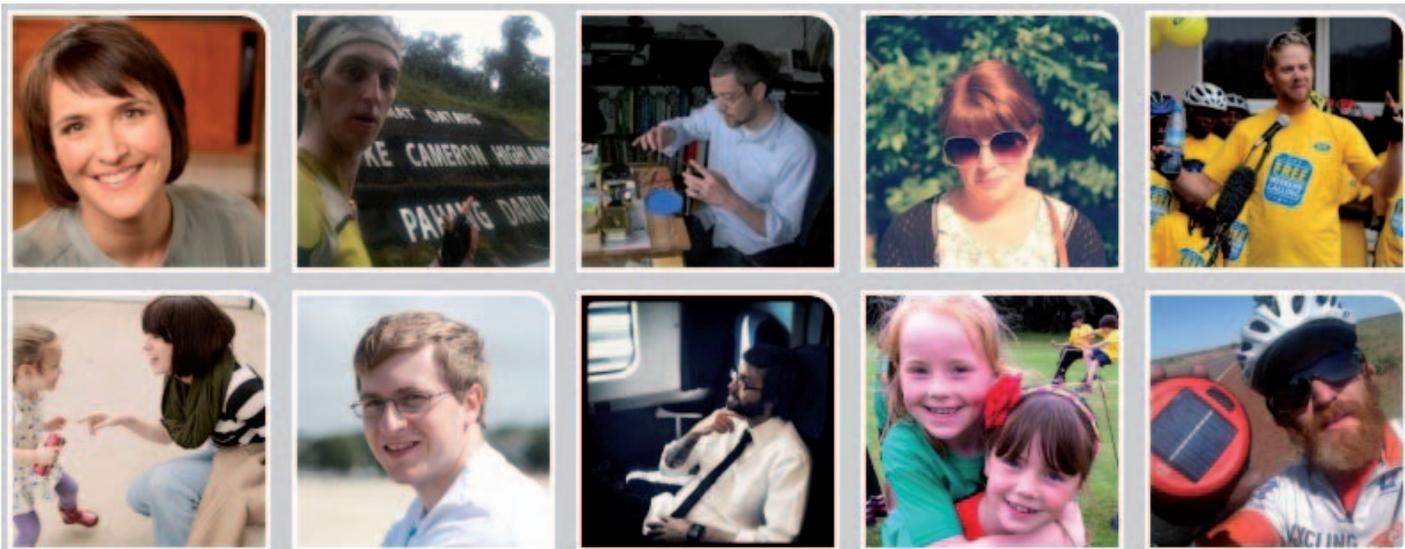
A FAMILY WITH A SOLAR LIGHT

Since buying the solar light Sithembile has saved money previously spent on dangerous and toxic kerosene. She spends the savings on better food, school stationery and clothing for her children. But just as precious as the money saved is the time created by the solar light. Sithembile and her family can spend more time together before the sun rises and after dark.

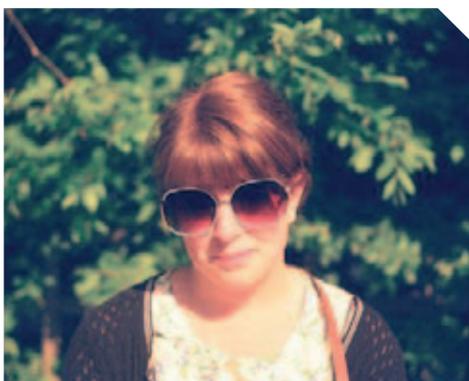
Sithembile's children now study for four extra hours a day. With this work, and better exam results, they will have a better chance at continuing to secondary school.

KAT HARRISON, OUR SOCIAL IMPACT & RESEARCH MANAGER, LEADS A TEAM WHO SPEAK TO PEOPLE LIKE SITHEMBILE TO GATHER FEEDBACK ON OUR WORK AND ASSESS OUR IMPACT. FOR MORE UP-TO-DATE RESEARCH AND METHODOLOGY PLEASE SEE KAT'S BLOG AT [SUNRISEKAT.TUMBLR.COM](http://SUNRISEKAT.TUMBLR.COM) AND VISIT [SOLAR-AID.ORG/IMPACT](http://SOLAR-AID.ORG/IMPACT)

# Our supporters



We are lucky to have a whole host of SolarAid supporters who have helped us along the way, from volunteering at our events, to doing triathlons and cycling around the world (not to forget one keen supporter who raised sponsorship by tying fish flies for 24 hours!). These super SolarAiders have been brightening up our days – joining us in our goal of eradicating the kerosene lantern from Africa by the end of the decade.



**Elle Wratten** set a personal challenge and ran the Bristol 10K. She asked friends and family to sponsor her Run for the Sun and raised £130 to help banish kerosene lamps from Africa. Thanks Elle!



**Jennifer Jones** fundraised for SolarAid by hosting a 'Hunger Lunch' and a raffle at her local coffee morning, raising a fantastic £300 for SolarAid. Pictured here are two of her raffle prize winners, now the proud owners of a solar light!

**Sean Conway**, our intrepid traveller, cycled around the world raising a staggering £13,000 towards lighting up schools in Zambia! Sean is pictured here with his trusty solar light which kept him company along the way.



WANT TO FIND OUT HOW YOU CAN GET INVOLVED? WE'D LOVE TO HEAR FROM YOU, SIMPLY DROP US AN EMAIL AT [INFO@SOLAR-AID.ORG](mailto:INFO@SOLAR-AID.ORG) OR VISIT [SOLAR-AID.ORG/JOIN-IN](http://SOLAR-AID.ORG/JOIN-IN) FOR SOME FUNDRAISING IDEAS AND TOOLS.

# Our history

SunnyMoney is now the biggest seller of solar lights in Africa. We've got there because we are constantly learning from the people we meet and ensuring our work meets the needs of our customers.

We've come a long way since SolarAid began in 2006...

In **2007** we began assembling solar lamps and solar phone-chargers in Tanzania and Malawi, establishing the first large scale pico-solar assembly lines in Africa.



In **2009** we worked closely with manufacturers and rural communities to ensure the first mass produced pico-solar lights that were reaching Africa were high-quality and met their needs.



From **2011** more quality pico-solar products were entering the market and we made our focus last-mile distribution. We turned our SunnyMoney programme into a social enterprise wholly owned by SolarAid.



So far in **2013** we have passed the 600,000th pico-solar light mark, become the largest seller of solar lights in Africa, and we are on track to 'Make it a Million' next year.



By **2008** we were installing large solar systems on schools and clinics across Zambia and Tanzania. This year also saw the emergence of our SunnyMoney programme as a consumer facing brand.



In **2010** we had a breakthrough – selling over 3,000 pico-solar lights in one week through schools on Mafia Island, Tanzania. By building trust and awareness in solar through head teachers we could reach many more students. This was to shape our future model.



In **2012** we announced our ambitious goal: to eradicate the kerosene lamp from Africa by 2020. We ramped up SunnyMoney sales through School Campaigns and have seen sales grow exponentially ever since.



PHOTOS: ONE & TWO: ANDY BODYCOMBE, THREE: MARIANNE KERNOHAN, FOUR & FIVE: STEVE WOODWARD, SIX: CHARLIE MILLER

# Our future

Hundreds of thousands of solar lights now shine across East Africa, but there are still 110 million households living off-grid with no access to power.

We are proud of what we have achieved but there is still so much more to do. In 2013 we are continuing to scale up and are preparing for some serious growth over the next seven years. For this to happen we need to:

- ✓ Expand our work to bring solar lights to millions of households;
- ✓ Continue to create innovative solutions to make solar lights available and accessible;
- ✓ Expand our reach through working in new countries, collaborating with new partners and supporting others to join the market;
- ✓ Continue to make our operations more efficient and cost effective, so that additional funding will directly contribute to expanding our reach;
- ✓ Engage with governments for better tax policies on solar technology;
- ✓ Build on our research, share knowledge and continue to interact with our stakeholders;
- ✓ Encourage the international community to get behind an energy movement that will revolutionise a continent.

**We cannot do this alone. Join us in the fight for Clean Light in Africa and help us to eradicate the kerosene lamp for good.**

Go to our website to find out how you can help and to sign up for our newsletter:

[www.solar-aid.org/join-in](http://www.solar-aid.org/join-in)

Every single person can make a difference.

*"A lot of things have changed. The house is brighter and the children are happy. There is now no coughing in the house."*

Weakness Mwenelupembe, Malawi



PHOTO: SOLARAID/STEVE WOODWARD

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PHOTO: JERRY BARNETT