



PHOTO: SOLAR AID \ STEVE WOODWARD



# Zambia Country Report 2014

SolarAid report of SunnyMoney activity in Zambia



# A welcome from Sarah

*As Operations Director for SunnyMoney in Zambia I'm proud to introduce you to a team dedicated to building a sustainable market for solar lights across the country. This report looks back at what we have achieved in 2013 and how we are working towards that goal in the future.*

*In Zambia we work closely with the Ministry of Education and a growing network of retail outlets and agents to distribute solar lights. It's a huge operation to reach each and every school but our Schools Campaign programme is enabling us to do just that. As a result, students can study with safe, clean light at night, and local businesses can benefit from the growing demand for solar products in their communities.*

*As a social enterprise our business-based approach encourages us to think strategically in order to maximize the social impact of our work. We've gone from selling an average of 400 solar lights per month in 2011 to 4,000 each month in 2013. It's rewarding to see our sales rising and operations becoming more efficient as we scale up, because ultimately that means more people are gaining access to the benefits of solar lighting.*

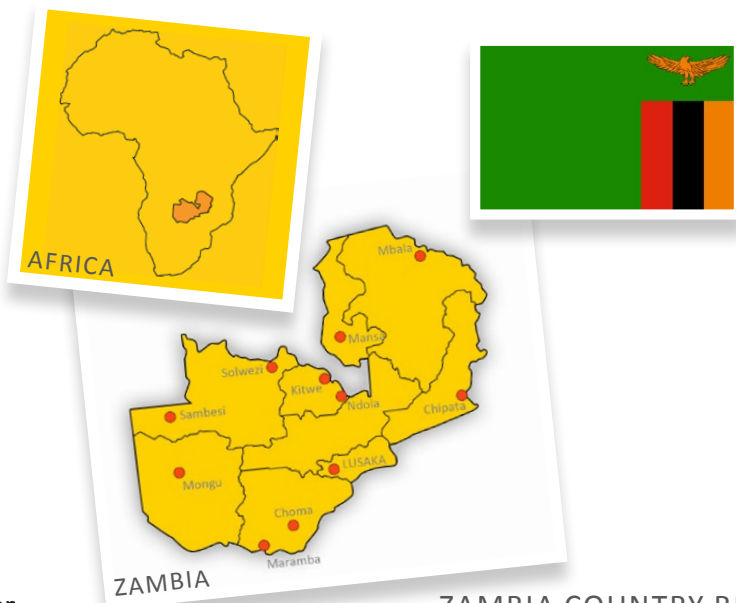
*Thank you for your interest in SolarAid and SunnyMoney Zambia.*

SARAH BENTLEY  
OPERATIONS DIRECTOR



SunnyMoney is a social enterprise wholly owned by international development charity SolarAid. It forms part of an innovative charitable model that takes a business-based approach to tackling poverty and climate change. Any surplus revenue generated by SunnyMoney is reinvested back into the charity to support our goal: the eradication of the kerosene lamp from Africa by 2020. Zambia is one of the five countries that we were working in in 2013. Read more about the model on page 4.

## Zambia: at a glance



CAPITAL CITY:	Lusaka
CURRENCY:	Zambian kwacha
LANGUAGE:	English (official); 72 others
POPULATION:	14.08 million
GDP:	\$20.68 billion
MAIN EXPORTS	Copper, minerals, tobacco
PEOPLE LIVING IN POVERTY:	60% of the population

# The energy problem

**Across Zambia 78% of households do not have access to electricity.**

Without electricity, families must either spend hours in the dark or 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 after the sun sets. When darkness falls, millions depend on costly, polluting energy sources 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. Burning fuels like kerosene also releases carbon dioxide and black carbon into the atmosphere, which is bad for the environment.

60% of the population lives below the poverty line and 90% of those in poverty live in rural areas – those least likely to benefit from grid electrification.

***“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

78% OF HOUSEHOLDS  
DON'T HAVE ACCESS TO  
ELECTRICITY

RURAL ZAMBIAN  
HOUSEHOLDS SPEND  
AROUND 7% OF THEIR  
INCOME ON LIGHTING.

MANY FAMILIES RELY  
ON BATTERY TORCHES  
THAT ARE EXPENSIVE  
AND UNRELIABLE.

## What SunnyMoney does

**SunnyMoney is building a sustainable market in Zambia through the sale and distribution of pico-solar lights.**



A SUNNYMONEY AGENT AND CUSTOMER

In 2013, SunnyMoney in Zambia provided access to clean, safe, bright solar lights across Southern, Eastern and Copperbelt Provinces. With support from the Ministry of Education, SunnyMoney work closely with District Education Boards to arrange Head Teacher Meetings, bringing groups together to learn about solar so they can offer their students and community the chance to purchase a solar light.

Through SunnyMoney Zambia's Trade and Dealer Networks, the teams sell lights through retail outlets, cooperatives and large agri-businesses as well as local shops and agents. This is an area of work that SunnyMoney is seeking to further develop and expand over the coming year to provide better access and availability to these solar lights across the country.

# The SunnyMoney model

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

– DR. WIEBER BOER, CEO OF TONY ELUMELU FOUNDATION

SunnyMoney is part of an innovative charitable model based on trade not aid; a social enterprise founded by international development charity SolarAid in 2008.



TEACHERS PLACING ORDERS FOR SOLAR LIGHTS

SolarAid and SunnyMoney believe that sustainable development is vital to achieving our shared goal of eradicating the kerosene lamp from Africa by 2020. Rather than give solar lights away, SunnyMoney was established to sell them at a full but fair retail price in rural African communities. This creates markets for pico-solar lights in remote areas where low volumes mean that their sale is currently challenging. Charitable funding from SolarAid enables SunnyMoney to undertake 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 jobs and business opportunities. We know that for some it is a struggle to find money to invest in a light so SunnyMoney is also working on financing initiatives, such as pay-as-you go technologies, to make the products more accessible.

SunnyMoney's field teams visit an area and raise awareness of solar lights by working with schools. Teams are able to deliver lights efficiently through this trusted network and support local agents to stock solar products as local demand grows. This community-based model means that SunnyMoney supports the growth of a sustainable solar market. As a social enterprise wholly owned by SolarAid, all of SunnyMoney's income is reinvested back into the charity's work. Donations are therefore recycled time and time again, giving more people access to clean, safe solar technology.



ROBIN WITH A VAN LOAD OF SOLAR LIGHTS FOR DELIVERY

*“Charity money has only one life but if you transform it into social business money, then it becomes a life of eternity.”*

– MUHAMMED YUNUS,  
2006 NOBEL PEACE PRIZE WINNER

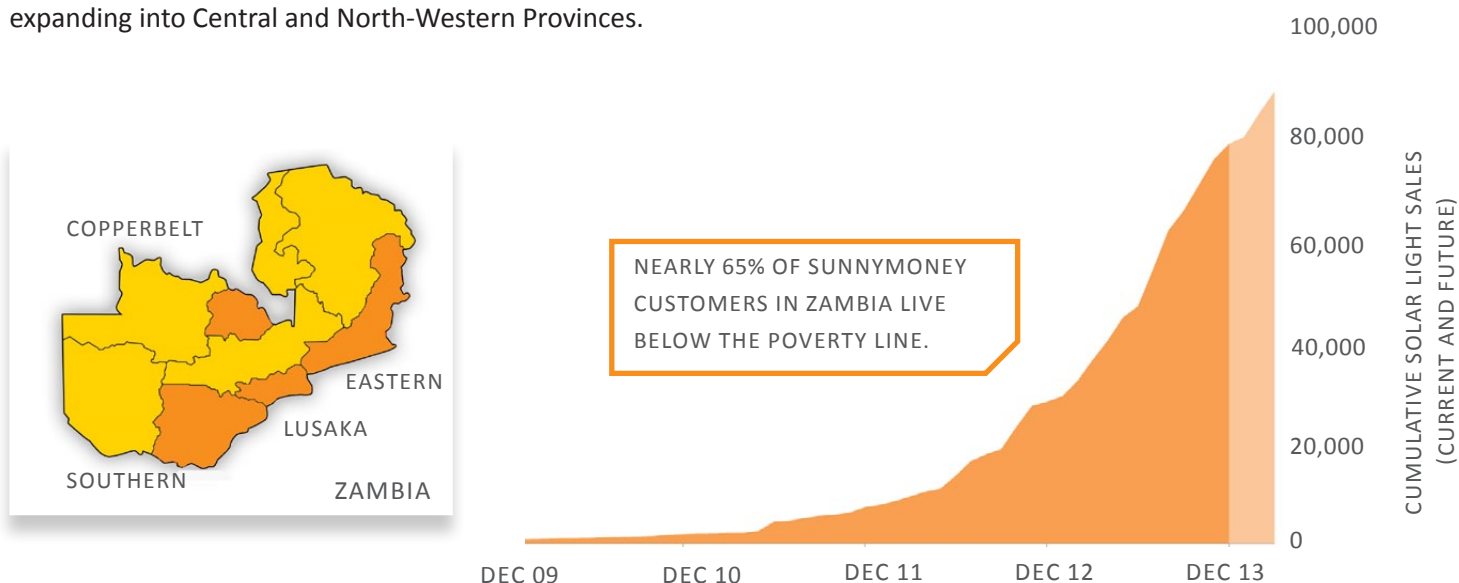
*“The room used to be filled with smoke when we used to use the paraffin lamp and so the family would end up coughing but now we don't cough because we do not use paraffin anymore.”*

Rodger Mazyopa, solar light owner, Chipata

# SunnyMoney sales

## Zambia sales figures have been growing exponentially since 2011.

At the end of 2011, 7000 lights had been sold; by the end of 2013 this had increased more than tenfold to 77,120. The team have been working in Lusaka, Eastern, Copperbelt and Southern Provinces this year. In 2014 we shall also be expanding into Central and North-Western Provinces.



## The solar lights

### SunnyMoney are a product-neutral distributor of solar lights.

SunnyMoney sell more than 10 different types of lights, all rigorously tested and World Bank quality assured. They are durable, reliable, last up to five years and all come with a warranty. The teams work with our customers to ensure they are getting what they want from the lights, feeding this back to manufacturers to drive improved standards and new designs. 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 up to 30 hours. With a display screen showing the hours of light available, and phone charging capacity, it is especially popular with teachers and business owners.

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 Zambia, visit [www.sunnymoney.org](http://www.sunnymoney.org)

# The impact in Zambia

Solar lights have a tremendous impact on the income, education and health of families in Africa. Our monitoring, evaluation and research provides evidence of the impact that SunnyMoney has in Zambia.

## 2013: The big picture

- **49,700 SOLAR LIGHTS SOLD**
- **358,000 PEOPLE** HAVE ACCESS TO SAFE, CLEAN, BRIGHT LIGHT
- **145,000 PEOPLE** EXPERIENCING BETTER HEALTH THANKS TO REDUCING THE USE OF AIR-POLLUTING KEROSENE LAMPS
- **\$23 MILLION** SAVED FOR FAMILIES FROM REDUCING SPENDING ON LIGHTING ALTERNATIVES LIKE KEROSENE, CANDLES AND BATTERIES\*
- **155 MILLION HOURS** EXTRA STUDY TIME FOR CHILDREN USING THE SOLAR LIGHTS FOR HOMEWORK\*
- **40,000 TONNES** OF CARBON DIOXIDE EMISSIONS AVERTED DUE TO REDUCED KEROSENE LAMP USE\*

\*IN TOTAL, OVER THE LIFETIME OF THE SOLAR LIGHTS

Solar light users we have interviewed predominantly use battery lights, candles and kerosene lamps as their main source of lighting prior to buying a solar light.



After a solar light purchase, an average family displaces the regular use of **one kerosene lamp**. This means that over the lifetime of a solar light, up to **one tonne of carbon dioxide** emissions are averted.



Much closer to home, reducing kerosene light use also means less indoor air pollution. A third of customers report **improved health** after buying a solar light, including a reduction in respiratory illnesses, coughing, eye irritation and chest problems.



Because SunnyMoney distribute solar lights through the school network (find out more about that on p. 4), 65% of customers tell us that their children use the solar lights to study. This means that children are doing an **extra one hour of homework each day**, after dark.



80% of Head teachers we've talked to say that there is a difference in students with solar lights; notably there is an **improvement in motivation, performance and/or reading and writing skills** at school as a result of this.



Because families are reducing their expenditure on other lighting products, this is **saving them nearly \$75 a year**, on average. That's nearly 10% of household income; a significant amount. The top most common uses of savings are **groceries (food), school fees and investment** in farming inputs or business; this shows how a solar light can start a virtuous cycle of development and progress.



Families talk of **improved security and safety** due to this brighter, more reliable lighting. Families also have the opportunity to have improved social interaction and **family time** without fear of running out of kerosene or batteries for lighting.

# Our research work

## SolarAid have a dedicated department that conducts research and impact measurement.

This department was set up in late 2012 and since then has conducted over 12,500 research interactions – that means observations, interviews and surveys. We interview members of the public and conduct market studies to understand existing behaviours of household lighting and spending, as well as awareness and opinion on pico-solar lights. We talk with solar light users to find out any change the lights have brought. We also work with external research partners to verify our own work and ask bigger questions around the effectiveness of what we do *and* the effectiveness of pico-solar lights as a tool for development.

Our research results allow us to continually learn and improve the way we work; adapting our programmes to ensure we reach the most people possible. It also allows us to advise on policy, make recommendations to governments and fully explain the impact a pico-solar light can have for families in Zambia.



ZAMBIA RESEARCH TEAM

PHOTO: SOLARAID/KAT HARRISON

## External research

A monitoring report conducted by research consultants **Route 67** on SolarAid's work in partnership with TWAWEZA in Tanzania in 2013, found that a solar light positively affects study behaviour of students. There was seen to be a positive change for students in the following variables:

- ✓ Study more often at night
- ✓ Concentrate well when doing homework
- ✓ Complete their homework
- ✓ Enjoy doing their homework
- ✓ Eyes hurt less often during homework

*"My children use [the solar light] when writing their homework, I use it when doing my paperwork for my business and we also use it to light the house."*

Michael Kaliza, solar light owner, Choma

The relationship between the solar light and the study behaviour is found significant on all five variables. 99% of the students in the study used the solar light for learning activities. And 91% of the students were the main user of the light in their household. The solar light was seen to give students control over one of the main challenges to education at home: no electricity or money for kerosene. Kerosene restricts the amount of time that a student could study because of fuel consumption (cost), dim light and smoke produced.

**If you have any questions about our research work, please contact our Director of Research & Impact Kat Harrison on [Kat.Harrison@solar-aid.org](mailto:Kat.Harrison@solar-aid.org).**

# Meet a solar customer

## Godwin Phiri bought two solar lights from SunnyMoney.

Godwin Phiri bought a *d.light S2* and a *Greenlight Planet SunKing Pro* during the SunnyMoney Schools campaign at his local school. A year later Godwin told us how the solar lights have supported the development of his carpentry business, improved his family's health and helped his children's education.

Godwin is a carpenter who lives in the Chipata district of Zambia. He and his wife have five children. Before buying a solar light they used kerosene lamps and candles to light their home, spending around \$120 a year on this. Since purchasing the solar light Godwin's family have stopped using kerosene lamps and he told our research team:

*"I direct the money to paying school fees for my children and when I want to buy equipment for my carpentry shop."*

Not only that, Godwin's family now have many more hours of light at night, and their home is healthier too.

*"[The solar lights] are used for studying by my children and I use it when I am working in my carpentry shop in the evening, my wife uses it when she is cooking too. [Kerosene] used to produce a lot of smoke which would make us cough but now that we have packed away our [kerosene] lamps we do not experience coughing from smoke."*

Godwin has recommended the solar lights to 10 of his friends; helping to build trust in the technology so that the solar market in Zambia can continue to grow.

*"I am very satisfied with the light, I think the light I got from SunnyMoney is durable."*

# Meet a teacher

Malisela Tembo, a Head teacher in Zambia, attended a meeting at a local school in her district where she met the SunnyMoney team and was told about the benefits of solar lighting. Malisela was given a solar light to take back to her school and demonstrate to her teachers, students and community members.



After seeing the light, some of the parents at Naviruri School decided to order one and Malisela informed the SunnyMoney teams that she would like these to be delivered. Many of her students are now benefitting from brighter, safer light for longer and when we spoke to Malisela this year she told us that:

*"There is a great difference, they are now using the light to study and when you look at the results for the mock exam or mid-year exam they were impressive. As the pupils were using the lights when studying... The campaign was quite a success and if you continue with that there would be no people using candles"*

Working with teachers helps SunnyMoney to educate communities about the benefits of solar and reach more people.

# The future

Tens of thousands of solar lights now shine across Zambia, but there are still 10.5 million people 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 2014, we aim to bring solar lights to tens of thousands more households across the country. For this to happen we need to:

- ✓ Expand and adapt our innovative model to reach those most in need;
- ✓ Strengthen our partnership with the Zambian government to support a more sustainable solar market for all;
- ✓ Build on our research to share knowledge and use the learning to improve the effectiveness of our work;
- ✓ Work alongside fantastic donors and partners who understand and support our approach.

*"I am interested to buy a solar light but I have not found them being sold anywhere"*

Bridget Mumba, Zambia

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.

## Get in touch

### IN ZAMBIA

**Office:** Plot no. 2B/25/377A House B, Off Roan Road, Kabulonga, Lusaka

**Post:** Net box 295, Private Bag E10, Arcades, Lusaka

**Office Phone:** +260 (0) 975 190511

**Customer Care Phone:** + 260 (0) 974 793464

**Email:** [info.zambia@sunnymoney.org](mailto:info.zambia@sunnymoney.org)

[www.sunnymoney.org/#zambia](http://www.sunnymoney.org/#zambia)

### GLOBALLY

Find out more and sign up for our newsletter: [www.solar-aid.org](http://www.solar-aid.org)

**Email:** [info@solar-aid.org](mailto:info@solar-aid.org)



PHOTO: PATRICK BENTLEY

