



**WE CARE SOLAR**

Annual Report 2019

Photo: Frank Kimaro

# Letter from the Executive Director

*In 2019, 840 million people did not have access to electricity.*

What does it mean to be a health provider without electricity? It means working by the glow of a candle, the dim light of a kerosene lantern, or the beam of a flashlight. It means postponing critical procedures for hours, until they can be conducted by the light of day. It means being unable to use essential medical devices or your cell phone to call for help. It means being afraid to work at night because you know it's impossible to provide optimal care.

We founded We Care Solar in 2010 to provide the first 100 watts of electricity to energy-deficient health centers. We created a rugged, simple and dependable solar energy kit that could be transported anywhere light and power were needed. Many of you joined us back then, and what started as a backyard project blossomed into an international movement to empower health centers, and eventually schools, around the world.

2019 was a remarkable year. We celebrated the success of our first national initiative in Liberia. Thanks to your support of *Light Every Birth*, every public maternal health center in Liberia has reliable light and power for safe childbirth! We introduced an even better version of our Solar Suitcase and immediately received

international acclaim for the design of this life-saving technology. We led training programs in three countries. We opened a Regional Center in Uganda, and added staff in Zimbabwe, Sierra Leone, and Liberia.


Our We Share Solar program continues to inspire students to become global changemakers. 120 schools engaged 22,750 students with our project-based, service-learning solar energy program, enabling 173 Solar Suitcases to be deployed to energy-poor schools in Kenya, Uganda and Haiti. Closer to home, Solar Suitcases were delivered to homeless shelters, Native American reservations, and school-based emergency preparedness programs.

We couldn't do this without you. Please enjoy our 2019 Annual Report, reflecting on the people and programs that made 2019 a special year. Thank you for being on this journey, and showing that it is possible to transform health care and education by the light of the sun.

With Gratitude



Laura Stachel, MD MPH  
Executive Director and Co-Founder



You can't treat what  
you can't see.



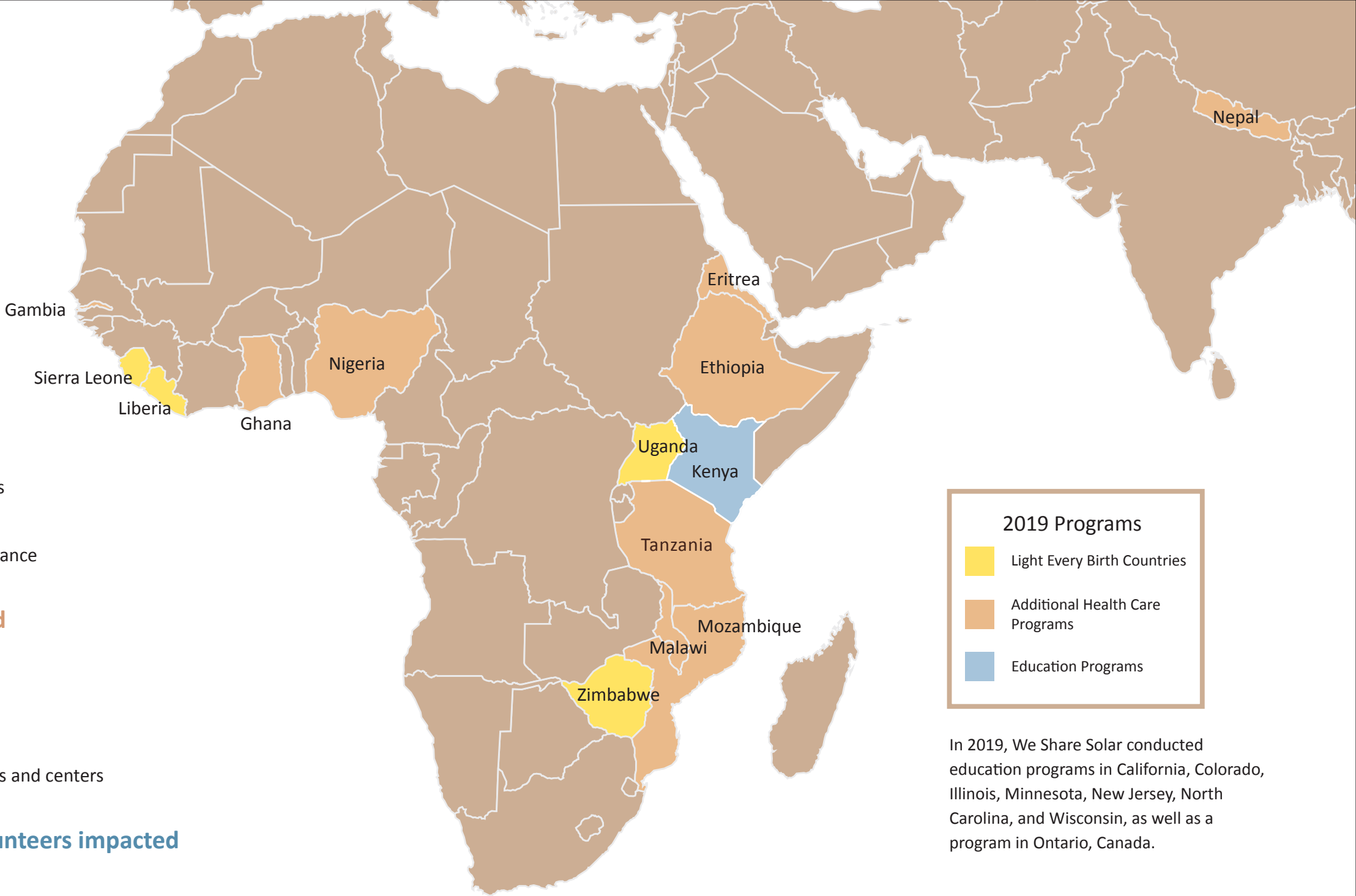
# Our Reach to Date

## Health

- ✓ **5,209** health centers equipped with Solar Suitcases
- ✓ **59** organizational partners
- ✓ **686** technicians trained in installation and maintenance
- ✓ **20,836** health workers trained in equipment use
- ✓ **5.6 million mothers and babies served**

## Education

- ✓ **2,227** Solar Suitcases assembled
- ✓ **803** Solar Suitcase deployed to energy-poor schools and centers
- ✓ **14,631** students educated
- ✓ **425,100 students, educators, and volunteers impacted**



### 2019 Programs

- Light Every Birth Countries
- Additional Health Care Programs
- Education Programs

In 2019, We Share Solar conducted education programs in California, Colorado, Illinois, Minnesota, New Jersey, North Carolina, and Wisconsin, as well as a program in Ontario, Canada.



## Light Every Birth

No family should have to wonder whether light will be available for urgent nighttime medical care. *Light Every Birth* is our international initiative calling for the electrification of every health facility to save lives in childbirth. We are partnering with an ecosystem of government, health, and technical partners to eradicate energy poverty in frontline health centers.

**We are united by three fundamental beliefs:**

- 1. Every mother has the right to safe childbirth**
- 2. Every health facility is entitled to reliable electricity**
- 3. Solar electricity offers an immediate and sustainable solution to this global problem**

*Light Every Birth* (LEB) was first launched in Liberia in 2017, in Uganda in 2018, and this year, Zimbabwe signed on as our third LEB country—part of our plan to reach every public health facility in 5 countries in 5 years.



## Building Sustainability

As important as it is for health centers to receive clean energy for safe childbirth, installing Solar Suitcases is only part of the equation. Equally important is building capacity to ensure that our equipment lasts for years. We train local technicians to maintain and service Solar Suitcases, supported by our Certified Solar Suitcase installers.

## Light Every Birth: Liberia

This year, We Care Solar completed installations in Liberia, successfully powering all 445 targeted health facilities. This is an incredible milestone for us, proving that it is feasible and possible to “Light Every Birth” throughout an entire country. We next hired a Liberian consultant to co-develop a country-wide sustainability plan. We aim to transition full responsibility for the maintenance of Solar Suitcases to the Liberian Ministry of Health and Social Welfare.

The future of *Light Every Birth* in Liberia requires creating a public-private partnership to support government-led efforts on sustainability, building capacity of government technicians to support maintenance of the Solar Suitcases, fostering skills of health workers to use the Solar Suitcase and conduct troubleshooting, and ensuring that spare parts are available to technicians when needed so that all non-functional Solar Suitcases are repaired in a timely manner.

Photo: Liz Hale







## Strengthening Healthcare

Midwives are essential in the battle to reduce maternal and newborn mortality, providing a range of services in community-based health centers. Their struggle to provide life-saving care in un-electrified health facilities motivates our work.

### A Midwife's Story: Meet Jaminah

Jaminah Mnana cared for families for three years in a Ugandan clinic that had no electricity. Without light, Jaminah struggled to care for the patients who arrived at night in labor, using torchlights that would last only as long as their batteries. One evening, she delivered a baby, propping her torchlight on a nearby counter. “The mother delivered well. I cut the cord and placed the baby on the mother’s abdomen. But the torch went off. The mother got scared and dropped the baby to the floor.” Thankfully, the baby survived. However, the child had a permanently damaged wrist, a painful reminder of the dangers of working in near-darkness.

Jaminah tells us, she felt “very, very, very happy” when the suitcase arrived. “I saw the solar installers, and I knew they are going to

give us good light.” Jaminah also appreciated the rechargeable headlamps, which she uses for suturing, as well as the cell phone charger, which saves time and money, allowing her to call for help during emergencies. “The nearest charging center is 2 kilometers away. It costs 1,000 UGX for transport each way and 500 UGX to charge the phone. So you are really going to go off air.”

Patients appreciated the new electronic fetal Doppler. Jaminah described how they “became so happy to know we have this machine here. When they go back from their appointments, they tell others.” As word spread within the community about these technologies, deliveries increased from an average of 3 deliveries per month to 15 per month!



## Promoting Leadership

In 2019, we added staff in four countries: Uganda, Zimbabwe, Liberia, and Sierra Leone. We opened our first regional center in Kampala to oversee all of our Africa programs, strengthen partnerships with government agencies and local NGOs, and coordinate Solar Suitcase installation and training.

### A Regional Director's Mission: Meet Ambrose

Dr. Ambrose Katungi Muhwezi, our first Africa Regional Director, was raised in a small village in Southwest Uganda, in a community that relied on kerosene lanterns at night. He lost his loving parents when he was young, and his sister became his primary caretaker. Despite a challenging start in life, he excelled academically, and secured a coveted spot at the Gulu Medical School and became a doctor.

As a physician, Ambrose was well aware of the challenges of energy poverty. He worked as a medical officer in Northern Uganda, where frequent power outages meant the health facility was plunged into darkness, forcing him to complete Cesarean sections by torchlight (flashlight). “Batteries

would go dim, sometimes they wouldn't work at all. The whole room was dark except for that spotlight. Many babies would die.” Ambrose eventually became a Subdistrict Medical Officer in Western Uganda and later the Technical Advisor for Doctors with Africa CUAMM. He had firsthand experience working in hospitals without electricity.

“Inadequate electricity is blinding the health sector and hindering the care for mothers and newborns. You cannot treat what you cannot see.” Having seen the impact of Solar Suitcases on maternal-newborn services, Ambrose looks forward to improving health care at the systems level in Uganda and beyond.

Photo: Giovanni Okot





## Creating Livelihoods

Through our Certified Training Program, we are providing employment for dozens of solar installers in our Light Every Birth countries. They gain new skills through our programs, and are motivated to improve health outcomes in their own country.

## An Inspired Solar Installer: Meet Andrew

Andrew Engalu grew up in a small hut in Uganda without electricity, never imagining that one day he'd be leading a solar company that would equip hundreds of health facilities with reliable light and power. After seven years and 400 Solar Suitcase installations, he marvels at the changes that come about from the little yellow boxes. "I go to health centers that are completely in darkness. The midwives are demoralized; they are not able to help mothers as they should. The mothers are sometimes choosing to deliver at home because there is no difference between giving birth in darkness at the facility or giving birth at home, so you end up with complications."

"These systems are really bringing about positive change to the lives of the mothers

and to the lives of the medical personnel. I like being associated with the Solar Suitcase because of the positive changes it brings."

Andrew describes how installing Solar Suitcases is empowering him and his entire team, both personally and financially. "We are able to make savings, build houses, provide for our families, and change the stories of our lives."

"Being engaged in this program has had a positive effect in my life. I am relevant to the country, to our people and to each person that is saved and that could have died without that light. I'm part of the team that has installed it and it's a blessing. It gives me self-confidence and it's making positive change. I feel like I have a purpose in life."

Photo: Giovanni Okot



## Supporting Families

With your support, we are uplifting communities, one family at a time. When a mother survives childbirth, her infant is more likely to survive the first year of life. Her young children are more likely to be well nourished and attend school. She can remain productive and contribute to the social, emotional, and financial health of her family and community.

### A Mother's Miracle: Meet Jane

This Ugandan baby was born by the light of a Solar Suitcase. His mother, Jane, described her relief in finding a health center with solar power. Her first birth took place in a nearby community that suffered from prolonged power outages. On the night of her first delivery, the clinic lost power while she was in labor. "There was no light. They had to get their lamps, but to buy the paraffin it was far away. I felt bad because the lights were off." She prayed for the health of her baby.

When she delivered in the shadows of the lantern, Jane could barely see her baby.

Her midwife was trying to suture in the dark and struggled to provide postpartum care. It was a frightening moment that Jane never wanted to repeat.

When Jane became pregnant again, she selected a health center with solar power. She traveled to the health facility with confidence. Her baby was born at night under the bright light of a Solar Suitcase. "I delivered at 8 pm, but the lights were on and I felt very good." She immediately saw that she had a healthy boy, and named him Miracle.

Photo: Laura Stachel







*"The hardest part of my job is working alone at night with no light. With no light in the facility, patients don't even want to come here. They would rather visit others who may not even be health workers. Now that we have this solar source of light, the women in our community want to come here."*  
—Community Health Extension Worker, Nigeria

## Increasing Community Access

Prolonged drought in Zimbabwe depleted the country's supply of hydroelectricity and most rural health centers are without reliable power. Rather than working in darkness, health workers advise their patients to pack candles for nighttime deliveries. After engaging in our Solar Suitcase training, installation partners—ZimEnergy EcoFoundation, Eletech, and Engineering World installed 219 Solar Suitcases, making deliveries safer for 90,000 mothers and babies annually.

In Sierra Leone, we expanded our programming with Doctors with Africa CUAMM. Solar Suitcases were installed at 100 health facilities,

benefiting 28,800 mothers and newborns.

Pathfinder International installed Solar Suitcases in 85 Nigerian health facilities in Gombe and Niger states, resulting in a 166% increase in facility-based deliveries. Mothers appreciated the security of reliable lighting and the opportunity to hear the fetal heartbeat using the Doppler.

In Ethiopia, our partners at Hamlin College of Midwives, Greenlamp and Pathfinder Ethiopia received 173 Solar Suitcases to provide light and power for enhanced maternal-newborn care.



*"Now we can work calmly. The lights are sufficient to cover the whole room so it is easy to move around. The headlight has helped us to properly examine the progress towards delivery. As both the hands are free we can quickly find equipment. Even starting the IV has been easier."*

— Skilled Birth Attendant, Rachuli Health Post, Nepal

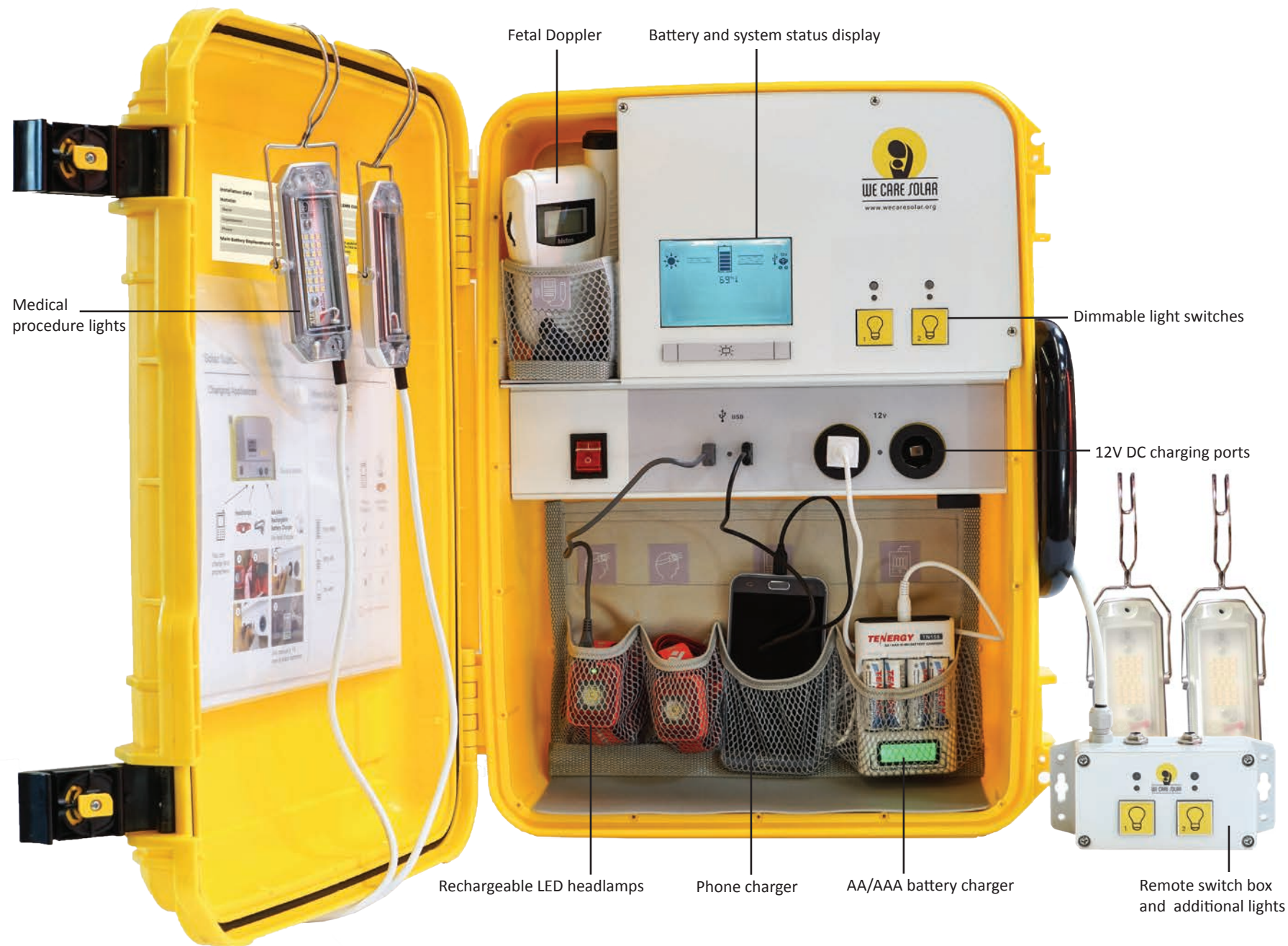
## Reaching the Last Mile

With funding from the Zayed Sustainability Prize, Wells Fargo Foundation, and Arrow Electronics, We Care Solar continued to reach more health posts in remote areas of Nepal.

Despite the difficult terrain, our partners at One Heart Worldwide and SunFarmer installed 149 Solar Suitcases and trained 280 health workers.

The Ministry of Health, local governments, and skilled birth attendants themselves all welcomed the Solar Suitcases. They provide essential electricity in areas where access to power is limited or unavailable. To ensure maintenance of the Solar Suitcases, we are working with local governments who have pledged their commitment to sustainability.





## Innovation

Meet the newest member of the We Care Solar family. Version 3 features advanced electronics, a lithium battery with greater storage capacity, a friendlier interface making it easier for health care workers to use, customized dimmable lights, dedicated USB ports and 12V DC outlets to charge a range of other devices, and mesh pockets to store the LED headlamps, phone charger, fetal Doppler, and AA battery charger included in every suitcase. We updated the features on the outside of the Solar Suitcase to streamline the installation process.

The Solar Suitcase is the only off-grid system developed specifically to provide electricity to remote maternal health centers, and is designed to be safe, easy-to-install, and easy-to-use. This new design was the result of years of field testing and engineering. Our partners are not the only ones who love our newest suitcase. We received the Gold Award from Edison Innovation and were featured in TIME Magazine as one of the Best Innovations of 2019.



## Inspiring U.S. Students

We Share Solar education programs give young people the power to light the world by learning about solar energy, engineering and global energy issues. They build innovative Solar Suitcases and connect with peers around the world in a meaningful way.

## We Share Solar Education

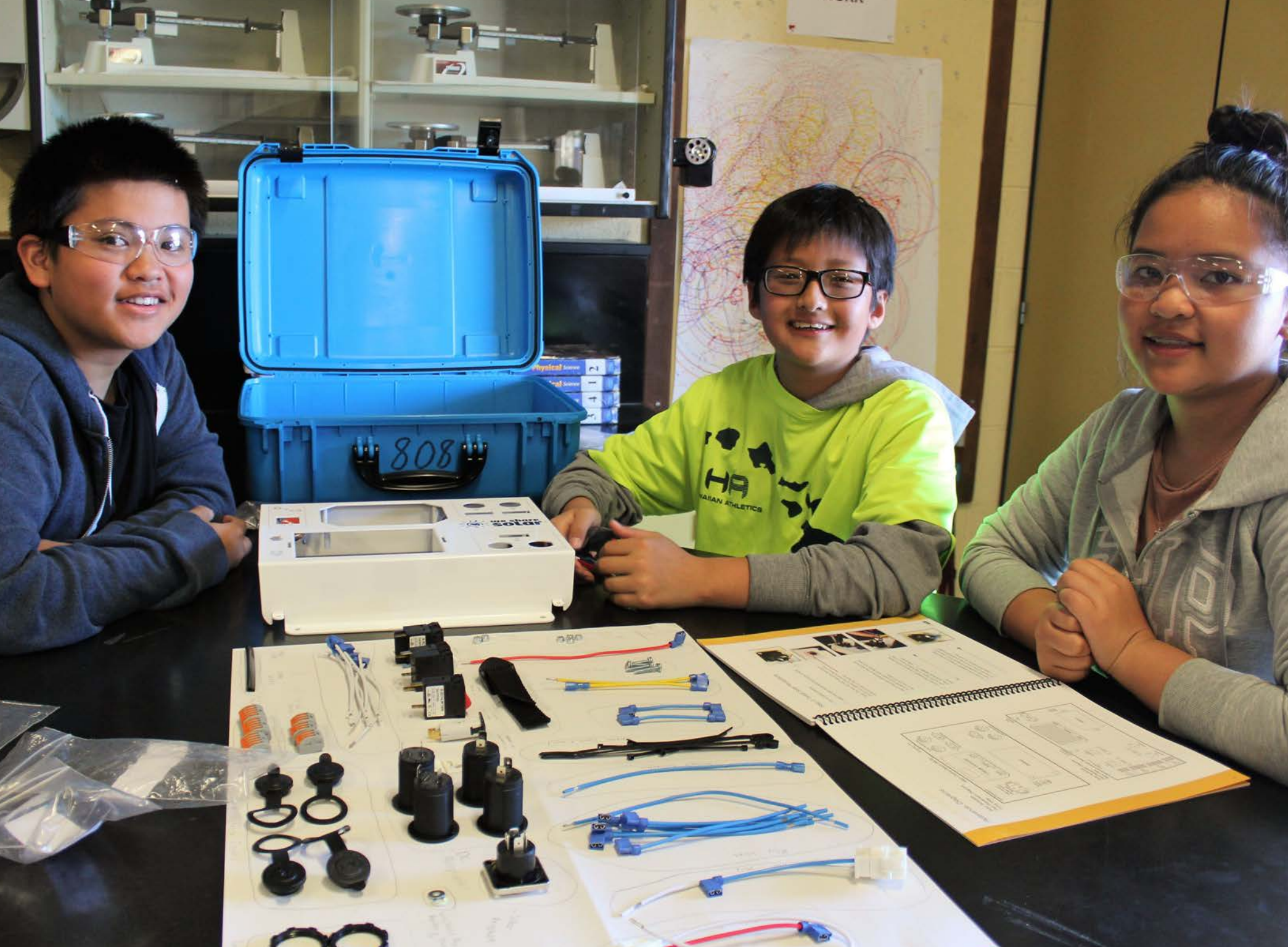
The We Share Solar U.S. programs teach middle and high school students about solar technology, engineering and global energy issues. Students build bright blue We Share Solar Suitcases: stand-alone renewable energy systems that can light a room and charge mobile phones, laptops, e-readers and headlamps. U.S. students share the results of their efforts with peers in energy-scarce regions by sending completed Solar Suitcases to schools and community centers, improving opportunities for children around the world.

In 2019, we trained 50 new teachers in the United States and East Africa allowing us to lead programs at more than 120 schools, reaching 22,750 students with engaging, hands-on curriculum. Our corporate and community events gave 168 volunteers the opportunity to light up lives through global service. 173 Solar Suitcases were deployed to energy-poor schools and refugee camps in Haiti, Kenya, and Uganda, reaching 60,000 people. In the United States, Solar Suitcases were delivered to homeless shelters and Native American reservations, and supported school-based emergency preparedness programs.

Photo: Katie G. Nelson







## Improving STEM Engagement

Women and people of color are consistently underrepresented in STEM fields. We Share Solar programs have a particular focus on reaching girls and youth from marginalized communities.

## Creating Impact

We Share Solar was a partner in the Lawrence Hall of Science EPICC (Educational Pathways into College and Career) Summer Program targeting high school students from Oakland California at risk of failing a math or science course. Two cohorts of students engaged in hands-on learning by building our blue Solar Suitcases for communities in need. An EPICC research paper concluded that students traditionally underrepresented in STEM fields strongly engaged with our service-learning activities and showed improvements in measures of “Science Fascination,” “Science Values,” and “STEM Career Affinity.”

A second study of 300 middle school students in Minneapolis, documented increases in knowledge acquisition, “STEM Fascination” and “STEM Attitudes.” Girls had a significant increase in knowledge acquisition and all students saw how solar electricity could be used to help combat climate change.

Photo: Alli Pemerl



## Robust Partnerships

We Care Solar teamed up with three other organizations led by women to create a unique educational experience for girls.

## Girl Power!

In a region where many girls are unable to complete secondary school and cultural norms often prevent women from entering STEM fields, We Share Solar teamed up with WISEe Cooperative Society (Women in Sustainable Energy and Entrepreneurship), Remote Energy, and the WISER Girls School to launch a full STEM education program in Muhuru Bay, Kenya. Twenty-two teachers learned how to instruct students on the science behind solar energy and then assembled Solar Suitcases to power 11 energy-deficient schools, impacting 6,200 people.

Students from WISER Girls School learned about solar electricity through a hands-on Solar Suitcase build-session with women trainers and technicians. By extending productive classroom time and enabling students to study for critical national exams that determine eligibility for higher education, the addition of solar powered lights can be life-changing.

To further encourage participation of women in the renewable energy sector, Solar Suitcase installations in the rural schools were led by an all-female team of technicians from WISEe, providing wonderful role models for the students.

Photo: Katie G. Nelson







## Cross-Cultural Connection

We Share Solar service-learning projects bring Minnesota students into contact with their Kenyan counterparts.

## Lighting Refugee Education

Located in Kenya, Kakuma Refugee Camp is one of the world's largest refugee settlements—home to over 180,000 East Africans, of whom nearly half are children. The camp has no power grid.

We Share Solar launched a new program in Minneapolis, connecting U.S. students with their Kenyan counterparts in Kakuma. At our opening event at the Bakken Museum of Electricity, special guest Muzabel Welongo—founder of refugee-led Resilience Action International, based in Kakuma—described ways in which renewable energy can empower youth at the refugee camp.

Educators from eleven Minneapolis programs attended the event before initiating the We Share Solar STEM curriculum with their own students in support of Kakuma youth. Solar Suitcases were assembled for energy-poor schools identified by Resilience Action International. Many of the schools have an average class size of 200 students! With our solar lights, Kakuma schools have extended their hours to reduce classroom overcrowding and increased learning opportunities. Students can now study safely in school at night in a secure, well-lit environment.

Photo: Brian Inganga



Recognition



Clean Energy for Healthcare Conference,  
UN Foundation, Nairobi



Women leaders in Clean Energy, Science,  
and Technology, Istanbul



Zayed Sustainability Award  
Abu Dhabi



Gold Edison Award for Innovation  
New York



'Solar Family' International  
Development Award,  
Solar Energy International



Global Social Benefit Incubator  
and Tech Museum, San Jose, California



eChievement Award,  
Boulder, Colorado



Savvy Awards, Germany



TIME Best Inventions of

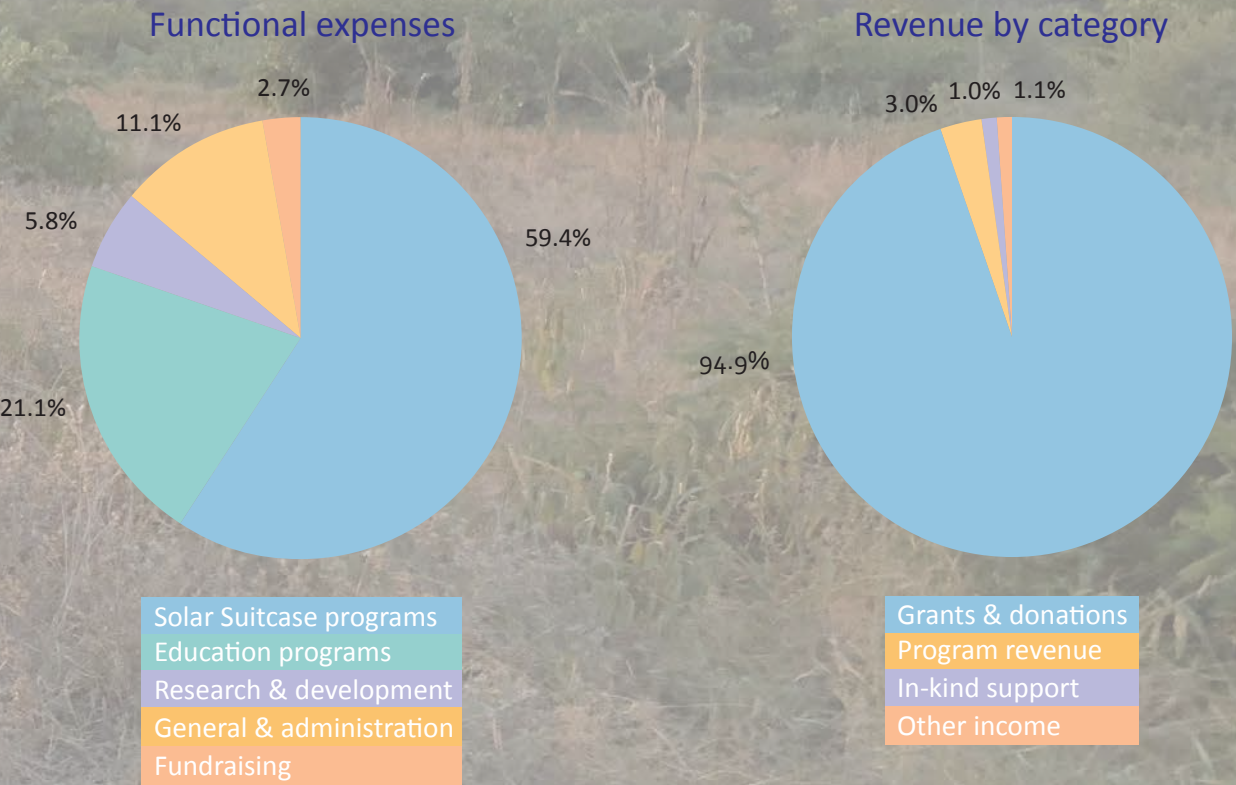


## Statement of Activities for the Year Ended December 31, 2019\*

	Without Donor Restrictions	With Donor Restrictions	2019 Total	2018 Total
<strong>REVENUE</strong>				
Grants and donations	\$310,279	\$6,684,493	\$6,994,772	\$2,550,286
Program revenue	223,871	—	223,871	309,055
In-kind support	74,600	—	74,600	78,050
Investment return	12,104	—	12,104	11,860
Other income	67,706	—	67,706	3,158
Net assets released from restrictions:				
Satisfaction of program restrictions	3,678,641	(3,678,641)		
<strong>TOTAL REVENUE</strong>	<strong>\$4,367,201</strong>	<strong>\$3,005,852</strong>	<strong>\$7,373,053</strong>	<strong>\$2,952,409</strong>
<strong>EXPENSES</strong>				
Program services	4,193,827	—	4,193,827	4,081,578
Management and general	538,204	—	538,204	326,196
Fundraising	129,700	—	129,700	113,512
<strong>TOTAL EXPENSES</strong>	<strong>\$4,861,731</strong>	<strong>—</strong>	<strong>\$4,861,731</strong>	<strong>\$4,521,286</strong>
<strong>CHANGE IN NET ASSETS</strong>	<strong>(494,530)</strong>	<strong>3,005,852</strong>	<strong>2,511,322</strong>	<strong>(1,568,877)</strong>
<strong>NET ASSETS, BEGINNING OF YEAR</strong>	<strong>2,171,585</strong>	<strong>3,106,175</strong>	<strong>5,277,760</strong>	<strong>6,846,637</strong>
<strong>NET ASSETS, END OF YEAR</strong>	<strong>\$1,677,055</strong>	<strong>\$6,112,027</strong>	<strong>\$7,789,082</strong>	<strong>\$5,277,760</strong>

\*Revenue includes multi-year grants

## Financials





# Deepening Partnerships

Collaboration is in our DNA. Our programs rely on rich partnerships with governments, UN agencies and NGOs.

## We Care Solar Partners

All in Trade Ltd. (Uganda)  
AVSI Foundation (Uganda)  
Brick by Brick (Uganda)  
Doctors with Africa CUAMM (Sierra Leone, Uganda)  
Ekide Investments Ltd. (Uganda)  
Eletech Investments (Zimbabwe)  
Energising Development (Liberia)  
Engineering World (Zimbabwe)  
Feni Certified Installation Team (Uganda)  
Hamlin College of Midwives (Ethiopia)  
Healthy Child Uganda (Uganda)  
IntraHealth International (Uganda)  
One Heart Worldwide (Nepal)  
Pathfinder International (Ethiopia, Nigeria)  
SunFarmer (Nepal)  
ZimEnergy Eco Foundation (Zimbabwe)

**Government Partners**  
Ministry of Energy, Sierra Leone  
Ministry of Health and Child Care, Republic of Zimbabwe  
Ministry of Health and Sanitation, Sierra Leone  
Ministry of Health and Social Welfare, Republic of Liberia  
Ministry of Health, Republic of Uganda

## We Share Solar Partners

### United States

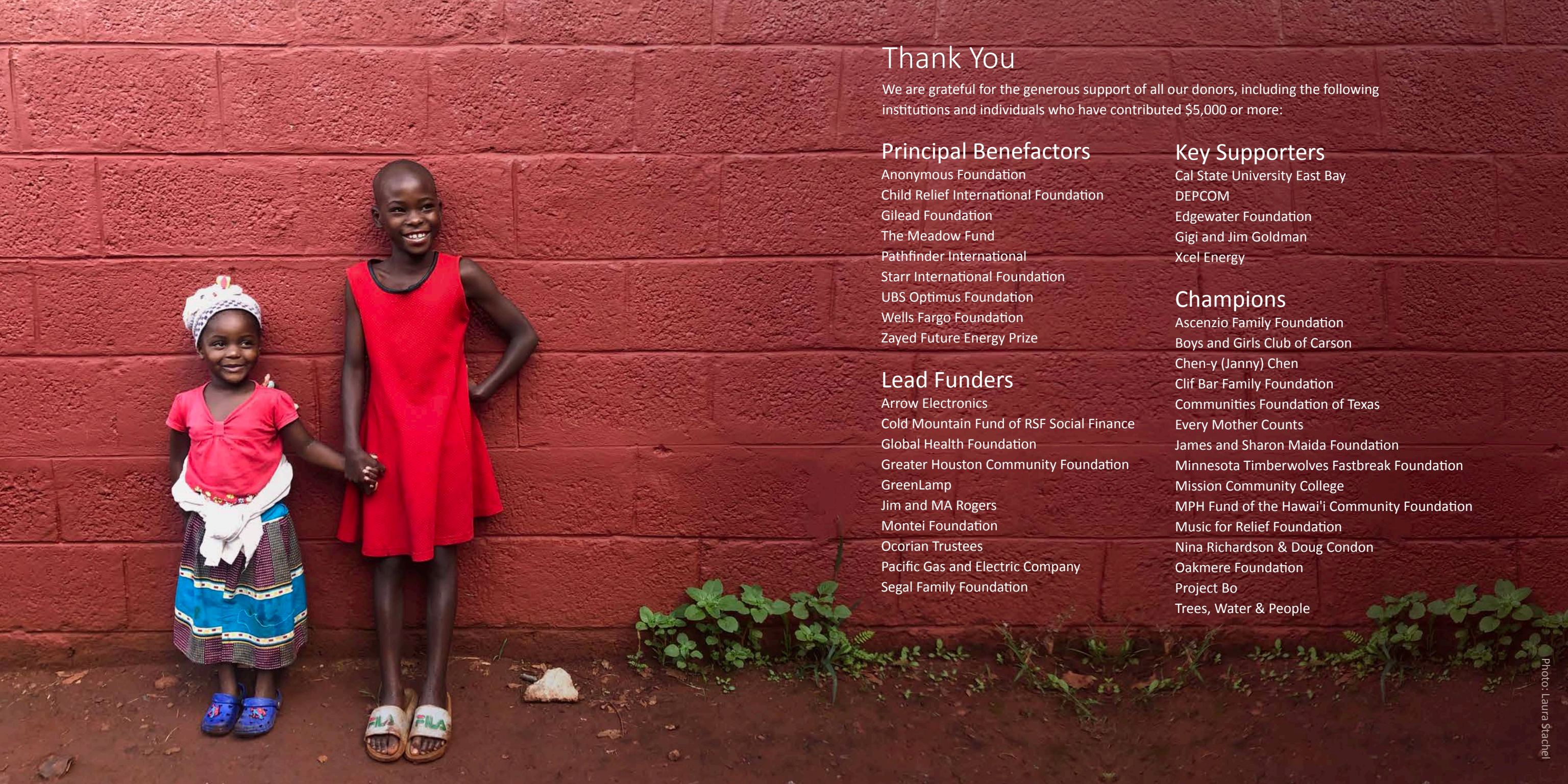
American Indian Science & Engineering Society  
Boys & Girls Club of Twin Cities  
California State University  
Charlotte-Mecklenburg Schools  
Creation Technologies  
Expanding Lives  
Minnesota Independent Schools Forum  
Remote Energy  
Rutgers University  
Trees, Water & People

### Global

Brick by Brick (Uganda)  
Change Mtaani (Kenya)  
Kabale University (Uganda)  
Kabale We Share Solar Community Team (Uganda)  
Resilience Action International (Kenya)  
SEGA Girls School / Nurturing Minds (Tanzania)  
Solar Electric Light Fund (Haiti)  
WISEe—Women in Sustainable Energy & Entrepreneurship (Kenya)  
WISER International (Kenya)







## Thank You

We are grateful for the generous support of all our donors, including the following institutions and individuals who have contributed \$5,000 or more:

### Principal Benefactors

Anonymous Foundation  
Child Relief International Foundation  
Gilead Foundation  
The Meadow Fund  
Pathfinder International  
Starr International Foundation  
UBS Optimus Foundation  
Wells Fargo Foundation  
Zayed Future Energy Prize

### Lead Funders

Arrow Electronics  
Cold Mountain Fund of RSF Social Finance  
Global Health Foundation  
Greater Houston Community Foundation  
GreenLamp  
Jim and MA Rogers  
Montei Foundation  
Ocorian Trustees  
Pacific Gas and Electric Company  
Segal Family Foundation

### Key Supporters

Cal State University East Bay  
DEPCOM  
Edgewater Foundation  
Gigi and Jim Goldman  
Xcel Energy

### Champions

Ascenzio Family Foundation  
Boys and Girls Club of Carson  
Chen-y (Janny) Chen  
Clif Bar Family Foundation  
Communities Foundation of Texas  
Every Mother Counts  
James and Sharon Maida Foundation  
Minnesota Timberwolves Fastbreak Foundation  
Mission Community College  
MPH Fund of the Hawai'i Community Foundation  
Music for Relief Foundation  
Nina Richardson & Doug Condon  
Oakmere Foundation  
Project Bo  
Trees, Water & People



By developing robust technologies and building an ecosystem of support, we are creating programs to meet Sustainable Development Goals for poverty alleviation, health care, education, clean energy, gender equity, and climate action.

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