



SUSTAINABLE DEVELOPMENT GOALS





LETTER FROM OUR **EXECUTIVE DIRECTOR**

Dear Friends,

The United Nations' Sustainable Development Goals (SDGs) for 2030 are focused on alleviating the devastating conditions afflicting more than one billion people. One of the keys to assuring that the SDGs are met is Goal #7—Affordable and Clean Energy—which enables school and clinic electrification, water pumping, vaccine refrigeration, micro-enterprise, and many more applications that are critical to sustainable development.

In this vein, SELF regards energy access not so much as a goal unto itself, but rather as the means to an end. It is what we do with the energy to lift the world's most vulnerable citizens from extreme poverty that defines our work. We tap into the sun—a universally distributed and carbon-free source of power—to help lead the effort to make clean, modern energy available to all, narrowing the divide that exists between the privileged and the poor. This 2017 Annual Report illustrates the ways that we are taking advantage of solar solutions to improve the lives of those who live in areas where grid electricity is unlikely to ever reach.

In the health sector alone, SELF made great strides in 2017. We installed solar systems in 62 health clinics in Uganda and Ghana and 37 battery-free, solar-powered vaccine refrigerators in Haiti. The Energy Harvest Device, SELF's invention that harvests surplus electricity from vaccine refrigerators to power ancillary medical devices was embraced by solar vaccine refrigerator manufacturers worldwide.



We continued adding sustainability and optimization measures to our Solar Market Garden project in Benin to combat hunger and malnutrition. Also in Benin, we installed three clean water stations and raised additional funds to at least triple that number in 2018.

Providing measures to empower people to determine their future is central to what we do at SELF. Two such approaches that were being developed in 2017 were the Solar Training Center in Haiti that launched its first class (nearly half of them women) and a project in Uganda that will provide an in-village well and street lights, among other measures, to help women and girls avoid sexual predation when they collect water.

And there was more. We repaired solar installations in southern Haiti that were damaged or destroyed by Hurricane Matthew and sent solar lanterns to victims of Hurricane Maria in Puerto Rico. We also started the planning phase of bringing solar electricity to a sacred indigenous village, Katansama, in northern Colombia.

We are grateful to our visionary donors who understand the vital need to achieve the SDGs by 2030. Your support for SELF in 2017 was a sound investment in our ongoing plan to create sustainable solar models whose successes can be replicated throughout the world.

Warm Regards,

Robert A. Freling
Executive Director

HEALTH CARE

Solar Installations in 62 Health Centers in Uganda and Ghana

SELF installed solar systems in 62 primary healthcare facilities in Ghana and Uganda for the United Nations Foundation (UNF). The project was funded by the UK Department for International Development (DFID) under its 'Sustainable Energy for Women and Girls' programme.

We collaborated with our in-country partners—All In Trade in Uganda and Power World in Ghana—to complete the 242 kWp photovoltaic (PV) project to enable improved delivery of services in primary health care facilities through access to modern, affordable, and sustainable electricity. Until now, the facilities were either un-electrified or under-electrified, leaving patients without access to many modern health services. The installations will significantly upgrade medical care for local populations, providing nighttime lighting and power for essential electronic medical devices. We are particularly pleased that the risk of women and babies dying during childbirth in remote healthcare facilities will decrease.

Having provided solar installations in remote clinics around the world, we have observed the profound difference that access to modern energy can make in the quality of rural healthcare. We are pleased to report that the World Health Organization (WHO) will conduct an evaluation of this project to provide metrics on the impact of health facilities having improved access to electricity.

Optimizing the Vaccine Cold Chain with Solar-Powered Refrigeration

With support from the Centers for Disease Control and Prevention (CDC), SELF installed 37 direct-drive (battery-free) solar vaccine refrigerators in four districts of Haiti—enhancing the country's ability to safely maintain its vaccine supply at a constant temperature. In total, SELF has installed 145 vaccine refrigerators and repaired 150 more that were previously installed incorrectly by organizations other than SELF.



Energy Harvest Device

SELF invented a game-changing technology to enable off-grid health facilities to power basic needs from otherwise wasted solar electricity produced by direct-drive, battery-free solar vaccine refrigerators. An energy harvest device manages the flow of solar electricity by prioritizing the vaccine refrigerator and then capturing the excess power for other basic needs such as lighting, communications and ancillary medical devices. The energy harvest control was approved by the WHO in 2017. The new technology was designated as open source—available for anyone to freely use. Manufacturers have announced plans to incorporate energy harvesting capability into their next generation of solar vaccine refrigerators, and the Global Alliance for Vaccines and Immunization (Gavi) indicated that it will add a solar energy harvesting component to its largest-ever vaccine refrigerator procurement program (\$250 million over five years). We estimate more than 100,000 off-grid health facilities are now candidates for both solar vaccine refrigerators and the energy harvest system. In 2018, SELF has plans to further evaluate, refine, and optimize the device.



WATER AND FOOD SECURITY



Water Stations

The Kalalé commune in Benin, West Africa is located in a semi-arid region that has a dry season that lasts half of the year, limiting the amount of water found in shallow wells. With a population of about 150,000 people, Kalalé commune had only 113 water sources which were considered sanitary. On average, each source had to serve 1,340 people. A commune-wide water survey by SELF's local NGO partner, Association pour le Développement Economique, Social, Culturel, et pour l'Autopromotion (ADESCA), showed a range of 550 people using a sanitary water source in the best case and 9,500 people using a single source in the worst case.

SELF installed three new water stations in 2017 and received a grant from the OPEC Fund for International Development (OFID) that will pay for nine additional water stations to be built in 2018. Because the OFID funding was a matching grant, SELF began the process of seeking funds for nine additional water stations to be built in 2018.

The water stations are expected to be fully sustainable. During the day, solar electricity is generated to pump the water from an aquifer to an elevated reservoir. After dark, water stored in the reservoir can still be delivered by gravity to the water collectors. By eliminating the need for energy storage, there is no need for expensive battery replacement. In addition to installing the water stations, SELF will work with the local communities to set up a fee collection system whereby customers pay a small, affordable fee for water – a common practice in the region. The system has proven financially successful for the water stations that ADESCA is already managing. With the fee system, the water stations have the potential to generate enough funds to install even more water stations.

Solar Market Gardens

Because of an excessively long dry season exacerbated by climate change, it was impossible for women farmers in Kalalé to raise food for their families year-round. SELF developed a solar energy solution by combining solar pumps with drip irrigation to enable year-round agriculture. Now, the women not only produce enough nutritious produce to feed their families, they sell the surplus at market. Making an income for the first time in their lives, they are able to pay for healthcare and their children's education. In 2017, SELF constructed composting bins and upgraded plant nurseries to assist the women farmers in optimizing their crop outputs.





EMPOWERMENT



Haiti's Solar Training Center

Since the devastating earthquake in Haiti in 2010, photovoltaic (PV) installations have grown tremendously in that country, delivering clean, sustainable power that facilitates education, healthcare, commerce, improved food production, and security. What is missing in this burgeoning system of PV installations is a vocational training program that produces highly skilled solar technicians. Without them, the sustainability of Haiti's solar-powered systems is at risk.

To meet this need, SELF decided to develop a professional PV training program in Haiti, and reached out to the Government of Norway for initial support. We partnered with Haiti Tec, a vocational school in Port au Prince, to manage and run the program. The first-year course was launched in October 2017 and will finish in June 2018. The class started with 39 students, 15 of whom are female. The OPEC Fund for International Development provided funding for the second-year class which will begin in the fall of 2018. We envision using the Haiti project as a blueprint to create similar training programs in other developing countries.

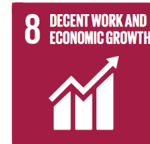


Protecting Women and Girls in Uganda

Working in partnership with Hellen Tanyinga, founder of the Rape Hurts Foundation in Uganda, we began developing a program that uses solar energy applications to address widespread sexual violence against women and girls, who historically have had to walk for miles every day to fetch water and fuelwood for their families. We proposed to provide solar-powered water stations, stoves, street lights and lanterns to help eliminate the need to put women and girls in harm's way. In addition, we sent one of SELF's engineers to conduct a site visit to determine other solar electricity applications needed in Hellen's community. Based upon his report, we added electrification of the local school and orphanage, as well as some income-generating initiatives that will help sustain the PV systems. Our goal is to create a model in Hellen's community that can be replicated throughout Sub-Saharan Africa.



RENEWAL



Puerto Rico

When Hurricane Maria battered Puerto Rico in September, the island was plunged into darkness. Short-term solutions were required to provide relief, especially for the poor in rural areas who were stranded without housing, food, medicine, clean water, and other necessities. They suffered in sweltering heat by day and sat in pitch darkness at night.

SELF's solar installations require intense preparation, planning, fund raising, and coordination with local partners, governments and stakeholders—not the type of arrangement that prompts a quick response. Nonetheless, we wanted to do something. Through the generosity of Rita and Charles Bronfman and the Ruth and Hal Lauenders Foundation, along with many individual donors, we were able to send 400 high-quality solar light/cell phone charging units to the poor in remote areas. Catholic Charities USA, the official domestic response agency of the U.S. Catholic Church, was our on-the-ground distribution partner to make sure the systems were to delivered to those most in need.

Haiti Post-Hurricane Activities

With support from the UN Environment Programme (UNEP) and the Inter-American Development Bank (IDB), SELF began rebuilding the PV systems damaged by Hurricane Matthew. First, we worked with an engineering firm to design a racking system that can withstand the damaging winds of a category 5 hurricane. Our priority was the reinstallation of solar systems in 12 health centers and a 149 kW solar micro-grid on the southern coast that will be able to survive future storms and provide much-needed electricity during the critical emergency period that follows. Our work in 2017 will continue into 2018.

With the support of the Silver Spring Foundation and IDB, SELF also installed two of Innovative Water Technologies' SunSpring solar-powered water purification systems in hurricane-ravaged areas that were still experiencing the effects of the cholera outbreak. Each unit produces up to 5,000 gallons (~19,000 liters) of microbiologically safe water every day.





COMMUNITY INFRASTRUCTURE



Katansama and Gunchukwa, Colombia

Based upon our work in 14 indigenous communities of the Arhuaco, Kogi, and Wiwa in the Sierra Nevada mountains of northern Colombia, SELF was asked by respected Arhuaco leader, Danilo Villafañe, to help in the establishment of a major cultural and leadership center in the coastal community of Katansama. An Arhuaco village that has been peacefully established along the coast, Katansama provides the indigenous peoples of the Sierra Nevada de Santa Marta with a direct connection to the Caribbean Ocean for the first time in the 500 years since they were forced into the mountains by various colonial factions. During that time, the Colombian government usurped the authority of the Arhuaco leadership and severely inhibited their ability to maintain their traditions and culture. The current government's progressive attitude toward Colombia's indigenous people is viewed as an opportunity to build a traditional, yet state-of-the-art facility to train new spiritual leaders and preserve the rich cultural history of the Arhuacos.

In 2017, SELF made a site visit to Katansama to plan a multi-year solar power initiative. For the first phase, we proposed a 6 kWp solar micro-grid to be installed in 2018. It will provide power to school buildings, a food service center, and outdoor lighting. A second phase is proposed to electrify the village communal buildings, and the third phase will power the cultural and leadership center.

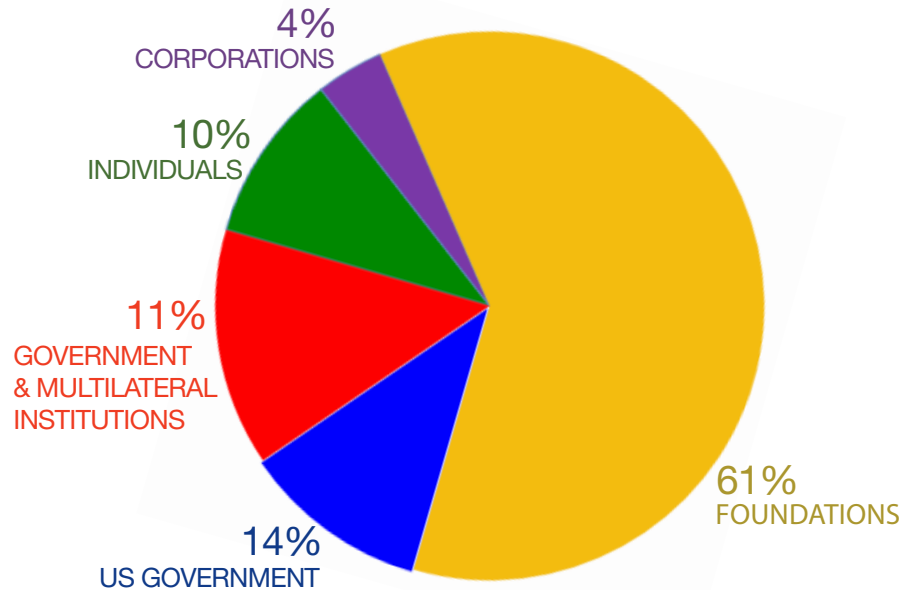
Also in 2017, SELF led a site visit to the newly formed community of Gunchukwa, an Arhuaco village on the southern flank of the Sierra Nevada de Santa Marta. A two-phase installation plan was proposed to provide solar power to the village. In the first phase, a 3 kWp solar micro-grid will be installed in 2018 to support seven communal buildings in the village center. The second and final phase of installation is to power the clinic.



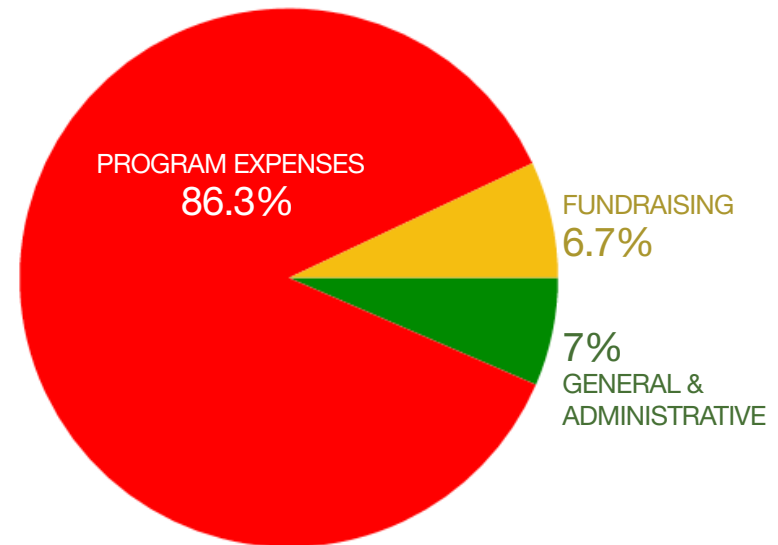


FINANCIAL HIGHLIGHTS

SELF Revenue in FY17



SELF Expenses in FY17



In 2017, SELF electrified health clinics in Ghana and Uganda under an award from the UN Foundation. We also received a \$500,000 award from the OPEC Fund for International Development to install solar water stations in Benin and to develop the second year of the curriculum for a degree program in PV design and installation in Haiti. Thanks largely to these projects, total revenue increased by 33% from 2016.

The financial results depicted on the next page are derived from the SELF audited December 31, 2017 consolidated financial statements, which received an unqualified opinion. SELF's complete, audited financial statements can be found on our website www.self.org.

FINANCIAL HIGHLIGHTS

STATEMENT OF ACTIVITIES

For the Period Ended December 31, 2017

(With Summarized Financial Information for the Year Ended December 31, 2016)

	UNRESTRICTED	TEMPORARILY RESTRICTED	2017 TOTAL	2016 TOTAL
REVENUE AND SUPPORT				
Contracts	\$ 3,318,811	\$ -	\$ 3,318,811	\$ 1,973,028
Grants and donations	468,809	754,828	1,223,637	1,055,737
In-kind revenue	125,438	-	125,438	85,953
Interest and other income	1,881	-	1,881	1,331
Net assets released from restrictions:				
Satisfaction of program restrictions	607,360	\$ (607,360)	-	-
TOTAL REVENUE AND SUPPORT	4,522,299	147,468	4,669,767	3,116,049
EXPENSES				
Program Services	4,143,513	-	4,143,513	2,834,931
Management and general	226,937	-	226,937	231,076
Fundraising	224,526	-	224,526	217,679
TOTAL EXPENSES	4,594,976	-	4,594,976	3,283,686
CHANGE IN NET ASSETS	(72,677)	147,468	74,791	(167,637)
NET ASSETS, BEGINNING OF YEAR	321,533	455,176	776,709	944,346
NET ASSETS, END OF YEAR	\$ 248,856	\$ 602,644	\$ 851,500	\$ 776,709



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Rachel Rothman

Abigail Ulman

Volunteers

Osiris McCarney

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Alex Adams Photography
(Pages 1, 10)

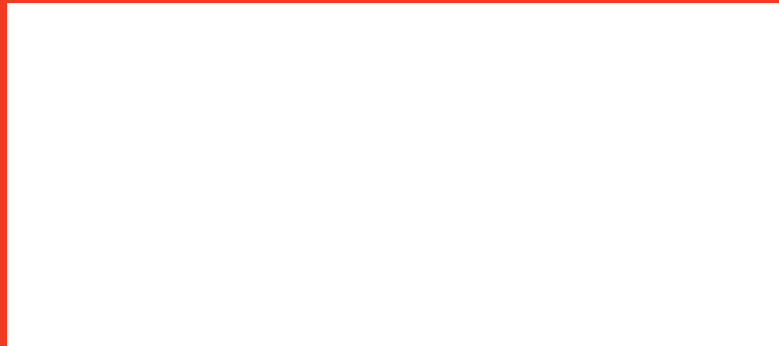
United Nations (Pages 2, 3)

Sandra Phillips (Page 4)

Lynn Johnson/Ripple Effect Images
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(Pages 16, 17, Back Cover)





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