







Powering Healthcare Solutions Catalogue

The vast majority of healthcare facilities in low income countries – in particular in Sub-Saharan Africa and South Asia – do not have access to reliable electricity. Yet, they are expected to be at the frontline of fighting the COVID-19 pandemic.

The past five years have witnessed an ever-increasing range of technical solutions to tackle energy challenges in a more effective and efficient way. Nevertheless, most energy and healthcare providers are not aware of these opportunities.

Responding to the urgency of the COVID-19 crisis and meeting SDG7 and SDG3 require timely and strong collaboration between the energy and health sectors, drawing on their respective strengths and expertise.

This catalogue serves the purpose of connecting stakeholders from the energy and health sectors with solutions providers, to help meet the energy needs of healthcare facilities in response to COVID-19 and beyond. The solutions provided herein represent a sample of a larger group of solution providers who can contribute to addressing this challenge.

Sustainable Energy for All (SEforALL) and the World Bank/ESMAP do not promote any particular solution provider or technology and are not responsible for the quality and accuracy of the information contained in this catalogue.

The material in this work is subject to copyright. Because SEforALL and the World Bank encourage the dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes if full attribution to this work is given. Any queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: +1-202-522-2625; e-mail: publication worldbank.org. We would appreciate receiving a copy of the publication that uses this publication for its source sent in care of the address above, or to esmap@worldbank.org.

All images remain the sole property of their source and may not be used for any purpose without written permission from the source.

Overview

	Solutions Type		Current Needs					
Solution Provider	Power solution or component	Medical or other appliance	Grant funding	Equity	Debt	Partnerships	Technical Assistance	
ABM Global Energy	✓					>		
Aldelano Solar Solutions	✓					>		
BoxPower	✓		✓			✓		
d.light	✓	✓	✓	✓		✓		
Differ Community Power	✓	✓	✓	✓	✓	✓		
Dulas		✓				✓		
Eaton	✓							
EM-ONE Energy Solutions	✓		✓			>		
Fenix Intl	✓	✓	✓			✓		
HT Energy (S) SDN BHD	✓		✓	✓	✓			
Ignite Medical Services		✓	✓			>	✓	
LEMA	✓		✓	✓				
Micergy	✓	✓	✓			✓		
OffGridBox	✓		✓	✓		✓		
Omnivoltaic Energy Solutions	✓		✓		✓	✓		
Phaesun GmbH	✓	✓	✓			✓		

Solution Provider	Solutions Type		Current Needs					
	Power solution or component	Medical or other appliance	Grant funding	Equity	Debt	Partnerships	Technical Assistance	
Plug The Sun Ltd	✓		✓	✓		✓		
PowerGen	✓		✓	✓	✓			
Ryse Energy	✓		✓	✓	✓	✓		
Simusolar	✓	✓	✓					
SolarAid	✓		✓			✓	✓	
Solarkiosk Solutions GMBH	✓	✓	✓					
Solartechno Europe BV	✓		✓	✓	>			
Solergie NV	✓		✓	✓		✓		
Tellco Europe Switzerland	✓	✓	✓	✓	✓	✓		
We Care Solar		✓	✓			✓	✓	
Winch Energy	✓		✓					
Zola Electric	✓		✓	✓	✓	✓		

ABM Global Energy

ABM Solar container



Solution Type

Plug and play power system, with and without appliances Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 1,000 W

Target Geographies

Sub-Saharan Africa

Lead Time (est.)

> 5 weeks

Partners

CGWIC

Current Needs

Partnerships

Contact Details

Paul Smith
Technical Director

Solution Description

ABM Global Energy is a leading British company in the off-grid products and solutions sector. We offer different applications in the off-grid space both for solar PV power and storage. Currently, we have developed a solar & storage containerised solution ideal for remote and isolated areas. This "mini solar PV farm (with storage) in a container" is a perfect replacement of diesel gensets.



Email: paul@abmglobalenergy.co.uk
Website: www.abmglobalenergy.co.uk

Aldelano Solar Solutions

Solar PowerPak



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

Sub-Saharan Africa South East Asia South Asia South America Other

Lead Time (est.)

5-8 weeks

Partners

Non-listed

Current Needs

Partnerships

Solution Description

The Aldelano Solar PowerPak/Generator™ is a solar power converting station that collects solar energy and converts it to usable AC power for use with virtually any electric device. These solar generators can power everything from a small home to an entire village. All units are customized to meet the electrical needs of the region and the specific needs of the customer. Models include single phase and 3 phase from 12 to 84 kWh/kVa providing from 69 to 384 kWh of daily energy output.



Contact Details

Nicole Smith Chief Operating Officer

Email: nsmith@aldelano.com
Website: www.SolarColdBox.com

BoxPower

Solar MiniBox, SolarContainer Systems



Solution Type

Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 1,000 W

Target Geographies

Sub-Saharan Africa South East Asia South Asia South America Other

Lead Time (est.)

5-8 weeks

Partners

Non-listed

Current Needs

Grant funding Partnerships

Solution Description

BoxPower's modular microgrid systems can deliver renewable and reliable power as a cost-effective alternative to diesel generators. By pre-assembling and mass-producing our systems in shipping containers, BoxPower products help communities, governments, businesses, humanitarian and emergency relief agencies access off-grid power rapidly and provide energy resilience when power supply from the grid is unavailable or unreliable. BoxPower's product range is scalable and can be configured to meet a broad range of use cases and applications. We're proud to help to deliver clean, affordable, reliable energy to established and emerging markets around the world.



Email: Dalan@Boxpower.io

Website: **Boxpower.io**

Contact Details

Dalan Angelo
Director, International Partnerships

d.light design, Inc.

X2000 SHS powering M100 smartphone, DCR50 medical refrigerator



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: < 100 W

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America

Lead Time (est.)

< 2 weeks

Partners

PharmAccess Foundation

Current Needs

Grant funding Equity
Partnerships

Solution Description

The d.light solar healthcare bundle comprises X2000 SHS (lighting, device charging, radio, power refrigerator and testing equipment), M100 Smartphone (EMR app, communications) and DCR50 Refrigerator (vaccine storage, test samples) to provide care for the infected (with upgraded healthcare infrastructure) as well as *prevent* further infections by disseminating timely communication and information to the local public and frontline workers.

This bundle offers the following services:

- All-night lighting for 5 rooms
- Medical supplies and vaccine refrigeration
- Multi-mobile charging
- Rechargeable radio for information access
- Internet-access for communication with health authorities
- EMR sharing, maternity care and COVID contact tracing
- Task light for focused operations







M100 Smartphone



DCR50 Refrigerator

Contact Details

Binagwaho Gakunju Grants Manager Email: <u>binagwaho.gakunju@dlight.com</u>

Website: www.dlight.com

Differ Community Power



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: > 1,000W

Target Geographies

West Africa East Africa Southern Africa

Lead Time (est.)

5-8 Weeks

Partners

UNDP Malawi, PS Kenya, WRI, BOS

Current Needs

Grant funding
Equity
Debt
Partnerships

Contact Details

Kjetil Røine Partner

Solution Description

Differ is a value chain integrator providing turnkey energy service solutions for health facilities of any size (1-1000kWh). We integrate technology (generation, storage and appliances), supporting software and remote monitoring technology and service and maintenance (O&M) schemes to ensure sustainability for years. The technology package may also include solutions for purified water and hot water as well as medical devices - in addition to the "traditional" supply of reliable solar energy and basic appliances like lights, fridges, charging, air con etc. Hence, Differ is a one-stop-shop solution provider for electrification of health facilities. See also video from Malawi installations.

Email: <u>kjetil.roine@differgroup.com</u>
Website: <u>www.differgroup.com</u>

Dulas Limited

Solar-powered Direct Drive (SDD) Refrigerators and combined refrigerators/freezers



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: 101-1,000 W

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America

Lead Time (est.)

> 5 weeks

Partners

Individual orgs for installation services in focus countries

Current Needs

Partnerships

Contact Details

Catherine McLennan Account Manager

Solution Description

Dulas are the manufacturers of a wide range of WHO PQS approved refrigerators and freezers for vaccines and blood storage. Our SDD refrigerators work from solar panels without the need for batteries and use advanced PCM to maintain a constant vaccine storage temperature.

These 'Plug and Play' systems are designed for ease of use in challenging environments. They have Grade A freeze protection and will operate at a stable +2°C to +8°C.

With the optimal balance between solar array size and refrigerator autonomy, Dulas refrigerators are designed to deliver perfect vaccine storage conditions every day, every year, whatever the weather.



Email: Catherine.mclennan@dulas.org.uk

Website: www.dulassolar.org

Eaton

xStorage Home, xStorage Commercial and Industrial



Solution Type

Plug and play power system, with and without appliances; Component-based power system, with and without appliances; Containerized turn-key power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

Sub-Saharan Africa

Lead Time (est.)

> 8 weeks

Partners

Nissan (lithium ion batteries)

Current Needs

Non-listed

Solution Description

Microgrids are localized stand-alone power generating, distribution, and energy storage systems that can be operated independently or connected to the primary grid. They provide a reliable, efficient solution to unexpected power losses, effectively balancing variations in energy demand, optimizing energy usage for more reliable power, and reducing operating costs and carbon emissions

Using advanced software controls to optimize system operation, microgrids dynamically shift energy loads as needed to various local power sources, (i.e. solar PV, wind, battery storage, generators, or the utility grid) to maximize efficiency and reduce costs.





Contact Details

Nico Archer Automation Application Engineer Email: NicoJArcher@eaton.com

Website: www.eaton.com

EM-ONE Energy Solutions

The EM-BOX – Modular Microgrid for Health



Solution Type

Plug and play power system, with and without appliances; Containerized turn-key power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

West Africa East Africa

Lead Time (est.)

5-8 weeks

Partners

Schneider Electric, Tesla, Various International donor programmes

Current Needs

Grant funding Partnerships

Solution Description

EM-ONE is an engineering, technology, and consulting firm with over 10 years of experience working at the nexus of sustainable energy and social impact in West Africa. Our proprietary solar microgrid— the EM-BOX — is a containerized, modular, and scalable solution designed to address the urgent need to electrify healthcare centers across the continent. Over the past three years, it has been successfully deployed at nearly 300 primary health centers and rural hospitals in Nigeria. These facilities have seen a drastic improvement in their ability to provide life saving care to their community both during the global pandemic and beyond.



Email: karine@emone.com

Website: www.emone.com

Contact Details

Karine Makhijani Malagon Manager, Strategic Projects and Partnerships

Fenix International

Fenix Power, Mobisol



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: < 1,000 W

Target Geographies

West Africa

Lead Time (est.)

< 5 weeks

Partners

Paga, Interswitch, MTN, Startimes, LAPO, Solar Sister

Current Needs

Grant funding Partnerships

Solution Description

Our products are Solar Home Systems of Batteries ranging from 25Wh to 730Wh, with respective solar panels ranging from 10W to 200W.

These products also have accessories which includes; Radio, fan, TV, Clipper and Woofer



Contact Details

Sarah Odumegwu-Ojukwu Business Strategy Associate Email: sodumegwuojukwu@fenixintl.com

Website: www.fenixintl.com

HT ENERGY (S) SDN BHD

Solar + Hydrogen Power System (Solar Hybrid H2)

Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

South East Asia

Lead Time (est.)

> 8 Weeks

Partners

Suzhou JingLi Hydrogen Production Equipment Co. Ltd.

Solution Description

Our H2 system is to supply 25-30kW of electricity daily (day-time usage of 15kW and night-time usage of 10kW) with a peak load of 2.88kW, comprising of solar PV panels to generate electricity, electrolyser to produce hydrogen gas. Energy is stored in gas tanks in the form of H2 gas. During sundown, H2 gas feed into Fuel cell to generate electricity for night time use.

Current Needs

Grant funding
Equity
Debt

Contact Details

Muhammad Hatta Bin Sukarni Managing Director



Email: hatta@htenergy.co
Website: www.cahyasuria.com

Ignite Medical Services (IMS) SDS-16, SDS-X1



Solution Type

Plug and play power system, with and without appliances; Component-based power system, with and without appliances

Tech Specs

Capacity: < 1,000W

Target Geographies

West Africa East Africa Southern Africa South Asia Other

Lead Time (est.)

5-8 Weeks

Partners

SpaceCom, Vocalis Health, Aspen Imaging

Current Needs

Grant funding
Partnerships
Technical assistance

Contact Details

Gil Karie Head of Innovation

Solution Description

Ignite Medical Services (IMS) is reshaping healthcare in rural communities across emerging countries by combining solar power and advanced diagnostic technology, tailormade for on-field diagnosis and treatment. The IMS designed-for-solar system (DSS) provides remote health centers with reliable electricity, connectivity, and diagnostic devices; The SDS-16 conducts a wide range of blood tests to be given on the spot and allows for fast, smart and affordable detection of the patient's condition; The energy-efficient X-ray diagnostics kit (SDS-X1) provides high-quality imaging and interpretation on the field, addressing Covid-19, TB, and emergencies. All devices are designated for the specific needs of remote medical teams, powered by solar energy and allow for remote support and guidance.





Email: gil.karie@ignite.solar Website: www.ignite.solar

LEMA *LEMA Off-Grid*



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: 1,001-10,000 W

Target Geographies

East Africa

Lead Time (est.)

5-8 Weeks

Partners

USAID Power Africa

Current Needs

Grant funding Equity

Solution Description

LEMA™ Off-Grid is a USA made smart solar generator. Seamlessly monitor and automatically manage your system through the LEMA™ app.



Contact Details

Brian Plourde Managing Director Email: <u>brian@lema.io</u>
Website: <u>www.lema.io</u>

Micergy MP2

Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: 101-1,000 W

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America

Lead Time (est.)

5-8 Weeks

Partners

USAID Power Africa

Current Needs

Grant funding Partnerships

Solution Description

Micergy MP2 is the most powerful Pay-As-You-Go Solar Home System designed for households and small businesses with unstable grid power supply, it can be fast charged by both solar and AC at the same time, the built-in cigarette lighter output allows end-users to power big DC appliances like fridge and freezer or small AC appliances (like AC TV, laptop etc., Max 120W) during power failure. Pay-As-You-Go technology was embedded to allow end-users to make payment by installment, rather than 100% upfront, thus making full use of every cent. Besides, we adopted advanced encryption technology to minimize the risk of illegal tamper and theft to reduce the default rate for PAYG operators. Micergy MP2 pay-as-you-go solar home system was tested according to the Quality Test Method stipulated in edition 4 of IEC 62257-9-5 and complied with the Lighting Global Solar Home System Kit Quality Standards



Contact Details

Leslie Hu Product Manager

Email: leslie@micergy.com
Website: www.micergy.com

OffGridBox, Inc.

OffGridBox (Pioneer, PAYG, DESAL models)



Solution Type

Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: 1,001-10,000 W

Target Geographies

Sub-Saharan Africa Southeast Asia

Lead Time (est.)

5-8 Weeks

Partners

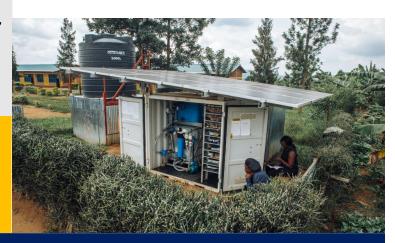
Oxfam, Progetto, Rwanda, BiziSol, UNDP Tanzania, Order Militaire et Hospitalier de Saint Lazare et Jerusalem

Current Needs

Grant funding Equity Partnerships

Solution Description

The OffGridBox is a mobile and modular 2x2x2m container with 3 kWp-8kWp solar panels on the top, a water purification system inside, and a WiFi hotspot on the outside. Our unit is one solution to three problems: lack of access to energy, lack of access to clean water, and lack of access to connectivity. We provide clean water and renewable energy for households by means of battery packs, for institutional buildings like clinics and schools, and/or for productive use, like water pumping, irrigation, ice making or milling. During the COVID-19 crisis, we are stepping up our efforts to provide our services to rural clinics in developing countries.



Contact Details

Bas Berends Chief Partnership Officer Email: bas@offgridbox.com
Website: www.offgridbox.com

Omnivoltaic Energy Solutions

Off-Grid Solar Healthcare Solutions (E) Omnivoltaic



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: < 1,000 W

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America

Lead Time (est.)

2-5 Weeks

Partners

Energy WAO, Solibrium Limited, SolarWorks!, Smart Grid International, Solar Africa, Altech Group, Zuwa Energy, Suntransfer Kenya, Mwangaza Light, Oolu Solar

Current Needs

Grant funding Equity **Partnerships**

Solution Description

Omnivoltaic presents a lighting solution accompanied by appliances pertinent to the healthcare sector. We offer lights ranging from 200 lumen – 1000 lumen. Appliances such as radios and television sets that are crucial in enabling access to information. A fan to provide cooling especially in hot and humid regions. A Public address system to support communication within the health facility. A phone charging unit to help health workers who are finding themselves in hospital for prolonged periods and for in-patient patients. A refrigerator for storing medicine in pharmacies, thus keeping it in good condition. All these lights and appliances are highly efficient in terms of power consumption and fitted with robust device monitoring software.



Contact Details

Andy Gao CEO, Omnivoltaic Kenya Email: andygao@omnivoltaic.com Website: www.omnivoltaic.com

Phaesun GmbH

Hospital Kits



Solution Type

Plug and play power system, with and without appliances; Component-based power system, with and without appliances

Tech Specs

Capacity: 101-1,000 W

Target Geographies

Sub-Saharan Africa South East Asia South Asia South America

Lead Time (est.)

5-8 weeks

Partners

Local solar companies, as well as local and international NGOS and Aid organizations

Current Needs

Grant funding Partnerships

Solution Description

Phaesun provide a complete kit for solar cooling, ventilation and lighting: It includes the solar fridge Steca PF 166, two fans and two light tubes, all equipment for charging and installation. Ideal for the use in health posts and hospitals that are located far from the grid. Electric loads such as effective solar fridge, two fans and light tubes are integrated. They are served by high quality solar components (modules, batteries, solar electronics). The system runs with DC, all loads are DC loads. The kits include all necessary installation material.



Contact Details

Russom Semere
Technical Sales Rural Electrification

Email: Russom.Semere@phaesun.com

Website: www.phaesun.com

Plug The Sun Limited

Ray 3000, Ray 4000, Ray 6000, Ray 8000



Solution Type

Component-based power system, with and without appliances

Tech Specs

Capacity: 1,001-10,000 W

Target Geographies

West Africa Southern Africa Southeast Asia South America

Lead Time (est.)

> 5 weeks

Partners

Non-listed

Current Needs

Grant funding Equity Partnerships

Solution Description

Our RAY Professional Series features a robust solar power station to run house, school, clinic and small village communities.

Featuring high solar conversion efficiency, thanks to an advanced MPPT algorithm, the RAY Professional provide the maximum power output from the solar panel array and has a built-in solar battery management system, to optimize battery charging. True since wave technology inverters provide reliable AC energy consistently power a host of different appliances.



Hybrid Professional Solar Systems



RAY3000



3AY6000

Contact Details

Martino Criveller Supply Chain Manager

Email: martino@plugthesun.com
Website: www.plugthesun.com

PowerGen



Solar + battery hybrid systems (30 – 1,000 kW)

Solution Type

Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

West Africa East Africa Central Africa

Lead Time (est.)

2-8 Weeks

Partners

Jinko, JA Solar, Trina, Canadian Solar, Suntech, First Solar, Tesla, Alpha ESS, Narada, BYD, LG Chem, Tesvolt, Sonnen, etc.

Current Needs

Grant funding
Equity
Debt

Solution Description

PowerGen offers commercial and industrial solar PV systems with lithium-ion storage that can be integrated with existing utility power supply to improve reliability or diesel backup generators in off-grid applications. The solar PV capacity range in size from 30kW to 1,000kW, storage capacity ranges from 34kWh to 1,032kWh and can be installed in parallel to meet higher demand. The battery energy storage solutions can be supplied in 10ft, 20ft or 40ft containers and come with heating, ventilation, air conditioning and fire suppression. The systems allow for remote monitoring, have little maintenance requirements, and come with a performance warranty of 10 years.



Contact Details

Mark Wopicho, co-founder
Director of Commercial Projects

Email: mwopicho@powergen-re.com

Website: www.powergen-re.com

Ryse Energy



E-Range/G-Range Wind Turbines, Containerized storage hybrids

Solution Type

Plug and play power system, with and without appliances; Component-based power system, with and without appliances; Containerized turn-key power system, with and without appliances; Individual components, either power systems or appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

Sub-Saharan Africa South East Asia South Asia South America

Lead Time (est.)

> 5 Weeks

Partners

Incorporated companies in Europe, Middle East, and India

Current Needs

Grant funding
Equity
Debt
Partnerships

Contact Details

lain Munro Strategy Director

Solution Description

Resilient and reliable energy supply is essential to delivering both basic and modern healthcare services. From empowering general practitioners and clinical services to work after sundown, to powering laboratory equipment, incubators, intensive care units and the appropriate storage of vaccines, blood work and medications. To tackle these challenges in the face of Covid19 and beyond, Ryse Energy as has designed and developed plug and play, hybrid small-scale wind, solar PV and energy storage renewable energy solutions, for a truly off-grid healthcare solution, facilitating the connection of energy and healthcare, reducing healthcare poverty, and enabling global healthcare equality.



Email: iain@ryse.energy
Website: www.ryse.energy

Simusolar





Solution Type

Component-based power system, with and without appliances

Tech Specs

Capacity: 101 – 1,000 W

Target Geographies

East Africa

Lead Time (est.)

2-8 Weeks

Partners

Non-listed

Current Needs Grant funding

Solution Description

Rural healthcare facilities in East Africa typically have no water and so cannot maintain basic sanitation. Our solution provides year-round access to water and handwashing as well as electricity and lighting. The community will have well-lighted clinics and much better sanitation. They will have a source of water that is not contaminated, and a place where they and their medical service providers can wash hands and equipment, providing a much healthier environment for all healthcare services. *Options* include a SmartTAP water dispenser providing income for ongoing O&M, and/or UNOCOOL DC Refrigerator with a 200 W solar panel for vaccines.



Contact Details

Marianne Walpert Co-Chief Executive Officer Email: mwalpert@simusolar.com
Website: www.simusolar.com

SolarAid



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: < 100 W

Target Geographies

Southern Africa

Lead Time (est.)

> 8 Weeks

Partners

Malawi Ministry of Health, Zambia Ministry of Health

Current Needs

Grant funding
Partnerships
Technical assistance

Solution Description

This solution is the second phase healthcare response to COVID-19 in Malawi and Zambia in partnership with the respective Ministries of Health.

We are repurposing plug and play systems to power energy efficient, modern medical devices for rural health facilities – where the majority currently have no access to reliable, or any, electricity.

By incorporating the delivery of this program within our existing SunnyMoney distribution network, we will guarantee affordable Operation and Maintenance while testing revenue generation models to offset the already low cost.



Contact Details

John Keane Chief Executive Officer Email: john.keane@solar-aid.org
Website: www.solar-aid.org

Solarkiosk Solutions GmbH

Solar powered COVID-19 test lab



Solution Type

Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 10 kW Storage: 10.2 kWh

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America

Lead Time (est.)

5-8 weeks

Partners

UNITAR, Solarworx, Groots, Nexol, Siemens Healthineers

Current Needs

Grant funding

Solution Description

Turnkey COVID-19 test lab for health personnel with 100% accuracy real-time test for infections with the COVID-19 virus. The solar powered "kit-of-parts" infrastructure solution, the E-HUBB, can be deployed within a few days. It is equipped with state-of-the-art laboratory diagnostics, molecular medicine and digital health supplied by the German leading medical technology company and solar powered with state-of-the-art storage by long life LiFePO4 batteries for night-time usage. Training of personnel on the basis of established standard procedures provided by the UNITAR. It can also test for, HIV, Malaria, Tuberculosis, Pulmonary infections, Hepatitis, Urinary infections, etc.



Contact Details

Thomas Rieger
Chief Executive Officer

Email: <u>Thomas.rieger@solarkiosk.eu</u>

Website: www.solarkiosk.eu

Solartechno Europe B.V.

NoGrid – Gen 3



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: > 100 W

Target Geographies

Sub-Saharan Africa

Lead Time (est.)

5-8 Weeks

Partners

Lencon B.V., TuDelft, Fieldlab, Smartbase, The African Centre for Renewable Energy & Sustainable Technology (ACREST)

Current Needs

Grant funding Equity
Debt

Solution Description

An autonomous plug and play solar power supply specifically designed for off grid applications in Africa and in developing countries. It is a solar panel with a battery box containing battery and electronics installed on its back. It designed to be installed in open air (outdoor) in harsh environments (desert, tropical and maritime areas of the world). It is maintenance free with a 10 year lifespan. It is very modular, portable and robust. All components are integrated in a single water and dust tight, rust free aluminum box. Thanks to the modularity and fail safe features, the system is the ideal choice for remote health clinics, dispensaries, mobile COVID testing centers and for powering the related IT and telecom systems.



Contact Details

Eng. Marco Ghiradello, MBA Chief Executive Officer Email: marco@solartechno.com Website: www.solartechno.com

Solergie NV

SolergieBox



Solution Type

Component-based power system, with and without appliances

Tech Specs

Capacity: 100 Wp-10 kWp

Target Geographies

Sub-Saharan Africa

Lead Time (est.)

< 2 weeks (West Africa) 2-5 weeks (East/Central/Southern Africa)

Partners

Solergie NV (Belgium) – Solergie SARLU (Togo)

Current Needs

Equity **Partnerships**

Solution Description

The SolergieBox, a smart solar nano-grid solution, provides clean, reliable and affordable power (220V), in order to guarantee a continuous availability of reliable electric power for the healthcare facility (HCF). We also provide the supply of basic equipment (medical refrigerator, lighting bulbs, fans and outlets to connect other electrical equipment). maintain the solar system, we bet on the unique feature of the nano-grid: up to 8 customers can be connected to the SolergieBox, so, in addition to the HCF, additional customers and/or a local entrepreneur can be connected, who provide maintenance of the HCF through their payments.

Grant funding

Contact Details

Bert Bernolet CEO

Email: b.bernolet@solergie.org Website: www.solergie.org

TellCo Europe Switzerland

TellCoSOL, TellCo Europe ConSOL



Solution Type

Plug and play power system, with and without appliances; Component-based power system, with and without appliances; Containerized turn-key power system, with and without appliances

Tech Specs

Capacity: > 100 W

Target Geographies

Sub-Saharan Africa Southeast Asia South Asia South America Other

Lead Time (est.)

> 5 weeks

Current Needs

Grant funding
Equity
Debt
Partnerships

Contact Details

TellCo Europe Sales Team Sales Management

Solution Description

1.TellCoSOL off grid system products comes with accessories likes LED lights, radio FM, MP5 player, TV, refrigerators, fans and many more.

2. 100% SOLAR POWERED SMART MOVABLE
HEALTH CARE CLINIC . First-Class Solar Movable
Primary Health Care Clinic Container for
communities who do not have access to Primary
Health Care or in need of more effective Primary
Health Care Facilities in Rural and Semi-Urban
localities.





Email: info@tellco-europe.com
Website: www.tellco-europe.com

We Care Solar

We Care Solar Suitcase



Solution Type

Plug and play power system, with and without appliances

Tech Specs

Capacity: 101 – 1,000 W

Target Geographies

West Africa East Africa Southern Africa

Lead Time (est.)

5-8 Weeks

Partners

65 partners including UN agencies, international and local NGOs, and four health ministries

Current Needs

Grant funding
Partnerships
Logistics assistance

Solution Description

The We Care Solar Suitcase is a compact, complete, safe, institutional-grade solar electric system for maternal health facilities. This userfriendly pre-wired system contains solar panels, a lithium-ferrous-phosphate battery, a customized charge controller, break-resistant 70,000 hours medical LED lights, 12VDC and 5VDC outlets, and all installation hardware. LED headlamps, phone charging, a fetal Doppler, infrared thermometer, and rechargeable batteries are included. 5,200 Solar Suitcases have been deployed in facilities where essential medical lighting and 12VDC power are needed, both as permanent and temporary (mobile) installations. Our programs, printed guides, and training videos build local capacity in solar installation, maintenance, and servicing.



Contact Details

Laura Stachel, MD MPH Executive Director Email: laura@wecaresolar.org Website: www.wecaresolar.org

Winch Energy Limited

The Winch Clinic



Solution Type

Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 10 KW

Target Geographies

Sub-Saharan Africa South East Asia South Asia South America

Lead Time (est.)

> 8 Weeks

Partners

CHIAVETTA S.r.l; **BOLLORE LOGISTICS ITALY**

Grant funding

Solution Description

A reliable, renewable, rapidly deployable and redeployable fully powered mobile health clinic. The clinic can be quickly and easily installed in the heart of communities, both urban and rural, and provide prevention and healthcare services close to where people live and work. An integrated solution that increases access to electricity and healthcare, the Clinic utilises proven, reliable technology designed and tested for rugged, isolated environments to create critical healthcare infrastructure. The Clinic can be shipped and delivered by truck to the remotest regions and can be installed within days.

Current Needs

Contact Details

Christopher Kanani Senior Business Developer



Email: chris.kanani@winchenergy.com Website: www.winchenergy.com

ZOLA INFINITY



Solution Type

Plug and play power system, with and without appliances; Containerized, turn-key power system, with and without appliances

Tech Specs

Capacity: > 1,000 W

Target Geographies

Sub-Saharan Africa

Lead Time (est.)

5-8 Weeks

Partners

Econet, Distributed Power Africa (DPA)

Current Needs

Grant funding Equity (TBD) Debt Partnerships

Solution Description

To power healthcare facilities with hybrid energy solutions optimized for medical equipment, build with highest (10 year) reliability standards. Ability to integrate with the grid, generator, other (AC/DC) power sources, and PV solar array. Sized to operate autonomously (off grid). Plug-and-play containerized solutions with 50kWh lithium battery capacity and 20kWp solar array.



Contact Details

Doye Ogionwo Chief Commercial Officer (CCO) Email: doye.ogionwo@zolaelectric.com

Website: www.zolaelectric.com







© 2020 THE WORLD BANK. All rights reserved. 1818 H St NW, Washington, DC 20433, USA Telephone: +1-202-473-1000

Internet: https://worldbank.org

© 2020 Sustainable Energy for All (Vienna Office) Andromeda Tower 15th Floor Donau City Strasse 6 1220, Vienna, Austria www.seforall.org