Mobile Enabled
Community Services

UKaid
from the British people

# MECS Vendor Directory 2013

# Introduction

## In 2010, GSMA Mobile for Development, with the support of the International Finance Corporation's Lighting Africa Initiative (IFC), launched the Community Power from Mobile (CPM) programme, with the aim to leverage the scale of mobile technology and infrastructure in order to improve the business case for off-grid telecom and provide off-grid communities with access to improved energy services.

2013 welcomes in the support of the UK Government for the launch of the new Mobile Enabled Community Services (MECS) programme. Drawing on the strong foundations of the Green Power for Mobile and Community Power from Mobile programmes, MECS helps to improve access to both energy and water services leveraging mobile infrastructure and technology.

From urban to rural areas, mobile networks have become the predominant infrastructure in emerging markets and more people are now covered by mobile networks than have access to energy and water. The GSMA estimates that there are over 500 million off-grid connections and that a total estimated addressable market of 575 million people could benefit from Mobile Enabled Community Services.

This is the first of two vendor catalogues to be published by the MECS programme in 2013. This catalogue looks at the energy access sector and will be updated mid-year by a second catalogue to include both energy and water services.

Mobile operators can support improved access to energy via 3 main channels:

- Last mile distribution networks of handset retailers and airtime vendors can be used by energy product companies to reach customers.
- Mobile tower's existing power generation equipment can be used to provide access to energy services to nearby off-grid communities.
- Mobile money and payments can provide consumer financing and pay-as-you-go solutions to energy.

The MECS vendor catalogue builds on the past experience of the Community Power from Mobile and Green Power for Mobile vendor catalogues as well as the Charging Choices reports from 2010-1. The vendors within this catalogue have been ordered alphabetically and subsequently categorised at the back according to their specialist field. We hope that this catalogue will provide a snapshot of the current market and is organised in a clear and concise way. We intend to keep this catalogue a dynamic document with relevant updates on a regular basis.

If you are a vendor and are interested in making a submission to the Vendor Catalogue in time for the next update, please contact mecs@gsm.org

This list of vendors is not GSMA approved or vetted but is intended to be a useful starting point for operators when making enquiries. Additionally, please note that GSMA have not revised any of content in these submissions. Any changes have been merely to the format for consistency purposes.

# Contents

# Angaza Design

## Company Background

Angaza Design is a for-profit social venture focused on eradicating energy poverty in emerging markets by removing the upfront cost barrier of solar energy systems. In May 2012, Angaza launched the SoLite3, a bright LED solar light and mobile-phone charger with embedded, proprietary Pay-As-You-Go (PAYG) technology. With PAYG, customers can purchase the SoLite3 below cost at a low upfront price, and then pre-pay for energy with micropayments tied to their usage. These micropayments are credited towards the total price of the device. By allowing energy payments to fit customers' cash flow while tailoring energy prices to local markets, Angaza redirects expenditures on kerosene, candles, and disposable batteries towards the purchase of our solar home systems.

## Category of Company

Off-grid product provider;
Pay-as-you go solution.

## Year the Enterprise was Founded

2010

## Product and Service Description

The SoLite3 includes a 3 Watt solar panel, LED light with three brightness settings, and a mobile phone charger. Integrated Pay-As-You-Go (PAYG) functionality allows customers to pay for the unit over time in micropayments of the size of their choice. PAYG integrates directly with existing mobile money and cellular infrastructure, and is regulated via Angaza's cloud-based platform, the Energy Hub. To add money to their SoLite3, a customer simply sends a micropayment to Angaza using mobile money. Angaza's Energy Hub then calls the customer's cell phone and uses the open audio channel to securely communicate the payment information to the product, using data encoded in tones.

By using audio communication to leverage the customer's existing phone hardware, PAYG can be incorporated into the SoLite at minimal cost. Payments are rent-to-own, and energy from the SoLite3 becomes free when the full purchase price of the product has been paid.

## Geographic Footprint

Current sales through East Africa and Zambia, with global expansion plans.

**Company**
Angaza Design
3340 Hillview Ave
Palo Alto, CA 94304
U.S.A.

**Contact**
Lesley Silverthorn
Marincola, CEO

**Telephone**
+1 (650) 308-9526

**Email**
sales@angazadesign.com

# Applied Solar Technologies (AST)

## Company Background

Applied Solar Technologies ("AST") is green and renewable power solution company in India. During last three years of operations in India AST has acquired expertise to deign, deploy and operate green energy solution based on solar PV and HFC for variety of off grid applications in telecom, oil, banking and community power sector. AST has deployed more than 10MWp solar PV panels. AST has a footprint of over 2100 solar hybrid installations at telecom sites and are now moving to do community power from those locations.

## Product and Service Description

We offer a complete range of services covering energy survey, solution design, supply, installation and power supply management for renewable hybrid energy systems based on solar PV for telecom towers as well power requirement of community in the vicinity of telecom tower. AST community power solutions comprise of intelligent charging device and an efficient light delivery mechanism.

## Geographic Footprint

Currently in India – Bihar, UPE, UPW and MP states. Plan to expand to Africa and ASEAN countries.

## Scale/Maturity of enterprise

AST is presently testing community electrification in synchronisation with tower solarisation enabling rural households for lighting source and SMEs to generate new business opportunities.

**Client List**
Bharti Infratel
Indus Tower
Idea

**Client Testimonial**
**Bharti Infratel**: Applied Solar Technologies India Pvt Ltd. (AST) introduced its 'Hybrid Solar Power Systems' in India in August 2009. Concept of solar solution at tower site was conceptualised by Infratel and Solar DG hybrid model was co-developed by Infratel & AST and it was 1st implemented at 500 Infratel sites in Bihar (India) by AST. After successful implementation, this model was accepted by the entire telecom tower industry in Bihar, UP East and UP West states.

**Company**
E 8/11,
Vasant Vihar,
New Delhi, India, 110057

**Email**
kapil.kathpalia@applied-solartechnologies.com

**Contact**
Kapil Kathpalia

**Telephone**
+91 9911299510

# Azuri Technologies Ltd.

## Company Background

Azuri is bringing affordable electricity to low-income households in emerging countries that lack access to the grid. Indigo technology combines mobile phone and solar technology to provide pay-as-you-go solar power that replaces kerosene and phone charging services, while cutting users' spend by as much as 50%.

Indigo has a low market entry point for rural off-grid customers, providing basic lighting and mobile phone charging. Customers can over time progressively upgrade their system to support radio, TV and other household devices.

The Indigo product and economic model has won international acclaim including a World Business and Development Award at the RIO+20 UN Climate Summit in June 2012. Azuri was selected by the World Economic Forum as a Technology Pioneer and named by The Nobel Sustainability Trust "Nobel Sustainability supported Clean Tech company 2012".

## Category of company

Pay-as-you-go solution.

## Year the Enterprise was Founded

2010

## Product and Service Description

Award-winning Indigo technology combines mobile phone and solar technology to provide pay-as-you-go solar power that replaces kerosene and phone charging services, while cutting users' spend by as much as 50%.

Using simple scratchcards to top-up their Indigo system, Indigo delivers affordable entry-level power for rural off-grid customers, providing basic lighting and mobile phone charging. The entry level product has received Lighting Global Product Testing Verification.

Users are able to extend their useful day by over 3 hours, allowing for additional study, income-generating work and family time. Customers are able to grow their Indigo system over time to deliver lighting, media, communications and information.

Azuri recently introduced an affordable solar phone charging station called Indigo Mobi. Designed for entrepreneurs who wish to offer phone charging as a service, the system enables the entrepreneur to charge over 100 phones per week without the high up-front costs of traditional equipment.

## Geographic Footprint

Kenya, Zambia, Malawi, South Sudan, Uganda and South Africa.

**Client Testimonial**

"With Indigo we get permanent light and phone charging, don't have to look for kerosene, and we're saving $5 per week. So I'm very happy for that"

Moses, Kenya

**Company**
St John's Innovation Centre, Cowley Road, Cambridge, UK CB4 0WS

**Contact**
Dr Simon Bransfield-Garth, CEO

**Telephone**
+44 (0) 1424 464801

**Email**
info@azuri-technologies.com

# Barefoot Power Ltd

## Company Background

Barefoot Power, a social for-profit enterprise, manufactures and distributes solar phone charging, lighting products and business development services to people at the base of the global economic pyramid. Our mission? To bring affordable renewable energy and efficient lighting to 10 million people by 2015 and help eradicate energy poverty. How will we do that? Barefoot Power strives for operational excellence. By bringing electricity to millions of people that currently use kerosene lighting and walk far for phone and battery charging, we plan on reversing the traditional process of rural electrification.

## Category of company

Off-Grid Product provider, Distribution company.

## Year the Enterprise was Founded

2005

## Product and Service Description

Barefoot Power has developed an expansive product range of low-cost lighting and phone charging systems that range from portable single-lights products to solar home systems. Our products have been developed over many years of feedback from users in a large variety of countries and our large product range mean that we can meet a large variety of end user needs. All our systems are designed for rough conditions and can be installed easily by the owner.

As well as providing reliably great products Barefoot Power also assists its distribution partners with awareness and marketing support, access to innovative financial support systems and detailed training on sales channels, troubleshooting and servicing of its products.

## Geographic Footprint

Africa, Asia Pacific, India, the Americas.

## Scale/Maturity of enterprise:

Over 300,000 products sold since inception in emerging markets, over 2000 entrepreneurs have been trained.

**Company**
Barefoot Power Pty Ltd
Suite 204, 2 Pembroke
Street, Epping, NSW 2121
Australia

**Email**
info@barefootpower.com

**Telephone**
+61 2 9868 1688

**Website**
www.barefootpower.com

# BBOXX Ltd

## Company Background

BBOXX is a for-profit spin-off from a student-led charity at Imperial College London called e.quinox. The focus of e.quinox is to design and construct solar kiosks in rural communities throughout Africa. BBOXX aims to expand on this mission by developing innovative methods of distributing renewable energy to the bottom of the pyramid in developing countries. While the founders of BBOXX continue to admire and support the work of e.quinox, they wanted to have an impact beyond what a charity can achieve. To realize BBOXX's ambitious vision BBOXX's partners leverage the technical expertise, international contact network, and foreign market knowledge that we have gained throughout our time as executive members and founders of equinox.

## Category of Company

Off-grid Product provider, pay-as-you go solution (development) and distribution company (through franchise network).

## Year the Enterprise was Founded

2010

## Product and Service Description

BBOXX offers a wide range of portable electrification systems that have been designed for use by consumers in the developing world as well as larger systems designed for schools, hospitals, community centres, etc. All of our solar systems are simple to use and durable enough to survive in the harshest of environments.

The features below are what make our products stand out in the marketplace:

- Plug and play functionality for ease of use and installation.
- Ability to charge from solar or the grid.
- Modular design that allows the user to add a wide variety of accessories from lights and fans to TVs and laptops.
- Custom sizing that ensures "The Right Energy" for the right budget.

## Geographic Footprint

Uganda, Kenya, Senegal, Ethiopia, Sierra Leone, China, Somalia, DR Congo, Pakistan and Indonesia.

## Scale/Maturity of Enterprise

15,000 solar kits of varying sizes produced and sold. 45 distribution points and representatives in 14 countries.

**Client List**
Tigo Tanzania (Milicom).

**Client Testimonial**
"The BB17 solar kit has made my daily house chores really easy and I now work for extended hours since I get enough light. It has also increased my income through my phone charging business."

**Contact**
Christopher Baker-Brian
Executive Partner and Director Research and Development

**Company**
BBOXX Ltd
2, Alison Drive,
Macclesfield,
Cheshire,
England, SK10 1PZ

**Telephone**
(UK) +44 7411327929
(China) +86 13360306460

**Email**
c.baker-brian@bboxx.co.uk

**Website**
www.bboxx.co.uk

# CAT Projects

## Company Background

CAT Projects operates throughout the Asia Pacific, specializing in remote area project management, power and renewable energy system engineering, and community engagement and stakeholder management. Our primary focus is on delivering innovative solutions for optimizing the generation, distribution and consumption of energy, with particular expertise in the technical and financial analysis, design and implementation of remote mini-grids (both hybrid and pure RE), and large grid-tied solar PV power plants.

CAT Projects has delivered numerous projects including three of the largest solar power plants in Australia, a number of large, high penetration solar-diesel hybrids (85% solar) in remote indigenous Australian communities, and the award winning Bushlight India Project.

## Category of Company

Off-Grid Product Provider

## Year the Enterprise was Founded

2007

## Product and Service Description

The Bushlight Model is a comprehensive, structured, thoroughly documented and resourced process for consultatively planning and implementing remote village minigrid energy systems. Developed to facilitate the establishment of reliable electricity supplies in remote Australian Indigenous communities, the model's effectiveness has been successfully proven through applications in over 150 communities. More recently, it was collaboratively adapted and demonstrated for use in remote Indian villages.

The Model has a service philosophy of providing reliable electricity supplies that are available 24/7; which it achieves through a range of innovative DSM hardware (specifically the Urja Bandhu household energy meter), linked into an associated and set of community education and energy planning activities. The total energy individual consumers can draw on any one day is limited to their selected daily energy budget (Wh/day), allowing for fixed daily demands, system optimization and simplified tariff structures and billing.

## Geographic Footprint

Across the Asia-Pacific region.

## Maturity of Enterprise

The Bushlight model has been used to guide the delivery of reliable, quality electricity services to over 150 remote Indigenous communities across central and northern Australia, and adapted and demonstrated in remote communities in western Orissa and the Sundarbans regions of India.

**Client Testimonial**

"This has been an experience where quality power has come to a very very impoverished people and people are now learning to dream."

Joe Madiath, Executive Director, Gram Vikas, Orissa, India

**Contact**
Lyndon Frearson,
General Manager

**Company**
Cat Projects
Desert Knowledge
Precinct, PO Box 8044,
Sth Stuart Hwy,
Alice Springs, 0871,
Australia

**Telephone**
+ 61 8 8959 6240

**Email**
lyndon.frearson@
catprojects.com.au

# Clean Power Systems

## Company Background

Clean Power Systems ("CPS") provides end-to-end power solutions that dramatically reduce diesel generator runtimes, diesel fuel consumption and overall operating expenses for mobile network operators ("MNO") tower sites in developing markets where power is unreliable or unavailable.

The technology has been proven and tested in CPS core markets of Middle East & Africa. CPS provides the system audits, designs, delivery, installation and ongoing support services for all of its solutions. In most cases, CPS sells direct to its customer base and in some cases, sells its solutions through channel partners.

CPS was founded to drive clean and renewable power into the telecoms space, where a significant positive impact to the customer, our environment and local communities can be achieved. The CPS executive team cumulatively has more than 120+ years in Global Telecoms, Power and Renewable Energy within the developing markets of the world.

## Product and Service Description

Our systems are engineered to the highest levels of quality and performance and have been proven on 1,000's of site deployments in the most challenging power environments.

CPS Solutions serve 2 primary types of sites:

1. **Off-grid sites** where diesel generators are primary source of power, running 24/7.
2. **Poor-grid sites** where grid power fluctuates in voltage or has phase failures, causing the diesel generator to power the site.

CPS SolSite Systems provide solutions with total OPEX savings in excess of 70%.

1. SolSite Hybrid Generator/Battery Platform for off-grid sites.
2. SolSite Line Conditioning Platfrom for poor-grid sites.
3. SolSite Renewable Platforms for solar/PV & Wind turbines.

**All SolSite Systems:**

- Renewable Ready for upgrades to Solar or Wind at any time.
- Include our Remote Monitoring & Management System: "SolSite Manager".
- Full System Performance Monitoring & Management System.

## Geographic Footprint

Africa: Kenya, Uganda, Tanzania, Sudan, South Africa, Namibia, Ghana, Burundi, Congo, DRC, Niger, Mali, Gabon, Senegal, Mauritius.
Middle East: UAE, Saudi Arabia, Pakistan, Afghanistan, Iraq, Egypt. Latin America: Bolivia, Panama, Costa Rica, Peru, Argentina, Brasil, Chile, Ecuador, Colombia, Haiti.
Asia Pacific: Malaysia, Indonesia, Australia
Europe: Spain, UK, Czech Rep.

## Financing

OPEX financing models are available through our banking partners.

**Client List**
All Major Tower Leasing Co's in Africa
LeBLANC Group

**Contact**
William Bubenicek

**Company**
Clean Power Systems
PO Box 565. Tarrytown, NY 10591, USA

**Telephone**
+1 800 516 4101

**Email**
Bill.bubenicek@clean-power-systems.com

**Website**
www.clean-power-systems.com

# d.light design

## Company Background

d.light is a for-profit social enterprise whose purpose is to create new freedoms for customers without access to reliable power so they can enjoy a brighter future. We will begin by replacing every kerosene lantern with clean, safe and bright light. We design, manufacture and distribute solar light and power products throughout the developing world. We aim to transform the lives of at least 100 million people by 2020, and have reached 12 million since founding, currently growing at the rate of 1 million new lives transformed per month. d.light serves over 40 countries, through over 6,000 retail outlets, 10 field offices, and four regional hubs. The company employs over 200 people directly, and indirectly employs hundreds more worldwide.


## Category of Company

Off-grid Product provider.

## Year the Enterprise was Founded

2007

## Product and Service Description

d.light uses the world's best product design principles and cutting-edge solar, LED and battery technology to create quality products that are durable, simple to use and dependable, even in harsh environments.

The d.light S-Line Solar lanterns are the
**d.light S2**: a solar task light providing 4 hours of bright light.
**d.light S20:** a lantern look alike providing 8 hours of bright solar light.
**d.light S300:** a premium solar light and solar mobile charger, provides 16 hours of bright light. With S300 you can also charge your phone and other low powered USB devices when you are off-grid.

**All our portable solar lights can be charged from a USB power source or USB power adapter.*

**d.light D20**, a Solar Mini Home System, comes with three lights and a USB outlet that allows customers to power their phones and USB devices like MP3 players, digital cameras and iPads.

## Geographic Footprint

d.light serves over 40 countries, through 6,000 retail outlets and 10 field offices.

## Maturity of Enterprise

d.light has sold over 2,400,000 units in the last 5 years.

Currently partnering with M-KOPA in Kenya that is using d.light's solar home system with its Pay-As-You go technology for thousands of customers.

**Client List**
Safaricom, Kenya.
SOLOMON TELEKOM
Roshan, Afghanistan

**Client Testimonial**
"Bala has a small chicken farm. He was so "completely convinced" of d.light's great value based on the construction, he now owns seven d.light lanterns. Light at night has increased his chickens productivity by 300 percent. "

Bala Suleman – Mataisia Town near Kano, Nigeria

**Company**
d.light design
650 5th Street, Suite 302,
San Francisco, CA 94107

**Contact**
Ned Tozun

**Telephone**
1-650-630-9714

# Decentralised Energy Systems India Pvt. Ltd. (D.E.S.I. Power™)


## Company Background

DESI Power has 16 years of experience in integrated solutions for energy-driven rural development, focusing on renewable energy based power plants, energy services and local enterprises. DESI Power's main aim is to create a local infrastructure and promote businesses so that a large part of the local value addition remains in the village and local jobs are created.

The model of DESI Power is an integrated solution where power plants, energy services, local enterprises and agriculture have to work closely together to make each other profitable. DESI Power is working on various renewable energy technologies and installs suitable combinations based on the need of the village. On the micro-enterprise side, DESI Power is working on various solutions using local resource for clean cooking energy, biogas plant for cooking / heat / fertiliser etc, solution for water pumping, helping in modern farming, trying to provide market linkage, etc.

## Category of Company

Off-Grid ESCO.

## Year the Enterprise was Founded

1996

## Product and Service Description

DESI Power plans, builds and operates renewable energy based power plants in villages and provide end to end solution. DESI Power's model of **Em**ployment and **Power** (EmPower) Partnership Program provides a tested working solution in which power plants, micro-enterprises, businesses and energy services are build simultaneously in a village jointly with local partners. Affordable and reliable electricity makes local micro-enterprises profitable and thus bankable as also attractive for private entrepreneurs. Profitable micro-enterprises and new wage earners in their turn become dependable buyers of adequate amounts of electricity and energy services to make the power plants profitable. DESI Power also supplied green electricity to the mobile towers and in future will be supplying green power to more number of mobile towers as part of its energy service business.

## Geographic Footprint

Araria district of Bihar, India

## Maturity of Enterprise

Presently 4 power plants and number of customers are in the range of 5000.

**Contact**
Mr. Aklavya Sharan

**Company**
No. 44, 3rd Main, 6th Cross, KHM Block, Ganganagar, Bangalore – 560032, India.

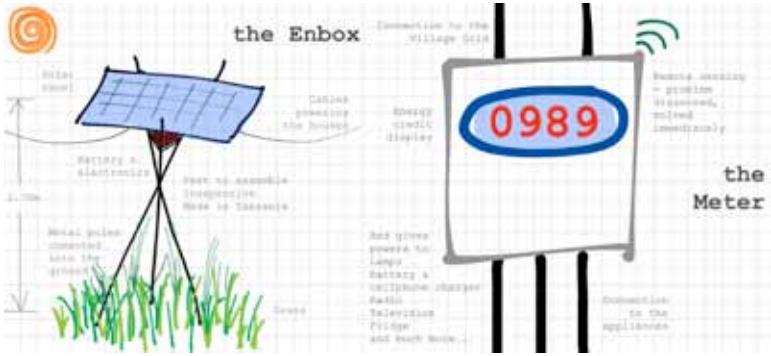
**Telephone**
0091 80 41328160

**Email**
aklavya@desipower.com

# Devergy

## Company Background

Devergy is a social energy utility, which provides a prepaid-based reliable, affordable electrical service to low-income people in developing countries by supplying a vertically scalable system. The electricity service is affordable as an alternative to kerosene (and solar lighting products) and covers the need typically addressed by solar home systems at a fraction of the costs.




Devergy Tanzania is a joint venture between Devergy and Voltzon. Devergy is an engineering company based in Amsterdam, specialized in developing prepaid electrical services focusing on rural households in developing countries and business development. Voltzon is a Dutch-founded Tanzanian company specialised in the procurement, installation and maintenance of solar systems in rural areas with years of experience in the solar sector in Tanzania. Devergy Tanzania will start its operations in 2012 with a pilot in several Tanzanian villages, followed by a full launch in 2013.

## Category of Company

Off-Grid ESCO, Pay-as-you-go Solution.

## Year the Enterprise was Founded

2010

## Maturity of Enterprise

3 pilots starting in Spring 2012.

## Product and Service Description

Devergy works through a service model, providing electricity to customers who have no access to the power grid. Devergy sells energy as pre-paid credit top-up cards. When connecting a new village, Devergy installs solar panels and batteries (Enboxes) and a meter in the customers' home or small business. The meter shows the available credit on a display. When the credit is finished energy is not provided anymore, until the meter credit is topped-up again.

The Devergy system is designed to be cheaper than the current kerosene spending for equivalent lighting, while offering a much better service, in terms of quality (better light) and diversity allows to charge mobile phones and batteries for radio. The same meter can be used to power a small light or an appliance such as a TV or fridge, without any intervention except the top-up of credit as necessary.

## Geographic Footprint

Tanzania, bordering countries by 2015.

**Client Testimonial**

"We find Devergy's offer is affordable and will allow us to move away from kerosene, which is too dangerous for our children."

Tatu - Matipwili, Bagamoyo

**Contact**
Fabio De Pascale

**Company**
Devergy
Westerstraat 264-1
1015 MT Amsterdam
The Netherlands

**Telephone**
Netherlands:
+31 6 49140039
Tanzania:
+255 783960056

**Email**
fabio@devergy.com

# Emergence BioEnergy Inc.

## Company Background

Emergence BioEnergy Inc. (EBI) is a US-based company developing remote power solutions in emerging markets. EBI is currently piloting a low-maintenance, primary power generation system in Bangladesh operating from biogas and other fuels. Our business approach is based on generating power anywhere from whatever fuel resources may be available, from diesel and natural gas to agricultural waste. EBI has developed a model for distributed generation that not only provides continuous, reliable power for telecom towers, but also empower local farmers in remote areas by creating revenue streams from waste. The EBI approach addresses a number of key issues facing tower operators including reliability, fuel logistics, community relationships and long term sustainability. EBI is headed by Iqbal Quadir, the founder of Grameenphone, the largest provider of cellular services in Bangladesh. Our first pilot site is operating in Bangladesh since 2012, with commercial operations beginning in early 2014.

## Category of Company

Off-Grid ESCO

## Year the Enterprise was Founded

2006

## Product and Service Description

The EBI product is based on Stirling micro-CHP technology that is uniquely suited for mission critical remote power needs:

a. Fuel Flexibility / Primary Power: As an external combustion heat engine, the micro CHP can accept virtually any fuel including renewables like biogas as well as traditional fuels like diesel or natural gas. The engine can operate continuously with less than 20% maintenance cost of comparable diesel engines.

b. Heat Recovery: By recovering heat during power generation for use in a secondary energy process. The micro-CHP allows users to maximize productive use of limited fuel resources by cycling heat into refrigeration or cooling, an energy intensive applications that are very expensive to maintain where power is unreliable.

c. Low noise: Engine noise levels do not exceed 65 dBa, which means it can operate in the home or a quiet village without disturbing the environment.

## Geographic Footprint

Bangladesh, India, Pakistan.

**Contact**
Firas Ahmad

**Company**
PO Box 425519,
Cambridge MA 02142

**Telephone**
+1 240 441 6455

# Energize the Chain

## Company Background

Energize the Chain (EtC) is a non-profit organization based out of Philadelphia, USA. EtC proposes using existing energy generation infrastructure at base transceiver station (BTS) locations to power vaccine refrigerators. Ensuring the integrity of the entire cold chain up to the final point of delivery in remote areas of the world will have a measurable impact on vaccine quality and rates of spoilage by helping to store vaccines longer and in safer conditions. In the long term, this will help to maintain vaccine integrity and reduce costs in the cold chain.

## Category of Company

Non-Profit Community Services Provider

## Year the Enterprise was Founded

2010

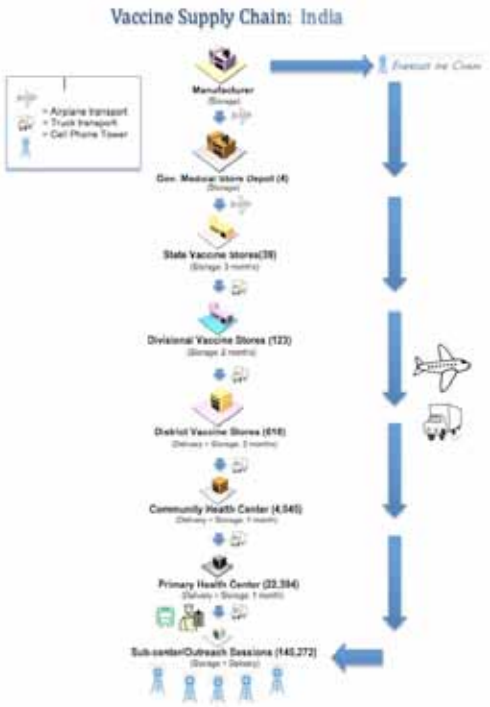
## Product and Service Description

EtC partners with Mobile Network Operators (MNOs), tower companies, public health agencies, multilateral organizations, and other entities involved in the cold chain to increase access to, and improve the quality of, early childhood vaccination primarily in remote communities with no/unreliable power grids.

EtC provides its advisory and support services free of charge to participating MNOs and tower companies, and can often arrange for vaccine refrigerators to be funded from third party donors.

## Geographic Footprint

EtC is US-based, but maintains a global scope. Current efforts are focused on Africa and India, but EtC is ready and interested to initiate projects in other parts of the developing world.




**Client List**
Econet
Vodafone

**Contact**
Dr. Harvey Rubin

**Company**
University of Pennsylvania,
111 Clinical Research Building,
415 Curie Boulevard
Philadelphia PA 19104

**Telephone**
215-662-6475

**Email**
rubinh@upenn.edu

**Website**
www.energizethechain.org

# Eternum Energy


## Company Background

Eternum Energy brings together a team of passionate entrepreneurs with engineering and business expertise combined with an in-depth knowledge of the Africa market. Eternum Energy designs and develops products in-house in order to target specific applications and niche markets. In line with Eternum Energy's ambitions, products are designed to support the development of communities in sustainable ways and to encourage economic growth.

Eternum Energy's current focus is to reduce the cost of cell phone usage in rural areas of developing nations. As cell phones have become a vital part of any enterprise where electricity and fixed phone line infrastructure do not meet requirements, the need for cell phone charging solutions is great.

## Category of Company

Off-grid Product provider.

## Year the Enterprise was Founded

2009

## Product and Service Description

Eternum Energy produces SOLARIS, a business-in-a-box charging product that allows a village entrepreneur to provide a cell phone charging facility to their local community. The unit is compact and highly affordable being able to charge 6 devices at a time and up to 20 per day via standard USB ports. The price point allows an owner-operator to receive a return on the cost in less than 3 months! The modular system means operators to scale up their service with increased demand.

Eternum Energy has also developed the POLARIS low cost personal cell phone charger. The device is a 1.3 watt solar charger that allows a single cell phone to be charged directly from the solar panel; providing individuals with instant power from the sun. 'Safe-charging' technology allows compatibility with a wide variety of cell phones.

## Geographic Footprint

Zambia, Zimbabwe, Malawi, Kenya, Burundi, Ghana, Nigeria.

## Maturity of Enterprise

1000 products sold since inception in emerging markets.

**Client List**
Airtel Kenya

**Client Testimonial**

"The SOLARIS solution is really a huge benefit in the deep rural market in Kenya, with our distributors really gaining interest after the products were showcased at the Airtel All-Stars event in Kakamega. In Western Kenya I believe the product will do well due to lack of electricity."

Anthony Opiyo, Regional Manager, Airtel Kenya

**Contact**
Siten Mandalia

**Company**
108 Field End Road,
Pinner, Middlesex,
HA5 1RL

**Email**
siten@eternumenergy.com

**Telephone**
+44 7466984522

# Fenix International Inc.

## Company Background

Fenix International is a venture funded, Silicon Valley renewable energy company that designs and manufactures income generating energy solutions for mobile telecoms in emerging markets.

## Category of Company

Off-Grid Product provider, Pay-as-you go solution, and Distribution company.

## Year the Enterprise was Founded

2009

## Product and Service Description

The Fenix ReadySet, is an intelligent plug-and-play energy system that can power mobile phones, lights, radios, tablets, Wi-Fi routers and even water purifiers and medical devices. The ReadySet contains intelligent electronics and a robust battery that can be charged from a variety of energy sources including solar, micro-wind, micro-hydro, and even a bicycle.

The ReadySet is designed to empower rural entrepreneurs in emerging markets to become micro-utility providers and deliver sustainable energy to their communities. By powering mobile phones, as well as rechargeable lanterns and torches, for a small fee (typically 0.25USD), ReadySet entrepreneurs can generate substantial new income. Field studies across East Africa have shown the cost of the system can be earned back in as little as three to six month's time.

For mobile network operators in emerging markets, The ReadySet keeps users phones fully charged, increasing mobile customers' off-grid utilization of services such as airtime, mobile banking, and data.

## Geographic Footprint

Uganda, Rwanda plus several pilots across Africa, Asia, and Latin America.

## Maturity of Enterprise

3,000 units sold and over 20 pilots in progress with mobile operators across Africa, Asia, and Latin America.

**Client List**
MTN Uganda
MTN Rwanda

**Client Testimonial**

"The ReadySet has changed people's lives. It has added to their incomes and their working hours. They found it positive and the efficiency is very good. It has helped them charge their phones. On average they charge 8 phones/day and earn 500 shillings per phone."

Nelson Kiwagi, Regional Account Manager, MTN Uganda

**Company**
1500 17th Street,
San Francisco,
CA 94107

**Telephone**
+1-415-754-9222

**Email**
sales@fenixintl.com

# Frontier Markets Pvt. Ltd

## Company Background

Frontier Markets is a last-mile sales and distribution company offering clean energy products and superior after-sales service for low-income, base of the pyramid families (BOP) in rural India. Frontier Markets (FM) offers a unique model in the sector that relies heavily on after-sales servicing and a continued relationship with our customers. FM builds service centers, partners with local channels to gain in-depth access to target households, and creates village-level branded franchises that stock and sell affordable high social impact products with ongoing customer service to BOP families. Due to our strong brand identity which has earned our customers' trust, we are able to provide demand-focused products and customer insight for more customized product development in the sector. We have started operations in rural India and are working with clean energy products such as solar lanterns, home lighting systems, solar inverters, with plans to expand our basket to areas such as water purification, agriculture, and health.

## Category of Company

Distribution Provider

## Year the Enterprise was Founded

2009

## Product and Service Description

FM plays a critical role in bridging the gap between customers and product companies. FM staff educates customers on the benefits of solar and sells and services these products to rural households. We use a wholesale and retail model whereby our locally hired staff work with our franchised retailers to cultivate awareness and match products to customers' needs. We prime the market for our franchises using existing community meeting points such as bazaars and civic events increasing product awareness and our presence in rural villages. Once we have sold a solar product to a consumer, to ensure trust and accountability to the sale, we register them to our support network where we provide on-the-ground service and repair.

Our field team researches and creates new branches every quarter that capture standardized markets and build the right product basket to run a sustainable profit center. Each branch at full capacity covers 300,000 households with 30 franchise retail points. Our research and operations teams continually select and test new products and provide feedback to manufacturers to improve product design and quality. Our relationship with our customers makes us unique in this market.

## Maturity of Enterprise

4500 products sold, 32 agents, 3 service centers (reaching 900K customer potential)

---

**Client Testimonial**

"We trust Saral Jeevan more than any other company because they are reliable and honest; we are hoping they bring us more products."

Ram Narayan, Farmer

**Contact**
Ajaita Shah

**Company**
D-52 City Vijay Point,
Ahinsa Circle, C-Scheme,
Suite 304, Jaipur,
Rajasthan India, 30201

**Telephone**
+ 91.9166003444
+ 1.9145140521

**Email**
Ajaita.Shah@frontiermkts.com

# Greenlight Planet Inc.

## Company Background

Greenlight Planet's mission is to bring life-changing technology solutions to developing world households. We design and distribute high-quality solar-powered lanterns to off-grid homes around the world. And we're committed to developing truly innovative distribution, financial and partnership models to reach even the most isolated, price-sensitive families around the globe.

We set out to build the world's lowest cost and longest lasting solar products not only because it is the right thing to do, but because it makes good business sense – and this has defined our product philosophy ever since. We stand behind our quality ethic, and we offer our customers a 2-year warranty to prove it.

Life changes when Sun King™ enters the home: children can study at night, breadwinners can extend their income earning hours and families can enjoy cleaner, safer home environments. Moreover, a Sun King™ lantern pays for itself in just a few months, and a household's reduced kerosene consumption translates to a net savings for years and years.

## Category of Company

Off-grid product provider and distribution company.

## Year the Enterprise was Founded

2008

## Product and Service Description

**Breakthrough Durability**
From its water-sealed, nearly unbreakable polycarbonate shell, to its dust cover-protected charging ports, to its industrial-grade, aluminum-framed solar panel and durable steel stand, Sun King™ products are built to last in tough environments.

**Revolutionary Batteries**
Sun King™ products use the latest Lithium Ferro-Phosphate battery technologies. Efficient, stable, and ultra-long-lasting, LFP batteries provide far superior longevity than old NiMH, NiCd, and lead-acid batteries.

**Unbeatable Solar Panel Durability**
Unlike other products in its price range, Sun King™ uses a detachable solar panel with a repairable junction box, and a five-meter cable. The aluminum- framed, industrial-grade glass protected solar panel is far more durable than alternatives based on polycarbonate or epoxy encapsulation, both of which degrade quickly in harsh environments.

## Geographic Footprint

South Asia, sub-Saharan Africa, Southeast Asia and Latin America.

## Maturity of Enterprise

We have brought solar lanterns to more than 500,000 homes across 25 countries in South Asia, sub-Saharan Africa, Southeast Asia and Latin America. In India, our Direct to Village (DTV) distribution business features more than 1,500 active village level Sun King sales agents.

**Company**
Greenlight Planet Inc.
105 Michaux Rd.
Riverside, IL 60546
USA

**Email**
info@greenlightplanet.com

**Website**
www.greenlightplanet.com

# M-KOPA

## Company Background

M-KOPA is a mobile technology company based in Nairobi, Kenya. Since 2010 we have helped Kenyans acquire solar power products by offering innovative payment plans and a distribution model tailored to the needs of our customers. The founders of the company are experienced mobile technology innovators who believe in the huge potential of transformative, affordable products designed for underserved consumers. While excellent technology is a pre-requisite, technology alone does not solve for customer needs. Success comes when smart technology is combined with a commitment to on-going, on-the-ground delivery.

## Category of Company

Pay-as-you go solution, Distribution company.

## Year the Enterprise was Founded

2010

## Product and Service Description

M-KOPA Solar provides affordable solar-powered lighting and mobile charging to rural Kenyans on a pay-as-you-go basis, with payment via M-PESA. An initial deposit applies, followed by daily payments for up to one year. M-KOPA is available in more than 300 locations in Kenya. Additional products using the same patent-pending technology are in pilot.

## Geographic Footprint

Kenya.

## Maturity of Enterprise

M-KOPA is sold through 300 M-PESA agents across Kenya

**Client List**
Safaricom

**Client Testimonial**

"This system addresses some fundamental issues at the bottom of the economic pyramid with 70 to 80 percent of the country living without grid electricity... We can use our technology to address these issues."

- Bob Collymore, CEO Safaricom (Bloomberg interview, 3 October 2012)

**Company**
M-KOPA Kenya Ltd
PO Box 51866-00100
Nairobi, Kenya

**Email**
info@m-kopa.com

**Telephone**
+254 (0) 711.071.000

# Mobisol GmbH

## Company Background

Mobisol provides solar-home-systems to low- in-come customers combining solar energy with mobile phone technology. Mobisol developed a solar controller, which contains a GSM modem to track all technical data from the panel, battery and all consumer appliances via a web based database for remote metering and maintenance.

Mobisol provides the systems to our customers on a 36-month payment scheme, via a mobile money transfer service to reduce costs for money collection and credit monitoring. This enables Mobisol to provide our target group with electricity, who otherwise could not afford it and provides service and maintenance to create a viable business model on a sustainable basis.

The company already works with key partners, such as leading mobile operators and with local service and distribution partners. Key activities implemented are education and capacity building to train local technicians, sales and marketing team.

## Category of Company

Off-Grid Product provider, Service and Distribution company.

## Year the Enterprise was Founded

2011

## Product and Service Description

Mobisol is available in four different sizes (20, 60, 120, 200W) to match the varying electricity needs and payment abilities of different customer groups. Our smallest option is a 20W system able to provide enough electricity to light four rooms and charge one mobile phone a day.

The company introduces a service innovation that creates distinct advantages. The system has been designed to be self-installed by the customer, with all tools and cabling necessary for installation included. Systems are stocked at local service hubs to be picked up by the customer after he has made the down payment and received training. A toll-free service number is provided so the customer can make inquiries or report concerns. Data about system performance and payment status is transmitted from solar system's Mobisol controller via the mobile network and stored organized in specially-designed database.

## Geographic Footprint

East and West Africa.

## Maturity of Enterprise

Pilot stage successfully finished in Kenya and Tanzania with 200 implemented systems, currently running second pilot with 800 systems until March 2013 and another pilot project in Ghana. 3000 installations planned in 2013.

**Client List**
Vodacom
Safaricom
Airtel
tigo/Millicom

**Contact**
Thomas Gottschalk,
Managing Director

**Company**
Proskauerstr. 29
10247 Berlin
Germany

**Email**
info@plugintheworld.com

**Telephone**
+49 (0)30-97 00 2 555


# Nokero International

## Company Background

Nokero (short for "No Kerosene") designs, manufactures and collectively distributes safe, affordable, and environmentally-friendly solar based technologies. Our solar lights and solar battery chargers are high-quality and low-cost, eliminating the need for harmful and polluting fuels around the world. Our products are designed for the 1.3 billion people without access to reliable electricity. Today many of these people spend significant amounts of their daily income on lighting fuels and on charging their mobile phones. This not only deprives families of hard earned money, it poses a real and serious health hazard through the release of toxic fumes and the high occurrence of burns caused by the accidental knock over of lamps. Through the use of our solar-based products our customers can see a ROI in six months and then have positive income flows through the decreased or discontinued need to pay for lighting fuel and charging phones.

## Category of Company

Off-Grid Product Provider.

## Year the Enterprise was Founded

2010

## Product and Service Description

Our products are unique relative to our competition because of their ease of use, relatively low price points, and high charging efficiency. Nokero offers two styles of chargers, one that allows the user to charge mobile phones with a USB cable and one that allows the user to charge any 3.7 volt battery in a universal charging port. All of our chargers are portable, lightweight, simple to use and inexpensive.

## Geographic Footprint

Nokero products have been distributed in over 120 countries worldwide.

## Scale/Maturity of Enterprise

Off-Grid product providers: # of products sold since inception in emerging markets: 500,000.

**Client Testimonial**

"Out of the 10 solar-charging products that I had, only one of them would generate enough charge on an overcast day to charge my phone, and that device was the Nokero."

Jill Fehrenbacher, Inhabitat

**Contact**
Evan Husney

**Company**
650 Grant Street,
Denver, CO 80203

**Telephone**
(303) 991 9871

**Email**
evan@nokero.com


# Nuru Energy

## Company Background

Nuru Energy was seed-funded by the World Bank in 2008 and currently operates in East Africa and India. With an enduring commitment to solving the global problem of energy poverty, which affects over 2 billion people worldwide, Nuru Energy has developed a one-of-a-kind robust and simple-to-use off-grid recharging platform, the Nuru POWERCycleTM pedal generator. The POWERCycle™ provides reliable clean, sustainable power anytime, anywhere and is hundreds of times more efficient than current solar-based solutions at a fraction of the cost.

For its efforts, Nuru Energy has been recognized as the recipient of numerous global awards, including the prestigious 2010 UNEP Sasakawa Prize, the 2010 UNDP World Business and Development Award, the eBay Foundation/Ashoka Powering Economic Opportunity Award among others.

To learn more, please visit: www.nuruenergy.com.

## Category of Company

Off-Grid Product Provider & Distribution Company.

## Year the Enterprise was Founded

2008

## Product and Service Description

The Problem: Over 700 million people in Africa live without electricity. To address their need for mobile phone charging, most walk many kilometers each week to access mobile phone charging services in larger town centers with grid access. Our Solution: Nuru Energy is addressing their need by creating a network of off-grid village-level microentrepreneurs (VLEs) that each use Nuru Energy's POWERCycle pedal generator as the basis for an off-grid fee-for-service recharging business recharging up to 5 of Nuru Energy's own modular, portable LED lights with each 20 min cycle of pedalling.

Each Nuru LED Light now comes with a separate, detachable, mobile phone charging accessory that turns the Nuru Light into a mobile phone charger. Users can now recharge their mobile phone directly from the Nuru Light.

The patent-pending POWERCycle pedal generator is the first of its kind in the world. Because it is human-powered, the POWERCycle is not affected by unpredictable weather patterns and can therefore recharge Nuru LED lights anytime, anywhere.

In addition to the POWERCycle, Nuru Energy has developed solar and AC-based chargers that are being packaged with the Nuru Light and Mobile phone charging accessory. These packages are available through traditional retail channels.

## Geographic Footprint

Rwanda, Kenya, Uganda.

## Maturity of Enterprise

1110 distribution agents (village-level entrepreneurs), >30,000 products sold.

**Contact**
Sameer Hajee,
CEO, Co-Founder

**Company**
6 Stuart Close, Tokai,
South Africa 7945

**Email**
info@nuruenergy.com
shajee@nuruenergy.com

**Telephone**
+27 733084322

**Website**
www.nuruenergy

# Off.Grid:Electric

## Company Background

Off.Grid:Electric is a distributed clean energy utility serving the East African market.

We build, own and operate small-scale home solar systems serving populations and businesses that suffer from an unreliable, expensive, or non-existent grid.

Off.Grid:Electric delivers on a complete technical, operational and financial model that makes incredibly high quality renewable electrical services radically affordable to the world's off-grid poor. It is a model that will scale to millions of homes. We don't sell gadgets or lanterns, we sell electrical services, pre-paid in small amounts. We provide 15 to 50 times more light to our customers for less money than they are already spending on energy substitutes.

## Category of Company

Pay-as-you go solution.

## Year the Enterprise was Founded

2011

## Product and Service Description

Off.Grid:Electric's M-POWER service represents an innovative approach to the market, whereby customers pre-pay for energy services.

Energy is provided by world-class plug-and-play solar systems installed in their homes. M-POWER systems include not just the energy system, but the world's most efficient lights and small appliances. Consumers do not buy hardware, they merely pay for the service.

After systems are installed, customers purchase credit in order to use the system. Payments are sent via mobile transactions, from direct customers, or potentially as a payroll deduction, in the case of employee housing.

Should a system require repair or a customer wish to upgrade, we provide complete support ensuring that no M-POWER customer is ever left in the dark.

## Geographic Footprint

East Africa.

**Company**
PO Box 110C, Arusha
Tanzania

**Email**
info@offgrid-electric.com

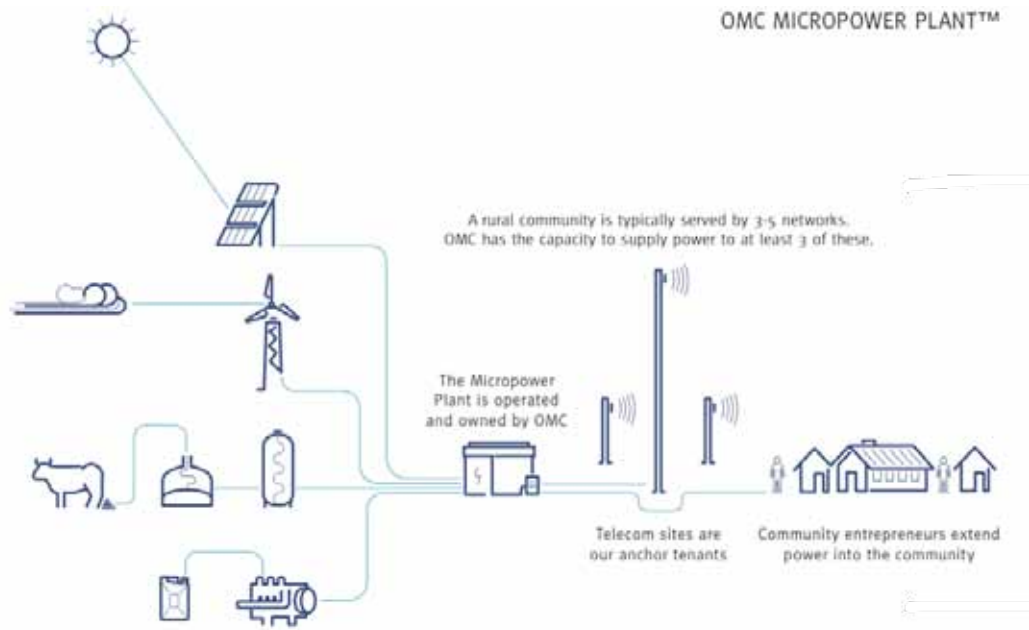
**Website**
www.offgrid-electric.com

# OMC

## Company Background

Founded in 2011, OMC is a new type of powercompany that offers Micropower – small-scale energy with local generation and distribution – to mobile networks and communities in rural and remote locations.

Our customers are tower companies, mobile infrastructure companies and mobile operators, as well as rural communities, in emerging markets – all requiring reliable, renewable and affordable power with zero Capex.




Micropower Plant

OMC PowerBox

## Year the Enterprise was Founded

2011

## Product and Service Description

**Micropower for Telecom**
Grid-replacement 230V from renewable sources, with carrier-class reliability.

**Micropower for Communities**
Packaged power: Lanterns and PowerBoxes that power lights, fans and other utilities.

## Geographic Footprint

Serving Northern India, preparing Africa launch. Our current Micropower Plants power 20+ towers and reach about 150,000 people in 300 towns and villages.

## Client Testimonial

"OMC Power is one of the first RESCOs in India witha very good and innovative model where commercial feasibility is improved by combining the electricity needs of communities and Towercos"

Sairam Prasad, CTO Bharti Infratel and OMC customer.

**Company**
OMC – Omnigrid Micro-power Company Pvt. Ltd.
406 a, 4th Floor, Centrum Plaza, Golf Course Road,
Gurgaon – 122 001,
INDIA

**Email**
info@omcpower.com

**Website**
www.omcpower.com

# Pamoja Cleantech

## Company Background

Pamoja Cleantech specializes in innovative biomass technologies for off-grid electricity applications. We offer full service agreements, operation and maintenance which enables telecom operators to outsource their entire energy supply. Thus our customers avoid CAPEX investment in energy infrastructure and allows savings up to 30 % of current diesel supply OPEX.

Pamoja Cleantech was founded in 2010. The company has designed a hybrid energy system that combines solar PV and biomass gasification technologies Implementation of this inclusive energy system in Uganda during 2013 is supported by the World Bank and the Swedish International Development Agency.

## Product and Service Description

Pamoja Cleantech holds expertise in renewable energy engineering, natural resource management, market and business intelligence, social empowerment and skills training. We provide services and consultancy for the energy supply of telecom companies including feasibility studies, business model elaboration, equipment selection, power plant design, biomass supply implementation, training and system installation. We are a service outreach partner and we work with a range of suppliers in biomass gasification technology.

Through the integration of the local community we build short-cycle operations supplying the energy system with biomass for feedstock. Our approach to energy production creates a local symbiotic system which nurtures sustainable development and strengthens the customer base of the telecom industry.

## Geographic Footprint

Sweden, USA, Germany, France, Spain, Finland, East Africa.

**Client Testimonial**

"Our product is an off-grid platform for Sustainable Energy, ICT and Life Services exciting local entrepreneurship in rural communities."

**Company**
Pamoja Cleantech AB
Svante Arrhenius väg 21b,
Stockholm,
Sweden, 114 18

**Telephone**
+46 73 5752243

**Email**
info@pamojacleantech.com

# Phaesun France SAS

## Company Background

Phaesun GmbH has been specialising in the sales, service and installation of Off-Grid photovoltaics and wind energy systems since it was founded in 2001. As one of the leading system integrators in Off-Grid energy systems on an international scale, Phaesun offers products of the most renowned manufacturers in this trade. International project management, systematic customer training and technical support complete the services offered. Being one of the major companies in Off-Grid solutions for emerging countries its staff can look back on more than 20 years activity in this field.

Phaesun headquarters are in Germany and its subsidiaries and associated companies are based in France, Eritrea, Greece, Sudan and Panama. They can fall back on a worldwide network of partners and distribution channels.

In France, Phaesun also has innovation activities by investing annually in photovoltaic research and development.

## Product and Service Description

The Phaesun business activities include two divisions. The "Solar Component and Sales Division" is responsible for the wholesale distribution of selected, high quality Off-Grid-components. Phaesun acts worldwide as an intermediary between manufacturers and wholesale customers. The "Solar Systems and Installation Division" is a service division, realising entire projects for Off-Grid applications (for rural, water-pumping, telecom, oil and gas and leisure segments) including system sizing, design, manufacture, assembly, delivery and support services to its customers.

Through the Phaesun Off-Grid skilled centre for development, design, engineering and implementation of solar power solutions, Phaesun offers both hardware and software. The most important cases are modular pure solar and hybrid solar sites (AC or DC Bus) including data logging software (Phaesoft) and web-based remote monitoring (Phaeweb), array antitheft solutions and project services (FAT, SAT…). We notably deployed more than 400 PNGM charge control units since end of 2010.

With various partners, Phaesun is involved in a permanent solar solution development program aiming at technology package improvement (offer development, energy storage…) and TCO optimization (CAPEX, OPEX, RoI…).

## Geographic Footprint

Around the world: Phaesun Group (Phaesun GmbH, Phaesun France SAS, Phaesun Asmara, Phaesun SA Panama) and its network of associated companies have a worldwide presence.

**Client List**
Dialog Axiata Plc
Telma Mobile
Maroc Telecom
Telecel
Telkom SA
Digicel
Ericsson
Ethio Telecom
MTN
Warid Telecom

**Client Testimonial**
"Our telecom station is now plugged to the sun. This stand-alone energy solution with PNGM energy management is a major step into a future without any grid-disruption. Additionally there is no more noise on site; neighbours will sleep in peace."

**Contact**
Sara Dandrau

**Company**
145, rue de la Marbrerie, Boîte aux lettres n°4,
34740 Vendargues,
France

**Telephone**
+33 467 04 38 40

**Email**
sara.dandrau@phaesun.fr

# RVE.SOL Rural Village Energy Solutions

## Company Background

The cycle of rural poverty is perpetuated by the sustained lack of access to energy and potable water; the high cost of dirty fuels and healthcare for waterborne and respiratory diseases keeps communities poor and unable to break this cycle. As a triple bottom line social enterprise, we enable communities to break this cycle in the form of a proven, community-level infrastructure solution for those without grid and clean water access or to those looking to replace diesel generators.

## Product and Service Description

KUDURA is a holistic, scalable, sustainable, ISO9000-certified rural development solution, leveraging locally available solar and wind energy, animal manure and raw water to provide entire communities with electricity, clean water, biogas and biofertiliser.

Our sustainable development solution breaks the cycle of poverty in 3 ways: 1) Communities save money by not having to buy kerosene, wood, coal and diesel outside of the community nor drinking dirty water 2) Jobs are created when managing the unit and 3) Income is created by leveraging these energy services to start small businesses, by increased crop yields from biofertiliser and by selling the raw inputs (manure, dirty water) to the unit manager. Value added services are provided to the community on a pre-pay basis.

Remote data monitoring via GSM allows the system owner to monitor from anywhere in the world in near real-time, all system performance variables via our web-based mobile monitoring system. This increases reliability, prevents unexpected power outages and downtime, while increasing quality of service to the end-clients. Systems typically are functional within 24 hours of installation.

RVE.SOL offers tailored energy and water consultation services, allowing operators, governments and Non-Governmental Organisations to invest, through KUDURA, in impactful rural development solutions while addressing their own specific needs, whether developmental or commercial.

## Geographic Footprint

Kenya, Uganda, Angola, Portugal – shortly in Fiji, Sierra Leona, The Gambia, Mozambique, Malawi and Tanzania.

**Client List**
Village of Sidonge & CABE, Kenya
ESTPOR, Angola

**Client Testimonial**

"We don't want charity; we need an investment, a chance tocreate income and at the same time save the planet for our children. KUDURA gives us this opportunity"

Mr. Elsafus Mang'eni, Senior Chief and elder of Sidonge 'A' Village, Kenya.

**Contact**
Vivian Vendeirinho

**Company**
Rua da Granja N.10A
2420-397 Leiria, Portugal

**Telephone**
+35 1917657570

**Email**
info@rvesol.com

**Website**
www.rvesol.com

# Solar Sister

## Company Background

Solar Sister eradicates energy poverty by empowering women with economic opportunity. We combine the breakthrough potential of solar technology with a deliberately woman-centered direct sales network to bring light, hope and opportunity to even the most remote communities in rural Africa. The Solar Sister Entrepreneurs provide green mobile charging solutions for their communities through charging services and by selling micro-solar mobile chargers. Light and connectivity powered by clean energy enhances education, improves health and safety and provides economic opportunity. Through economic opportunity and the transforming benefits of solar technology, women are able to lift themselves, their families and their communities out of poverty.

## Category of Company

Distribution Company

## Year the Enterprise was Founded

2010

## Product and Service Description

The most important step to ending poverty is to create employment and income opportunities. Solar Sister does just that by empowering women with economic opportunity. Using an Avon-style distribution system, Solar Sister creates vital access to clean energy technology by building and extending the supply chain through women's rural networks. Solar Sister provides the women with a 'business in a bag', a start-up kit of inventory, training and marketing support. The women become their own bosses, creating sustainable businesses.

The women use their natural networks of family, friends and neighbours to provide the most effective distribution channel to rural and hard-to-reach customers.

## Geographic Footprint

East Africa.

## Maturity of Enterprise

Solar Sister has over 280 Solar Sister Entrepeneurs in Uganda, Rwanda and South Sudan, benefiting over 35,000 people with clean energy access.

**Client Testimonial**

"I no longer have to pay for phone charging, I just put the solar panel on my roof and connect my phone to the lamp and it is charged, it is a miracle that has put my heart to rest."

Mama Norah, Uganda

**Contact**
Katherine Lucey,
Founder and Chief
Executive Officer

**Company**
Solar Sister
P.O. Box 1002
Bristol, Ri 02809
United States

**Telephone**
+1 224-406-4483

**Email**
lucey.katherine@gmail.com

# Solarway

## Company Background

Solarway specializes in personalized renewable energy solutions that can enhance people's lives. We aim to confront the challenges of lack of power for communication and lighting with customized designs, reliable and affordable solutions. Mobiles are delivering more and more services worldwide. The mobile phone has become more than just a tool for communication aiding with medical advice, market Information, banking services, education and even voting cards are being delivered by mobile. There are huge social, economic and environmental benefits for people having free sustainable power to allow them to embrace new technologies to improve their lives.

## Product and Service Description

Solarway is a forward thinking creative think tank that develops personalized and sustainable power solutions for people with limited or no access to power. Our creative development teams design, create and engineer products that can perform in the most extreme conditions bringing the ability to have light at night and to power communication so necessary for localized economies. Our development teams based in Hong Kong ensure the product is made to the highest standards with strict quality control systems throughout the development and manufacturing process.

## Geographic Footprint

Head Office: Dubai, UAE.

Other Offices: South Africa, United Kingdom, Hong Kong, Nigeria, Zimbabwe, Lesotho, Burundi and Botswana.

**Company**
S3 B1SR08,
Jafza Business Plus, Jebel Ali Free Zone – South,
PO BOX 61178,
DUBAI, UAE

**Telephone**
00971 4 880 6122

**Fax**
00971 4 880 6166

**Email**
info@solarway.com

**Website**
www.solarway.com

# Solengy Group Ltd.


Solengy
Innovation for Sustainable Development

## Company Background

Solengy was founded in 2001 with the vision of adapting renewable technologies and business models to be both, affordable and sustainable in the challenging environment of rural areas in developing countries.

In the past 10 years Solengy has been gathering experiences in different markets such as Haiti, Sri Lanka and the Dominican Republic building a strong on the ground expertise which lead to the development and implementation of cutting edge solutions with a proven track record.

## Category of company

Off-Grid Product provider, Off-Grid ESCO, Pay-as-you go solution, Distribution company

## Year the Enterprise was Founded

2001

## Product and Service Description

Solengy develops, manufactures, distributes and leases Integrated Solar Power Solutions for rural applications in developing countries. Our product line covers Solar Charging Stations, Solar Street Light, Integrated Solar Power Systems for Telco Towers, Integrated Solar Power Systems for Community Centers (health centers, schools, etc.)

Our main solution is a leading edge Solar Charging Station, the SGX Series, along with Solengy rechargeable devices that allows rural households at the bottom of the pyramid to get access to basic electrical needs such as lighting, mobile phone charging, radios and television.

Each SGX charging station creates one micro enterprise, empowering a woman generating sustainable revenues and creating up to one additional job.

By the end of 2012 Solengy will have installed 2,000 charging stations in Haiti, providing 400,000 Households access to recharge their mobile phone and their Solengy Rechargeable Devices as well as empowering 2,000 women with their own micro enterprise (system operators).

Solengy is launching pilots with its Integrated Solar Power Solution for Telco Towers in 2012. Solengy is providing turnkey solution with 100% OPEX model with contract length between 5 to 10 years.

## Geographic Footprint

Haiti, Dominican Republic, Sri Lanka.

## Maturity of Enterprise

Over 3,000 Solar Power Systems in rural developing countries (Haiti, Dominican Republic, Sri Lanka). Over 25,000 users (Haiti, Q1/2012), Over 400 agents (Haiti, Q1/2012).

**Client List**
Digicel Haiti

**Client Testimonial**
"Since 2010 Digicel has been investing in finding sustainable solutions for their subscribers in rural areas to recharge their cell phones. In doing so we worked closely with Solengy who developed a Solar Charging Station for rural electrification together with a micro enterprise model."

Maarten R. Boute, CEO, Digicel Haiti

**Contact**
Rowolson Kuhn
Chairman and CEO

**Company**
Solengy Group Ltd.
Building 22, Nigua
Free Trade Zone, 91000
Nigua, San Cristobal
DOMINICAN REPUBLIC

**Telephone**
+1-809-957-1556
+1-809-719-0185

**Email**
info@solengy.com / rowolson_kuhn@solengy.com

# SPEED

## Company Background

SPEED is a consortium lead program that seeks to harness the potential of smart business models to deliver electricity through decentralized renewable energy based power plants. SPEED has been designed to capitalize on the energy demand of over 150,000 telecom towers located in rural India (infrastructure that consumes over 2 billion litres of diesel annually) and plays a crucial role in the viability and scaling of decentralized renewable energy based power projects. Central to the SPEED model is the commitment to develop strong links with communities and a deep analysis of local demand that is aggregated and provided to energy services companies (ESCOs).

Rockefeller Foundation's mission is to promote the well-being of humanity around the world. For more information, please contact: lchege@rockfound.org

Society for Technology and Action for Rural Advancement (TARA) is a not-for-profit social enterprise of the Development Alternatives Group with a mandate to incubate business models that can deliver sustainable services.

## Year the Enterprise was Founded

SPEED Initiative was started in 2010 by the Rockefeller Foundation. In 2011, The Foundation awarded a grant to the Society for Technology and Action for Rural Advancement (TARA) to lead the consortium and execute on the program.

## Product and Service Description

SPEED builds ecosystems necessary for ESCOs to successfully provide energy services to rural telecom towers and communities.

Core Offerings:

- Demand Assurance: Works with community engagement and micro-enterprise partners to ensure commercial load development.
- SPEED Prototypes: Six variants of projects for off-grid or grid connected locations available.
- Technology Neutrality: Technology agnostic, exploring biomass, solar, biogas, wind, micro-hydro and hybrid solutions.
- Aggregated Investment Model: Access to investors and investment opportunities for private equity players, social venture funds, development finance institutions, commercial banks and foundations.
- Policy Enablement: Focuses on regulatory environment, specifically power production in off grid areas and policy governing interactivity with the grid.
- Capacity Building: Commitment to creating a pool of skilled operational and managerial personnel for power plants and providing other support services for ESCOs.

## Geographic Footprint

SPEED is currently focused on India with plans to expand into Sub-Sahara Africa and South East Asia.

## Maturity of Enterprise

Four plants currently in operation

## Number of Pilots

SPEED plans to have around 50 validation pilots spread in 5-6 states (in approx 10-15 clusters) in next one year.

**Company**
SPEED Secretariat
Development Alternatives/ TARA (Technology & Action for Rural Advancement)
World Headquarters,
B-32, TARA Crescent
Qutub Institutional Area
New Delhi - 110 016, India

**Telephone**
91 (11) 26544252

**Email**
speed@devalt.org

# Sunbox

## Company Background

SUNBOX was created in 2010 to light up Africa. SUNBOX has invested in a range of high quality products with advanced technology at an affordable price, turning its mission of lighting up Africa into a reality. SUNBOX allows energy excluded people to have light and also to charge multiple phones per day.

SUNBOX is designed in and for Africa, engineered in Europe and manufactured in Asia. With only two years in business, SUNBOX is the market leader for solar off grid solutions worldwide and supplies major global telecommunications companies like VODAFONE as well as nonprofit organizations that help small towns in several African countries.

## Product and Service Description

SUNBOX products are portable, lightweight, environmentally friendly and perfectly adapted to all African markets. The SUNBOX 5W system is a monocrystalline solar panel with a battery in a metal casing including various adaptors that allow users to charge mobile phones and have a LED light (5 hours of sun equals 10 hours of mobile charging and LED lighting).

SUNBOX technology enables cellular network operators to expand exponentially their market share as renewable solar energy gives access to mobile phone charging to previously excluded people. With SUNBOX there are no more dropped calls for lack of battery, everyone has unlimited access to mobile charging for unlimited use of 2G/3G/4G on mobile handhelds.

## Geographic Footprint

Africa: Angola, Botswana, Ghana,Namíbia, Malawi Mozambique, South Africa, Tanzania Zambia and Zimbabwe.

Europe: Portugal

**Telecom Client List**
VODACOM/VODAFONE Mozambique
UNITEL Angola
Negotiacions with TIGO Tanzania

**Retail Client List**
Shoprite
Kero
Pick And Pay

**Facebook Client Testimonial - www.facebook.com/sunboxworld**

"Sincere Congratulations, the best initiative that a mobile phone network has had so far, making our lives much easyer because we have no energy at home "

Jose Verniz Timoteo

**Website**
www.facebook.com/sunboxworld

# Suntrica Ltd.

## Company Background

Suntrica Ltd (est. 2006) in Finland is developing and marketing advanced, high efficient and environmentally friendly solar harvesting technology and products. Suntrica's mission is to design cost-efficient, universal and easy-to-use solar chargers and integrated solar harvesting technologies that are effective in improving the off-grid operating time of mobile and consumer electronics as well as for the professional devices.

Suntrica cellular fulfillment services provide cost efficient, optimized device + solar charger bundle for cellular, fixed wireless, mifi and tablet computer segments.

Suntrica is committed to facilitate awareness about the importance of using ambient energy sources and environmental-friendly technologies and to make the solar powered future of mobile and consumer devices a reality.

Suntrica is committed, from its part, to decrease the carbon footprint thus reducing the effects of the climate change.

## Product and Service Description

Suntrica Ltd is the leader in portable, flexible and high-efficiency solar charging solutions from 0,5W up to 200W. Our ergonomic, durable and lightweight chargers are applied in various consumer and professional applications worldwide. Typical B2C use cases are cell phones, portable mp3/BT/GPS, PMR (Professional Mobile Radio) hand portable radios, tablet and notebook PCs and portable satellite phones. The product platforms comprise of own charging algorithms, electronics, flexible thin-film photovoltaic panels, battery packs and all packaged to functional, durable and attractive casing designed by leading Nordic designers.

In B2B applications, Suntrica off-grid solar harvesting technology is used to provide reliable energy e.g. for fixed wireless telephones, MiFi –routers, LED lighting devices, community chargers and low power cellular radio base stations.

Our solar chargers are ready to use, splash water proof, reliable power packs for many kinds of environments and for many different devices. Thanks to the flexible solar panels, chargers are extremely durable, recyclable and can be used in harsh outdoor conditions.

## Geographic Footprint

Worldwide.

**Client List**
Check the client list from
www.suntrica.com/dealers.php

**Contact**
Jouko Häyrynen

**Company**
Örninkatu 15 B 28,
24100 Salo, Finland

**Telephone**
+358 (0) 50 555 3322

**Email**
jouko.hayrynen@suntrica.
com

# ToughStuff International

## Company Background

ToughStuff is a triple bottom line energy business – we aim to achieve positive financial, social, and environmental outcomes. We operate as a privately funded company which we believe enables us to more effectively and sustainably achieve our social and environmental goals.

ToughStuff's mission is to bring affordable energy products to people without access to electricity thereby helping to increase living standards, improve health, enhance the environment, and build enterprise and employment.

ToughStuff has developed a modular range of affordable solar powered energy solutions to the three main power needs of poor consumers in the developing world – lighting, mobile phones and radios. Our unique products are designed following market research and field studies in Africa to meet the specific needs of our customers. They combine high performance, durability, and affordability.

## Product and Service Description

ToughStuff provides energy solutions. The power source is a unique flexible, robust, water-resistant mini solar panel. This provides power to our phone connector plugs which charge all common phones. The products are highly durable, and have an expected 10 year lifespan. Our mobile charging kit represents a high quality, affordable, durable means for off-grid mobile users to charge their phones.

On average, ToughStuff's mobile solar connectors charge mobile phones around 15 times each month, and that each recharge saves the user around $0.10, meaning an aggregate saving of $1.50 per month on charging costs as well as free up charging time and money for more productive uses. Furthermore our products increase the ability of off-grid customers to use their phones by 10-14% (GSMA source), bringing social, banking and health benefits without any of the regular costs and time inconveniences that their previous methods of charging necessitated.

ToughStuff has been nominated two years running for the GSMA award for best product for underserved segments.

## Geographic Footprint

Kenya, Tanzania, Rwanda, Uganda, Zimbabwe, Somalia, Ethiopia, Ghana, Nigeria, Malawi, India, Pakistan, South Africa.

**Client Testimonial**

"When I saw the product, I knew that this modern technology is so badly needed in my rural, remote part of the country. I saw immense business opportunity – additional income stream from charging people's phones. It's helping me to support my family."

Grace, Kajiado, Kenya

**Contact**
Andrew Tanswell

**Company**
75 Westminster Bridge Rd,
London
SE1 7HS

**Telephone**
+ 44 207 261 0983

**Email**
London@toughstuffonline.com

# WindGen Power East Africa

## Company Background

WindGen Power was founded in 2011 with the mission of locally fabricating small wind turbines for use with off-grid renewable energy systems in East Africa. WindGen fabricates small turbines up to 1kW in size in its Nairobi fabrication facility, and also imports larger turbines, up to 10kW, from the USA. Since inception, WindGen has evolved beyond wind and now offers renewable energy solutions that involve solar and other renewable sources.

WindGen specializes in designing and implementing power systems of a broad range of sizes in challenging locations where cost-effectiveness and reliability are paramount. By taking a holistic, customer-focused approach to projects, WindGen is able to offer customized turnkey solutions tailored to the needs of the client.

## Category of Company

Distribution Company.

## Year the Enterprise was Founded

2011

## Product and Service Description

While WindGen's initial focus was on solar and wind power systems for residential, tourist, and community facility applications, a recent partnership with a manufacturer of high quality 2.5kW and 10kW wind turbines has enabled WindGen to offer solutions for more energy-intensive commercial applications as well. WindGen systems integrate wind, solar, and generator power to create optimized hybrid systems.

As an end-to-end solution provider, WindGen's services include system design, system monitoring and data collection, project advisory, system maintenance, and custom small turbine manufacturing. Complementing these service offerings are a broad range of products including wind turbines up to 10kW, solar panels, deep-cycle batteries, inverters, controllers, and solar/wind mountings and towers.

## Geographic Footprint

Headquartered in Nairobi, WindGen Power serves the East African region.

**Client Testimonial**

"WindGen is one of the most reliable companies I have ever come across. The kind of materials and equipment they used to install power in our school are of the highest quality. Their staff and manpower personnel are qualified and customer-friendly."

Head Teacher of Naserian Primary School, Kajiado, Kenya

**Contact**
Sam Slaughter
Co-Founder and Director

**Company**
Karen Plains Arcade,
Second Floor,
Off Karen Road,
Karen, Nairobi, Kenya

**Telephone**
+254 718 015 737
+1 203 962 5567

# Index