



OffGridBox™

2023



COMPANY PROFILE

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www.offgridbox.com



JOIN US ON OUR JOURNEY!

OffGridBox Tech
and Projects

About OffGridBox

Our mission is to provide solar energy and clean water to remote communities around the world, helping them to be more prepared and resilient. Founded in 2016, we have offices in Cambridge, Massachusetts and Kigali, Rwanda, with manufacturing in Arezzo, Italy.

OffGridBox manufactures independent water and energy modules as well as all-in-one sustainable solutions which can provide clean water and solar power to people in remote areas. Projects include disaster relief, rural electrification, and powering health care and productive use.

Until now, our products have been installed in 18 different countries around the world, with a focus on East Africa.

We partner with Governments, International Organisations, NGOs and businesses wanting to fund ESG projects.



OUR PRODUCTS

Modules and integrated solutions
for energy and clean water



Power Module: Flex

Photovoltaic Modules:

4 x 410 Wp in series with roof mounting

Inverter:

VICTRON, 24V, 2 kVA

Battery:

LiFePO4 nominal 2.5 kWh

Modular:

up to 6 modules to make 12 kVA



Water Module: Chiara

Ultrafiltration:

6 replaceable filters

Nominal flow:

20 l/min

Sterilisation:

Ultra Violet sterilisation lamp

Backwash:

Proprietary unique backwash feature (patent pending)



Integrated solutions: Pioneer

External dimensions:

1.98 x 1.95 x 1.91 m (6 ft container)

Photovoltaic roof dimensions:

4 x 5 m (13 x 16 ft)

Dry Weight:

1300 kg

Photovoltaic Modules:

Minimum 12 x 410 Wp top warranty (Made in EU)

Inverter:

VICTRON Multiplus 5KVA

Battery Storage:

LiFePO4 nominal 5kWh

Inner Water Tank:

600 litres (food quality certified)

Ultrafiltration:

6 replaceable filters

Nominal Flow:

20 l/min

Sterilisation:

Ultra Violet sterilisation lamp

Backwash:

Proprietary unique backwash feature (patent pending)

High efficiency pump:

CALPEDA 16 liters (4.2 gal) per minute



Integrated solutions: Double Pioneer

External dimensions:

1.98 x 1.95 x 1.91 m (6 ft container)

Photovoltaic roof dimensions:

4 x 10 m (13 x 32 ft)

Dry Weight:

1500 kg

Photovoltaic Modules:

Minimum 24 x 410 Wp top warranty (Made in EU)

Inverter:

VICTRON Multiplus 2x5KVA

Battery Storage:

LiFePO₄ nominal 10 kWh

Inner Water Tank:

600 litres (food quality certified)

Ultrafiltration:

6 replaceable filters

Nominal Flow:

20 l/min

Sterilisation:

Ultra Violet sterilisation lamp

Backwash:

Proprietary unique backwash feature (patent pending)

High efficiency pump:

CALPEDA 16 liters (4.2 gal) per minute



Integrated solutions: OffGridBox MINI

External dimensions:

53x52x50 cm (3ft7.3in x 3ft 7.3in)

Dry Weight:

40 kg

Photovoltaic Modules:

250 Wp

Inverter:

VICTRON, 12V, 1200VA (2200W peak, 1000W continuous)

Battery Storage:

LiFePO4 nominal storage 1.2kWh

Ultrafiltration:

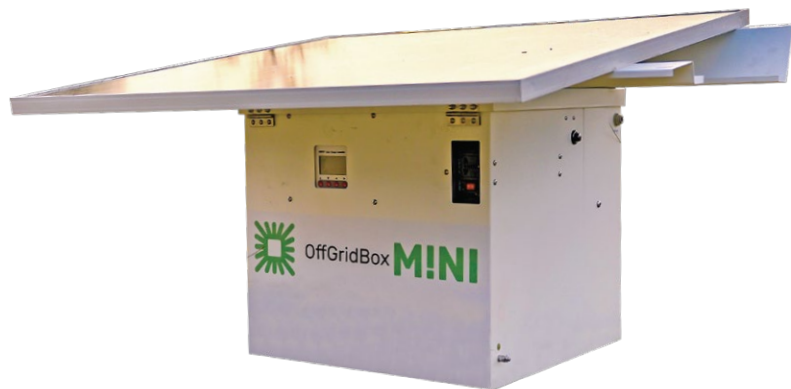
3-6 replaceable filters, nominal flow 5-20 l/min

Sterilisation:

Ultra Violet sterilisation lamp

Backwash:

Proprietary unique backwash feature (patent pending)





Impact Stories and Applications of the Box

Water & Energy for Refugees

Safe water is essential for preventing the spread of waterborne diseases in refugee and IDP camps, where these diseases are among the leading causes of morbidity and mortality. Untreated water and lack of proper sanitation and hygiene put refugee health, education and livelihoods at risk.

Lack of access to energy is another major problem in many refugee camps. After sunset, camps are often completely dark. This means that many activities can only be completed during the day, like doing homework or carrying out income generating activities. Not having lights in a refugee camp also creates safety and gender based violence issues.

The use of kerosene lamps presents further health and safety problems. Also, having electricity to power fridges and medical equipment is especially important.

Connecting refugee camps to the national water or electricity grid is often not a viable solution, because of their presumed temporary nature and because they are often based in very remote locations.



Nakivale Refugee Camp, Uganda

- ✓ 400 families have access to Tier 1 Energy.
- ✓ Over 2000 people have access to clean water.
- ✓ 14 businesses are provided with power.
- ✓ Opportunities for more productive use, as well as tree nurseries.

In partnership with:



Healthcare for All

Water, Sanitation and Hygiene (WASH) in Health Care Facilities is of primary concern in many countries in Sub-Saharan Africa. Since the COVID19 outbreak, attention to hygiene and health care has heightened and with it the realization that many Health Care Facilities across the continent lack basic infrastructure including safe water supply and sanitation facilities. Globally, more than 2 billion people visit Health Care Facilities that lack basic water services (JMP, 2015).

Similarly, nearly 60% of rural clinics across Sub-Saharan Africa are completely without or have irregular power supply (WB, 2019). Distributed renewable energy presents an opportunity to provide clean, reliable, quickly dispatchable and cost-effective electricity to health facilities.

Ensuring health facilities have reliable electricity saves lives. The need to develop solutions is even more pressing now, during a global pandemic that is still not finished.

In partnership with:



Nyamirama Second Generation Health Post, Rwanda

- ✓ Efficient Appliances.
- ✓ 1,800 patients served each month.
- ✓ 250 households served through extended services (power banks).
- ✓ Entrepreneurship and job creation (welding, sewing machines, phone charging).



Reversing Climate Change: **Agroforestry**

Climate change is a severe threat to vulnerable communities in sub-Saharan Africa. Growing trees and introducing agroforestry can increase their resiliency.

Agroforestry is a land use management system in which trees or shrubs are grown around or among crops or pastureland. Trees remove carbon dioxide from the air, and produce a wide range of useful and marketable products from fruits/nuts, medicines, wood products, etc. This intentional combination of agriculture and forestry has multiple benefits, such as greatly enhanced yields from staple food crops, enhanced farmer livelihoods from income generation, increased biodiversity, improved soil structure and health, reduced erosion, and carbon sequestration.

The OffGridBox Pioneer line provides abundant solar power to pump water to irrigate agroforestry projects. This can be combined with other services such as water purification and powering equipment.

Successes for Mungaa were made possible by:



**ANT-DESERT
SCHEME**



Mungaa, Tanzania

- ✓ 500,000 tree saplings grown and distributed.
- ✓ 25 jobs created.
- ✓ 2,000 benefitting households.
- ✓ Trees for schools, health centres and community centres.
- ✓ 5000 tons of CO₂ sequestered.

Productive use in Rwanda

Productive use of energy refers to income generating activities that are directly positively affected by the use of electricity. The economic returns of rural electrification programs are much higher when focused both on household and community needs for lighting, as well as on promoting productive uses of energy. OffGridBox provides the ideal technology for this purpose. Small businesses can use the solar energy from the OffGridBox to power their equipment, while households have access to power for lighting and phone charging, as well as clean water.

Most common practices include welders, shoemakers, sewing ateliers, barber shops, phone charging services, water kiosks, printing and photocopying, etc. Entrepreneurs pay for the renting of equipment plus power under a monthly subscription. Powering productive use activities have several effects: it leads to job creation for the entrepreneur and their collaborators, higher incomes for their households, and new and better services for the community.



- ✓ Number of jobs created: 174
- ✓ Average income: \$50/month
- ✓ Percentage of women: 40%
- ✓ Bottled water sold: 1.2 million litres

In partnership with:



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*Components may change at any moment without prior notice and at the sole discretion of OffGridBox, Inc.

Contact us at: info@offgridbox.com





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