
Sun
4People

Leveraging the Sun to Sanitize Water at Minimal Cost

The Issue

3.000.000 deaths every year from **water-related diseases** (World savvy Organization). The UN estimates that meeting the MDG related to water and sanitation would save 7.3 billion per year in health care costs and increase African GDP by 5% (28.4B$)

- 88% of diarrhea disease is attributable mostly to unsafe drinking water
- 90% of the deaths due to diarrheal diseases are under-5 children
- Up to half of all hospital beds in the world are occupied by victims of water contamination.
- Fluoride and Arsenic water pollution now affect nearly 140 million people in 70 countries on all continents (UN WWAP 2009)

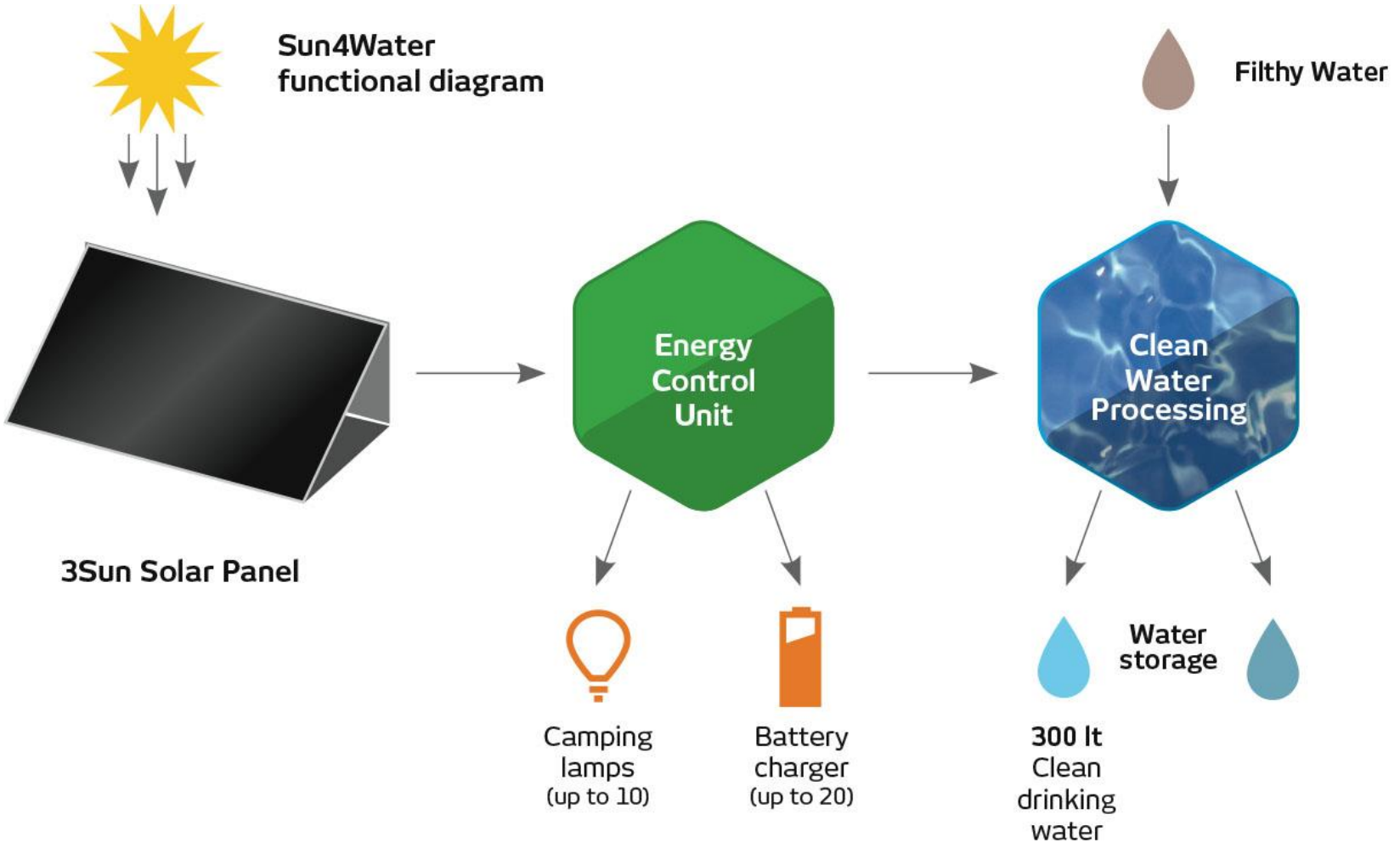
1 billion people in India, China, Africa and South America do not have access to safe drinking water

Sun4Water Mission

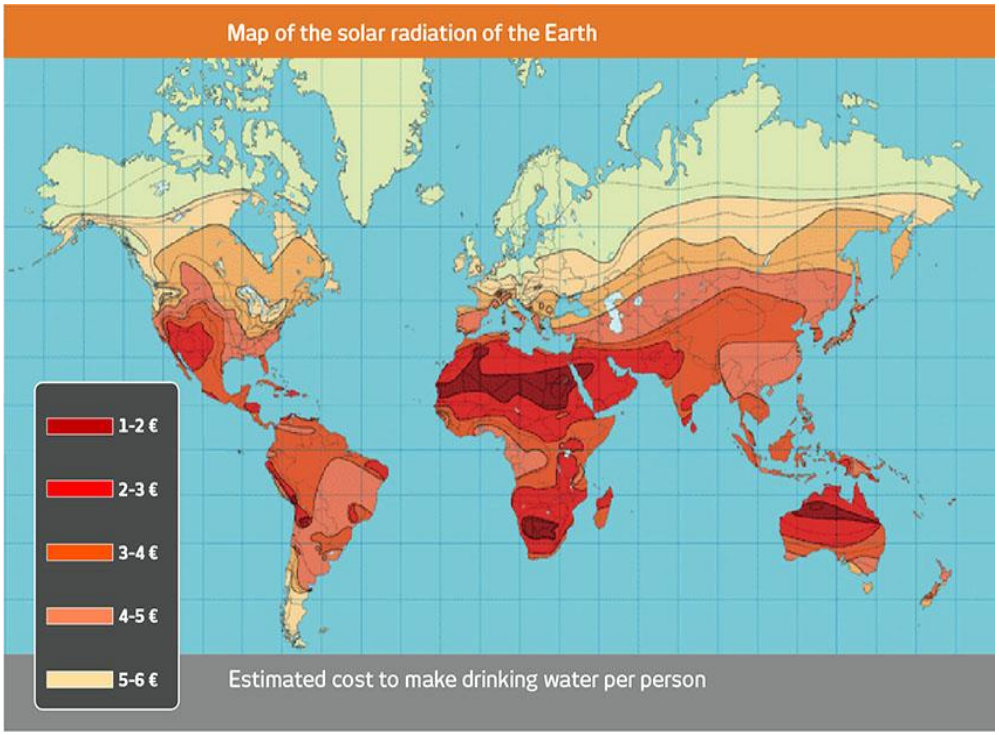
OUR MISSION
IS TO DELIVER
CLEAN DRINKING
WATER TO THE
PEOPLE WHO
ARE
IN NEED

AND TO DO IT
AT ITS MANUFACTURING COST

Our System


Sun4Water
functional diagram
Filthy Water
Energy
Control
Unit
Clean
Water
Processing
3Sun Solar Panel
Camping
lamps
(up to 10)
Battery
charger
(up to 20)
Water
storage
300 lt
Clean
drinking
water

An Affordable Solution



Projected cost per person per year:

$1 to $2

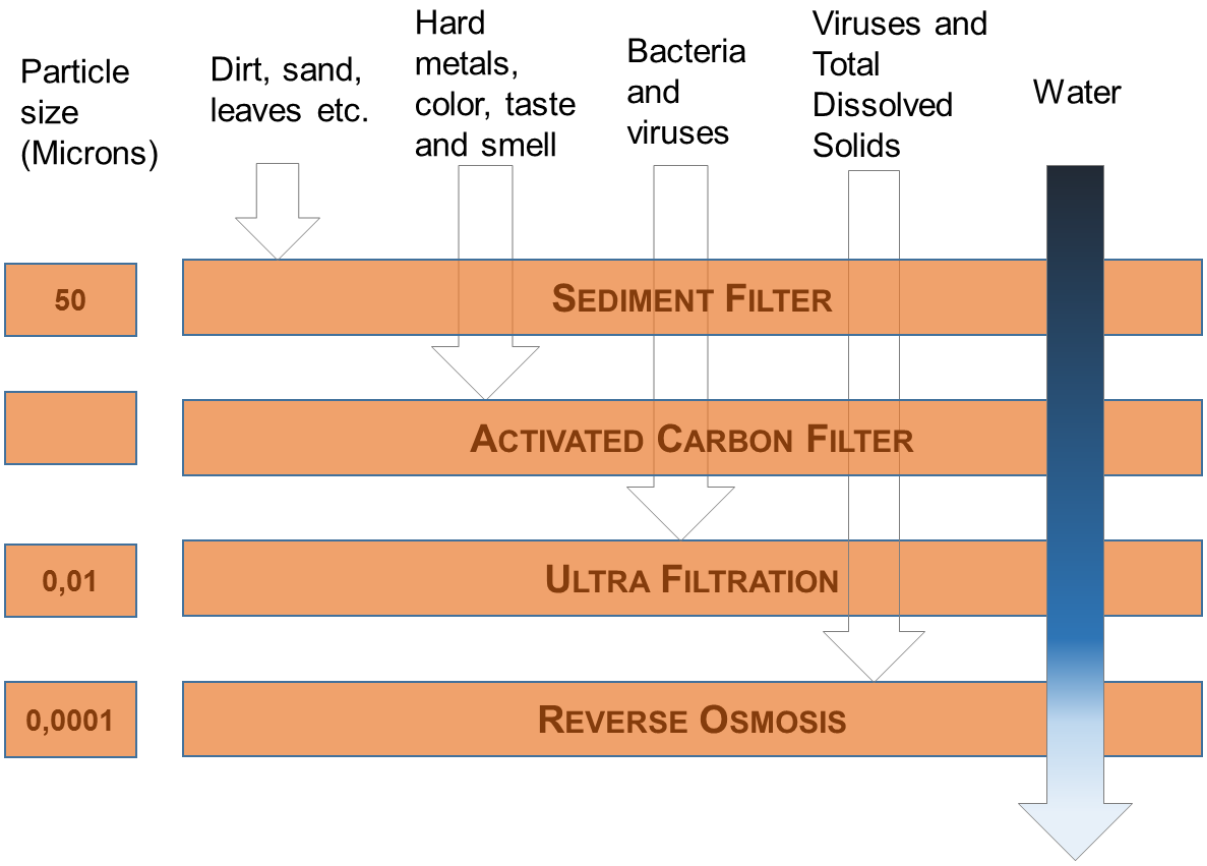
$600 over 10 years considering an average of 140 liters per day of light and a daily need of roughly 3 liters per person.

Sun4Water delivers clean drinking water to 40 to 50 people every day

Sun4Water: What it is

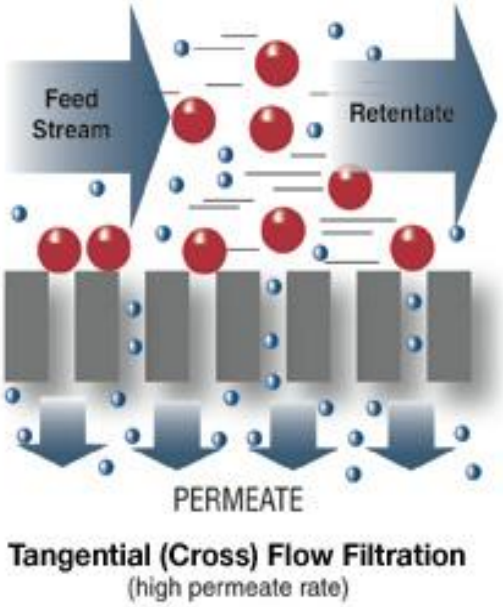
- Portable system, powered by a solar panel, to produce drinking water that exceeds World Health Organization standards.
- Drinking water production:
  18 liters/hour of sunlight.
- Types of usable/incoming freshwater:
  rain, river, lake, well, tap, truck.
- A pre-filtering and four further filtering steps to trap particles up to a 0.0001 micron diameter.
- Elimination of virtually all bacteria and significant reduction of viruses along with organic and non-organic substances
- Tank to store the clean drinking water and systems to preserve its hygiene (ozonator).
- Option to charge mobile phones and LED lamps.

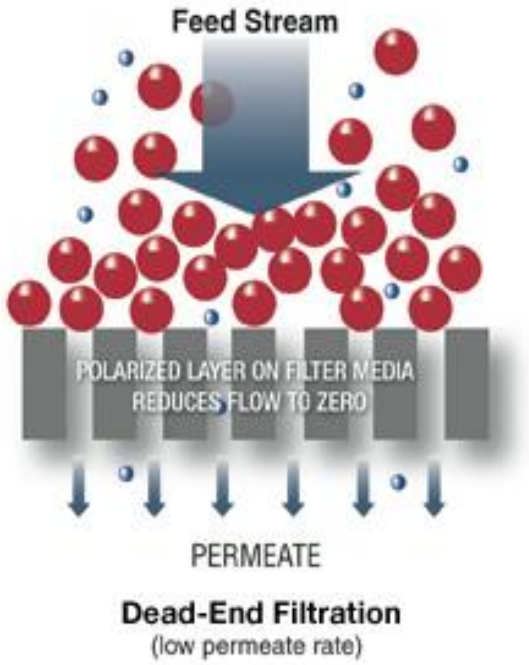
Filtration System



Sparkle Ultrafiltration

- Proprietary hollow-fibre ultra-filtration membrane made by modified hydrophilic polyacrylontrile (PAN), designed for both cross-flow and dead-end filtration, optimizable for specific water sources (length, diameter, pore size, material and surface area)





- Removes suspended particulates, colloidal material, bacteria and high-weight materials greater than 0.01 micron. Water and low molecular weight solutes pass through the membrane.
- Suitable for back flushing (filtered water is pushed backwards through the membrane) to remove accumulated solids on the membrane surface.

What makes us different

- Sun4Water eliminates virtually all bacteria and viruses, AND significantly reduces organic and non-organic compounds.
- Not just pathogen agents, but also arsenic, fluoride, asbestos, pesticides, chlorine and other non-organic compounds are effectively filtered.
- For this reason the delivered clean drinking water exceeds WHO standards.

At a yearly cost of an handful PET bottles

Last Drop Concept

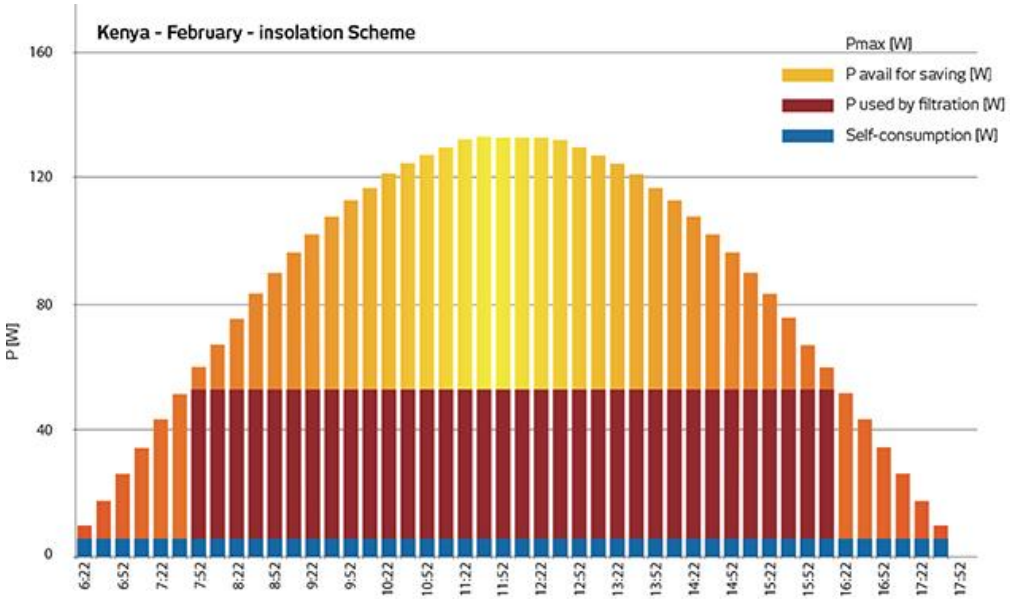
Clean water must stay clean until it is drunk

The UN estimates that 60% of global cases of malaria and 80% of malaria deaths in Sub-Saharan Africa (nearly 1 million per year) are related to improper water storage

For this reason, Sun4Water has a built-in tank with an ozone generator to ensure our water is always drinkable

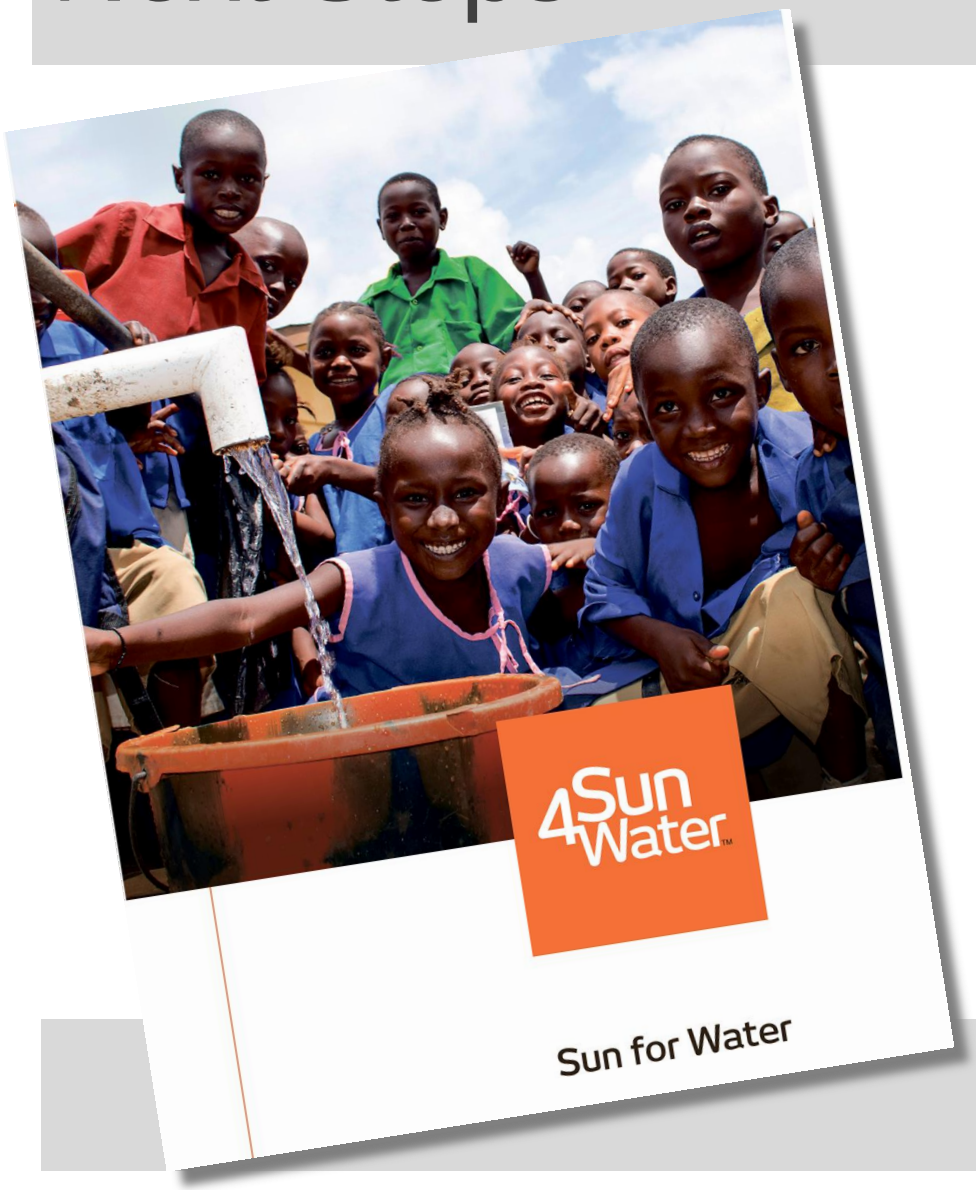
Power Generation

Water can be "traded" with electricity.
The more electricity used, the less water (and vice-versa)



A family of 10 would need two hours of sunshine to fulfill their daily need of clean drinking water, and have 300 Wh to charge 3/5 cell phones and light up to 10 LED camping lamps

Next Steps



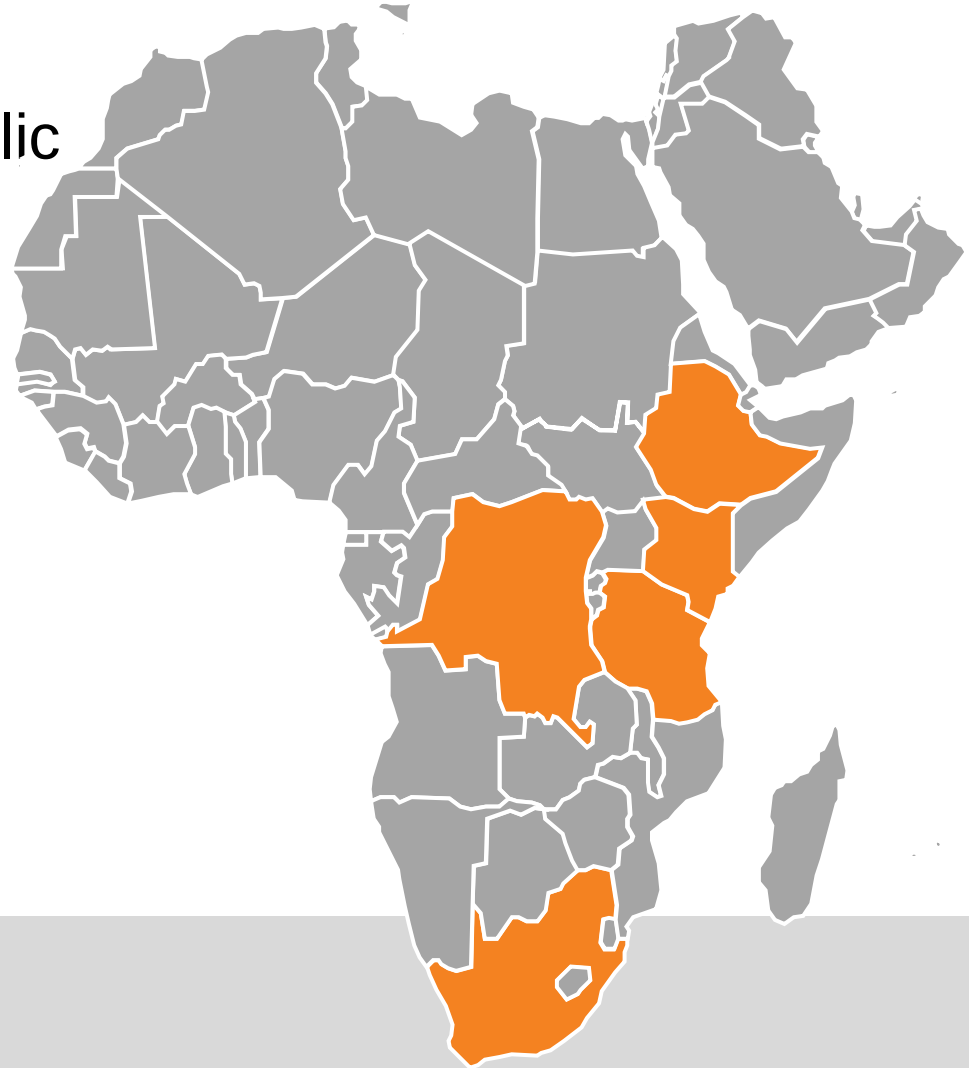
1. Have the first 200 machines ready and deployed in a field-based pilot by the end of 2014, thanks to the support of Fondazione Cariplo, UBIBanca, Enel, ENI the WFP and other sponsors.
2. Finalize the product by Q1 2015 incorporating the results and the feedback of the pilot
3. Be ready for mass production by 2016.

fondazione cariplo

Upcoming Pilot

Sun4Water

- Democratic Republic of Congo
- Ethiopia
- Kenya
- Tanzania
- Sud Africa



fondazione cariplo

Upcoming Pilot

Sun4Water

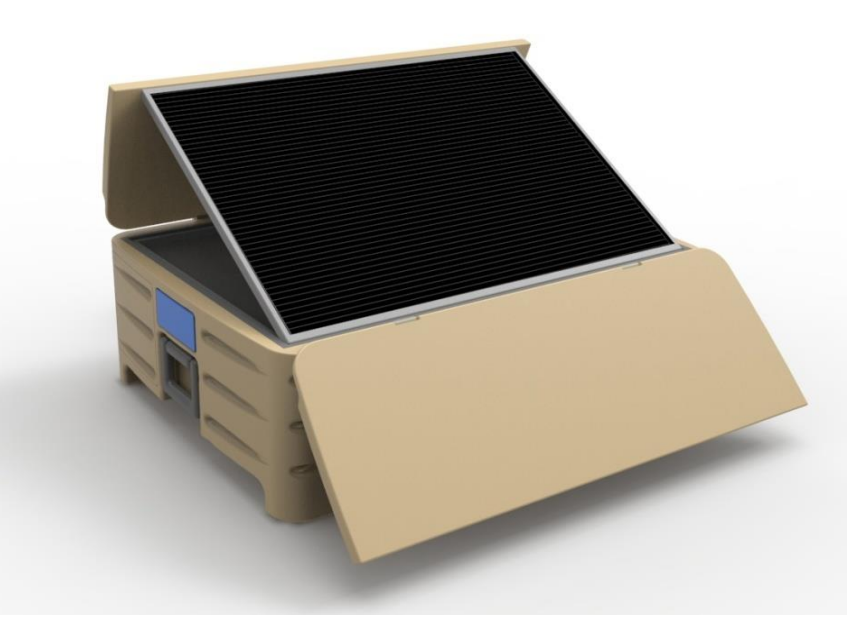
- Brazil
- Chile
- Haiti
- Mexico

Our History

Our Strategy

1. Supply remote communities and households in low-income countries. Target areas without access to electricity and clean drinking water
2. Supply disaster recovery centers to tackle humanitarian emergencies
3. Create a specific product line for areas where electricity and water are available but service is discontinuous (i.e. cities).
4. Other follow through projects

Sun4Family



A specific version of Sun4Water to supply a single household.
30 liters of water and a lot of electricity

- 30 liters clean water per day, 5/10 cell phones and LED lamps recharging
- 100 liters built-in tank
- Remote GPRS for mobile payment system

Sun4People: Who we are

Sun4People is a non-profit organization, born in 2014 around 3Sun, a JV between Enel, Sharp and STMicroelectronics that manufactures silicon thin film photovoltaic panels

Since then, it has attracted the personal support of many executives in the business, research and humanitarian world, all working pro-bono to solve one of the major problems affecting mankind

Our Mission

OUR MISSION IS TO LEVERAGE THE ENERGY OF THE SUN TO ENHANCE PEOPLE'S LIVES

Thank You