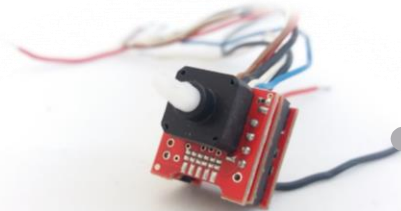
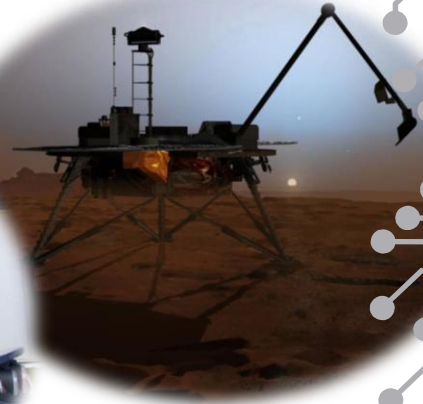
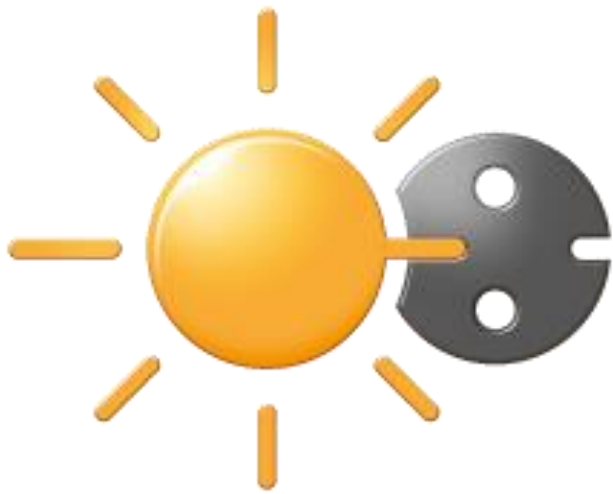


Welcome to Markopoulos Energy & Mechatronic Systems



Dr. Ioannis Markopoulos
169 Great Alexander Str
13562, Athens, Greece

www.degerhellas.gr
www.01mechatronics.com



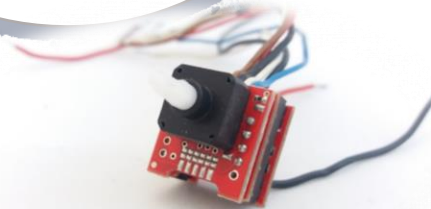
**Solar
Tracking
8000
systems**



**Smart
EV-charging**



**IoT and
Robotics**



An aerial photograph of a large-scale solar photovoltaic (PV) installation. The solar panels are arranged in neat, parallel rows across a flat, arid landscape. In the background, there is a small white building and some trees. The text is overlaid on the right side of the image.

12 years activity in
Greece/Cyprus/Balkans

...100 MW PV installations

...8000 systems installed in the Area

Our Commitment



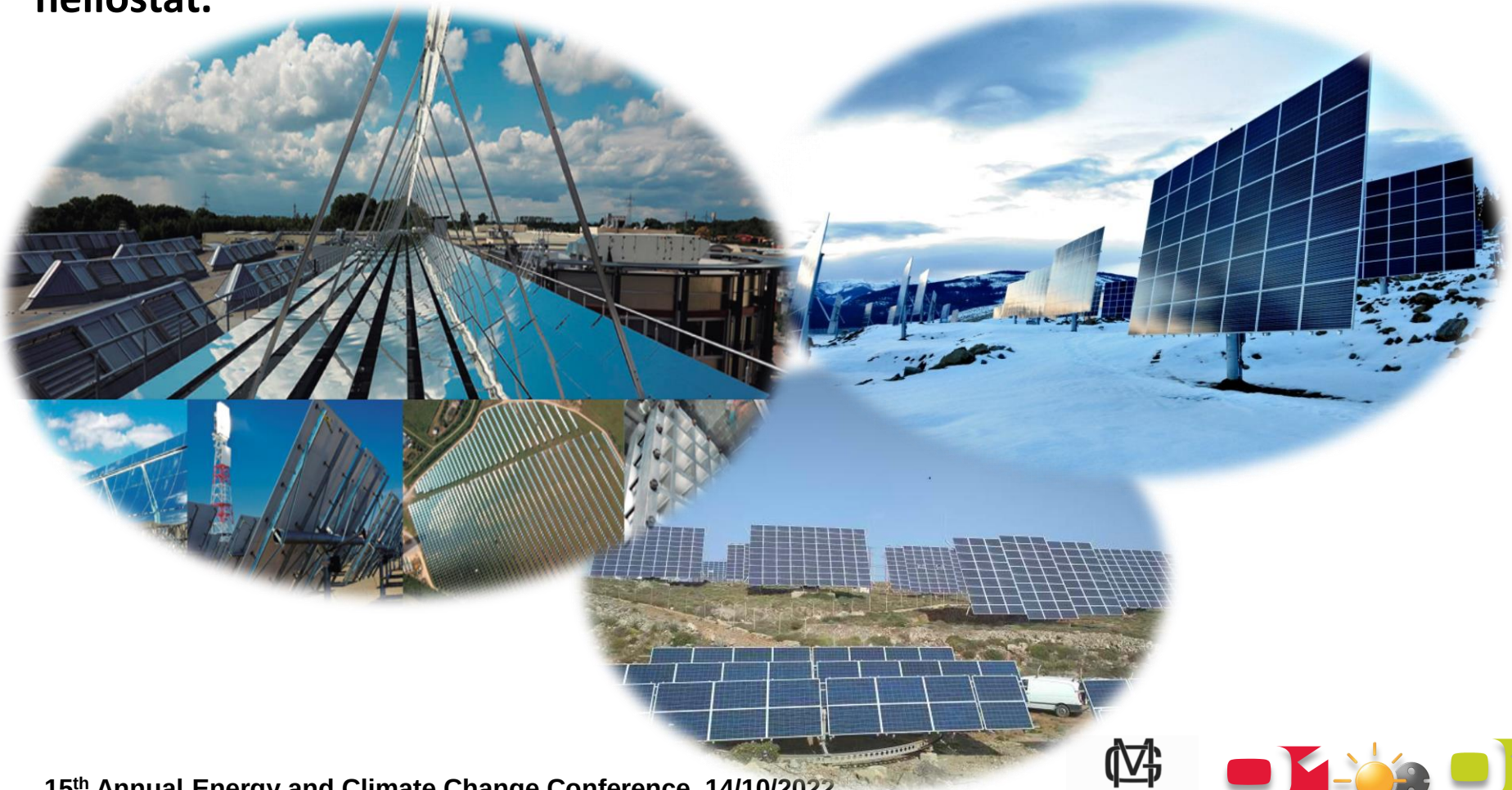
**Optimise Solar
Energy Production**

Maximum Solar Storage

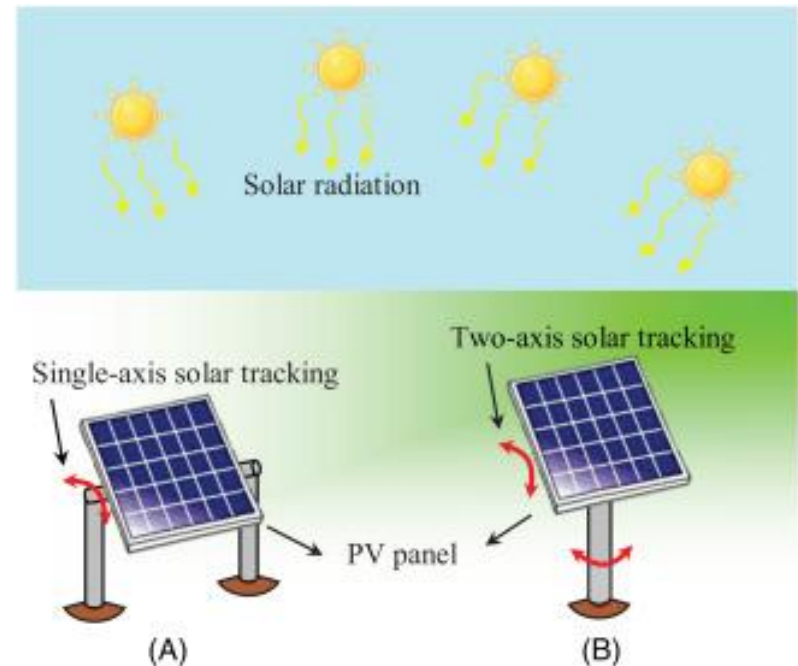
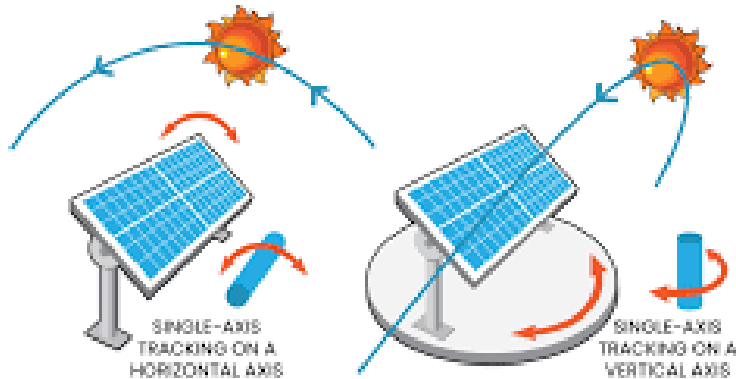
MSS

Solar Trackers

A solar tracker is a device that orients a payload toward the Sun. Payloads are usually solar panels, parabolic reflectors, fresnel lenses or the mirrors of a heliostat.



Types



Active

Passive

MAXIMUM LIGHT DETECTION (MLD)



We achieve increase
in solar production
over fixed by 25%
and +8% over
Astronomical with a
brilliant way

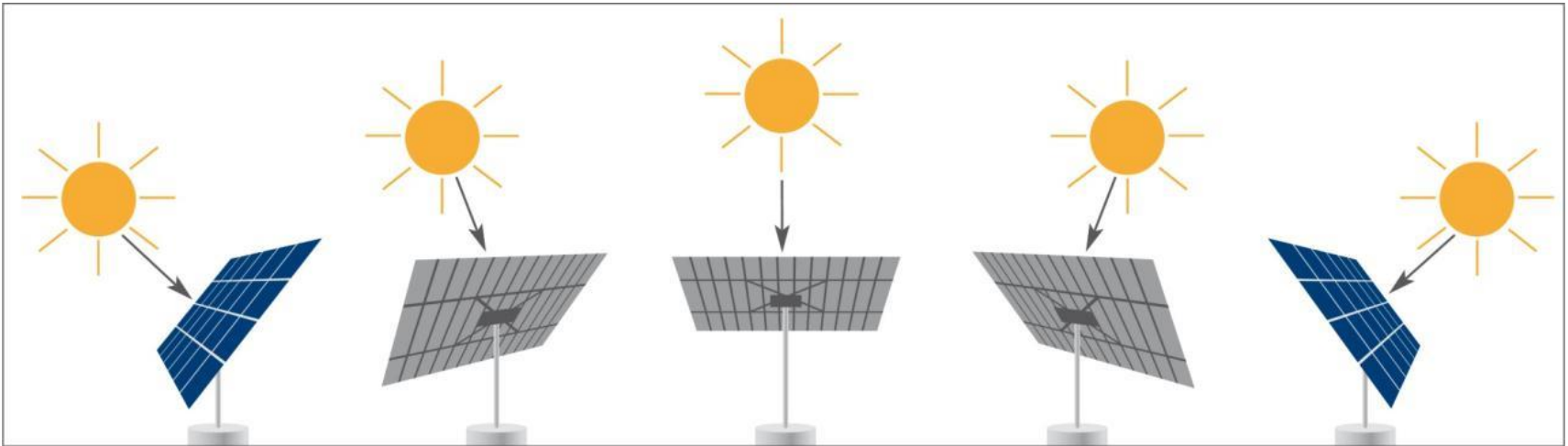
MAXIMUM LIGHT DETECTION

MLD

BY **DEGER**



MAXIMUM LIGHT DETECTION (1)

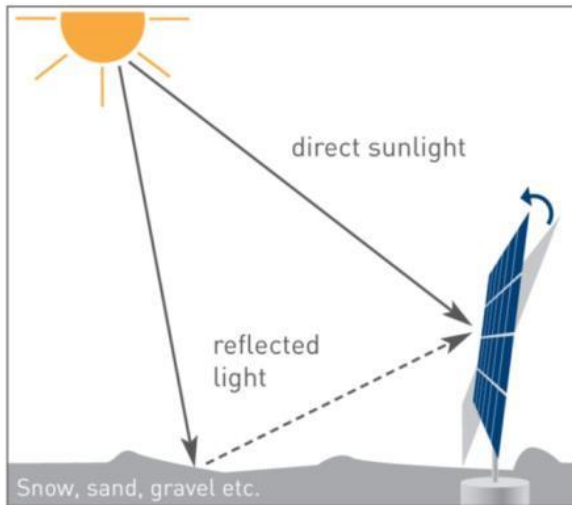


Sunshine:

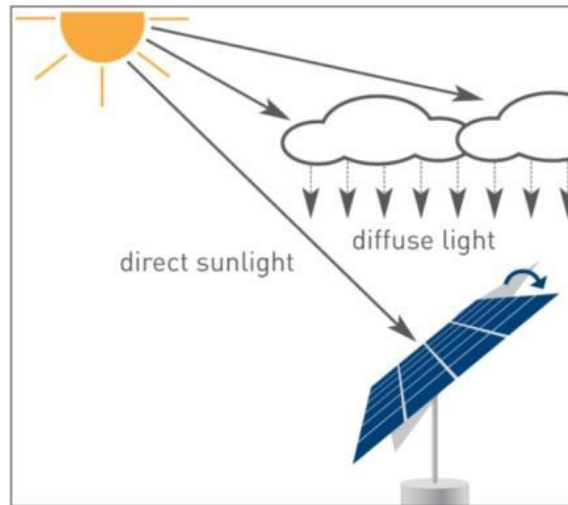
The DEGERtracker directly faces the sun all day.



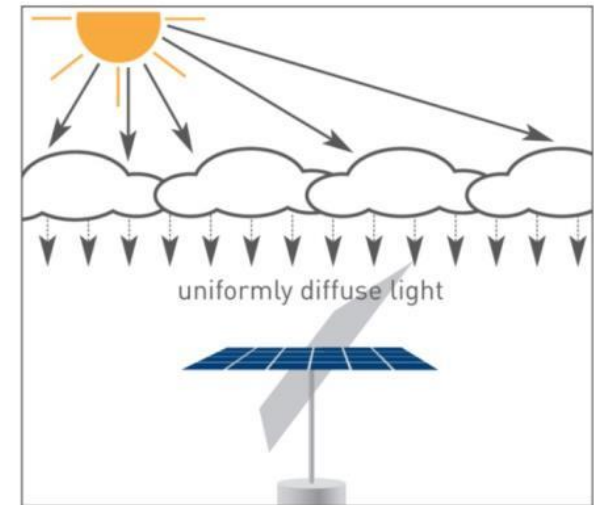
MAXIMUM LIGHT DETECTION (2)



Reflecting surface:



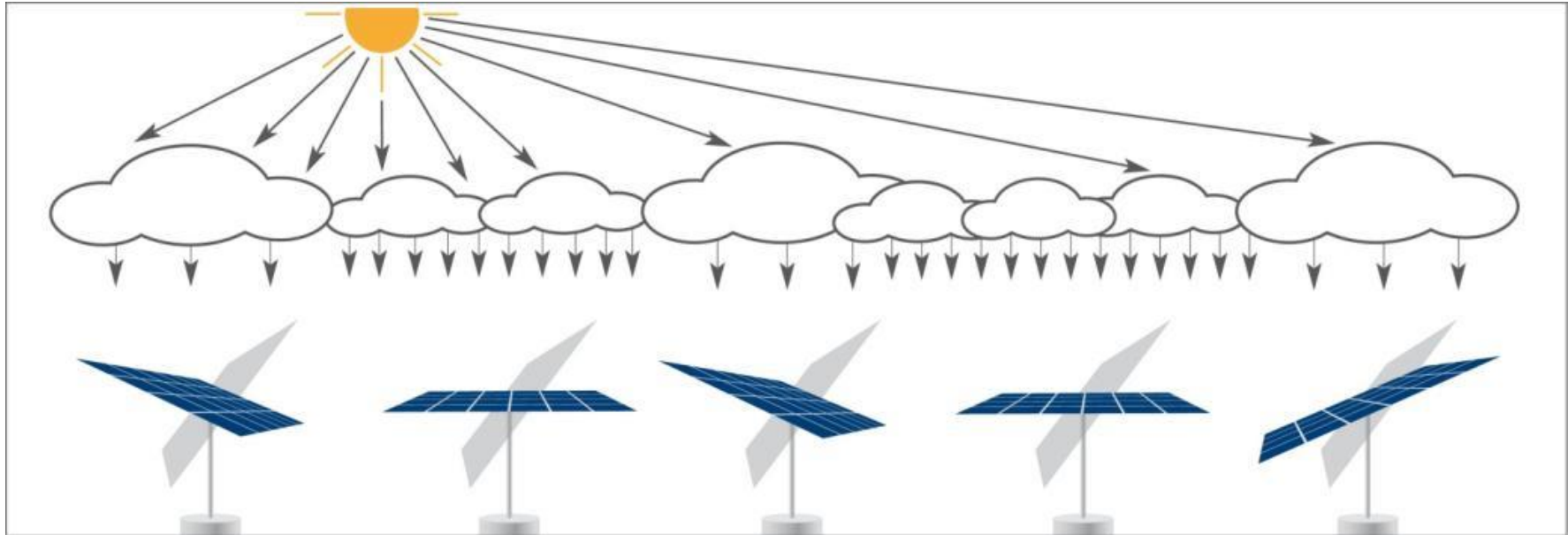
Partly clouded:



Overcast sky:



MAXIMUM LIGHT DETECTION (3)

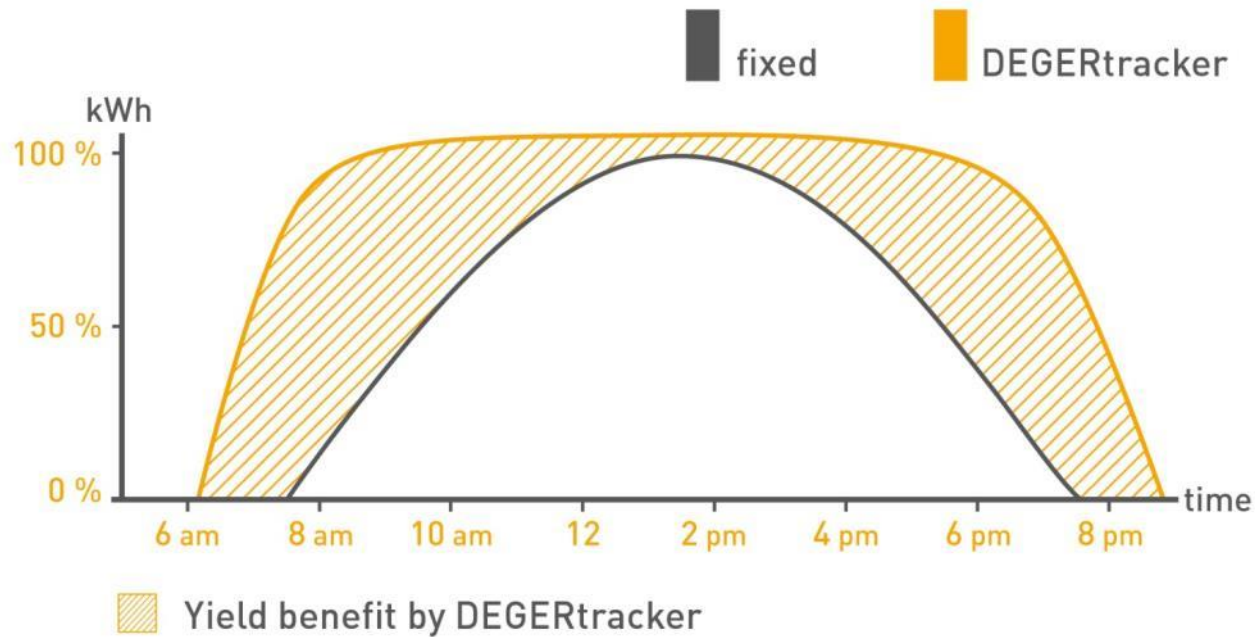


Varying light conditions:

Because of different levels of cloudiness, the light conditions in solar parks vary for each DEGERtracker. The individual control makes sure every DEGERtracker is optimally oriented to the brightest source of irradiation. This guarantees the highest energy yield possible.

TRACKING SYSTEM

Rating chart using a sunny summer day as an example



EFFICIENCY RECORD AND HIGHEST RATES OF EFFICIENCY

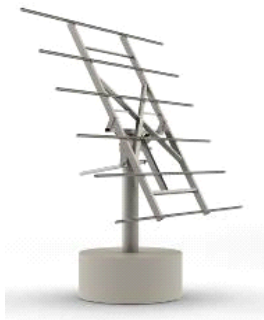
Real Innovation



PRODUCT OVERVIEW

Open Land

Dual-axis



DEGERtracker 3000NT/HD



DEGERtracker 5000NT



DEGERtracker D60H



DEGERtracker D80

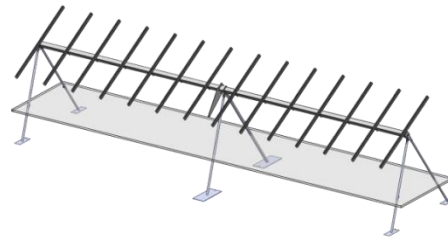


DEGERtracker D100

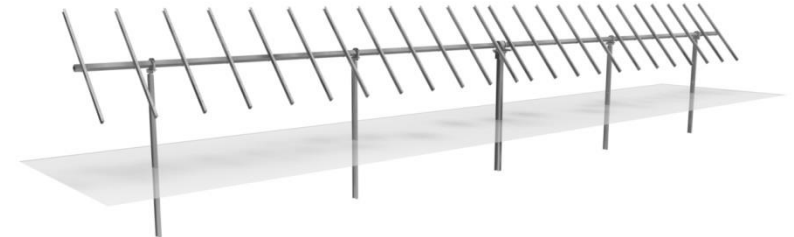
Single-axis



DEGER TOPtracker 8.5



DEGERtracker S60H



DEGERtracker S100

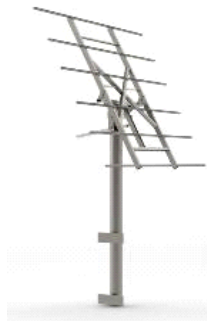
PRODUCT OVERVIEW

Building Integration

Dual-axis



DEGERtracker 3000NT*



DEGERtracker 3000HD



DEGERtracker D60H

Single-axis



DEGER TOPtracker® 8.5



DEGERtracker® S60H*

* Illustration similar

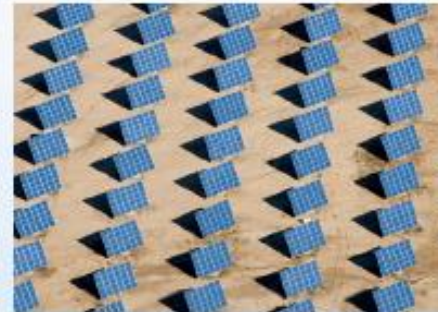
Projects



DEGERtraker 5000NT am Fuße des Olymp, Griechenland.



Ehemalige Mülldeponie mit 54 DEGER TOPtraker®, Deutschland.



3 MW Solarpark mit 21.000 m² Solarmodulfläche, Spanien.



Firmeneigener Solarpark mit 107 DEGERtraker, Deutschland.



5 DEGERtraker 5000NT bei Alice Springs, Australien.



Dachanlage mit 120 DEGER TOPtraker, Spanien.



Multi Megawatt Solarpark mit DEGERtraker 7000NT, Italien.



DEGERtraker 5000NT an einem Steilhang, Spanien.

Projects



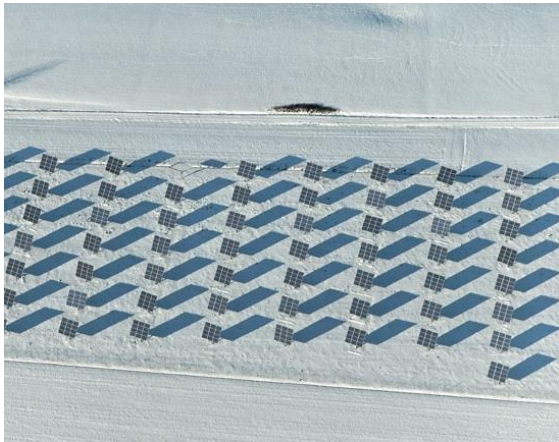
EXAMPLES

Solar parks with single-axis trackers - Italy, Spain, Turkey, Namibia



EXAMPLES

Solar parks with dual-axis trackers – Germany, Spain, Canada, South Africa



EXAMPLES

Building integration



EXAMPLES

Industrial applications



EXAMPLES

Double usage



EXAMPLES

Residential systems



EXAMPLES

Off-grid DEGERtrackers

Burundi



Turkey



Afghanistan

EXAMPLES

DEGERtracker worldwide

Belgium
Zolder
Raceway



Sweden
E18
Highway
Stockholm
to Oslo

EXAMPLES

DEGERtracker worldwide



Tunis
Airport



Dubai
University



India
Pune

EXAMPLES

DEGERtracker worldwide



Ghana
Energy
Commission



Australia
Desert Knowledge
Solar Centre



South Africa
Kruger National Park

EXAMPLES

DEGERtracker worldwide



USA
Tennessee



Canada
British Columbia



USA
Anchorage
Airport

Projects - DegerHellas

DEGERtracker Greece



DEGERtracker Greece 500kW (GREENTOP)



150MW in GREECE / 3500 Systems



192
MW

IN 16 MONTHS

ONLY IN THE EUROPEAN REGION

DEGER SINGLE AXIS TRACKING SYSTEMS



Solar brain



**DegerTrackers
Χωρίς Backtracking**



**DegerTrackers
Με Backtracking**

Solar brain is an IoT device



Solar brain is an IoT device Manufactured In Greece



Solar brain is an IoT device



DEGERtracker - Examples



Projects



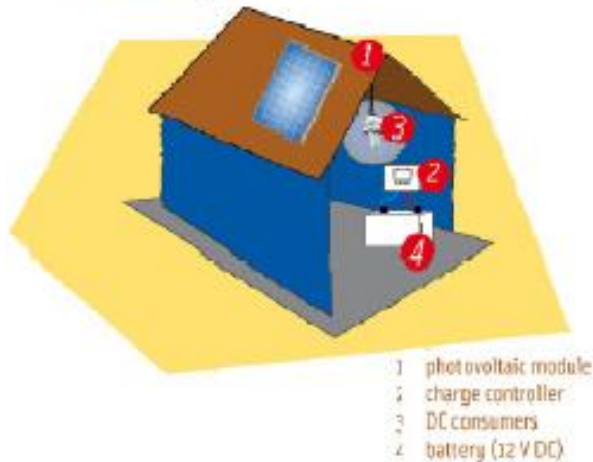
Building Integration



Knowledge in Autonomous Systems

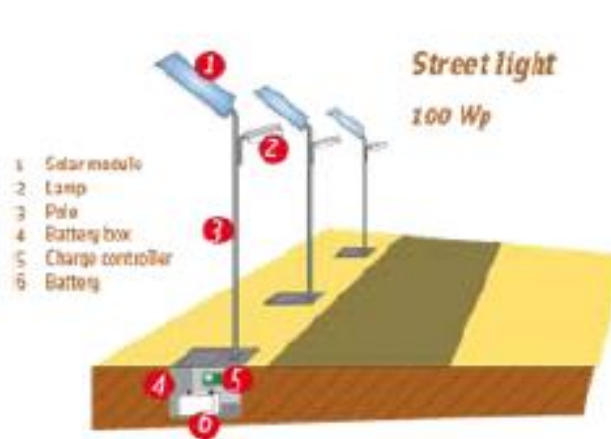
Solar Home Systems (SHS)

50 - 300 Wp



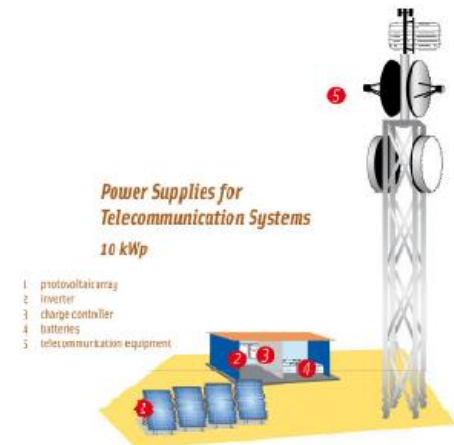
Street light

100 Wp



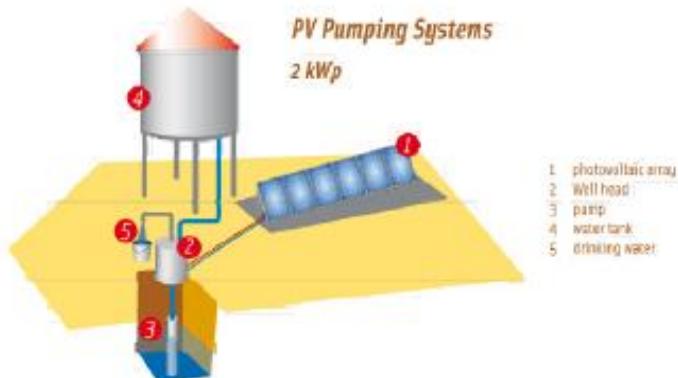
Power Supplies for Telecommunication Systems

10 kWp



PV Pumping Systems

2 kWp



Village Power supplies

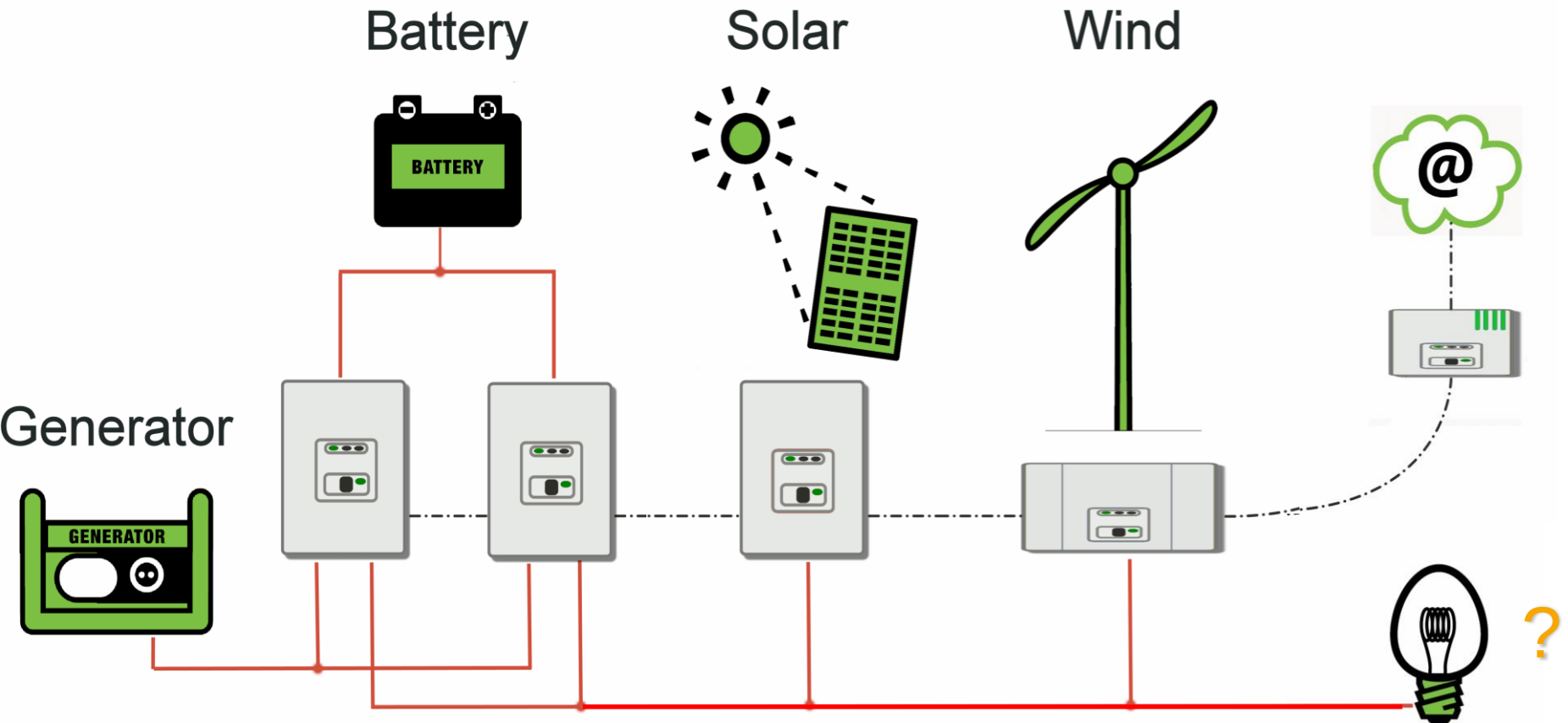
30 kWp



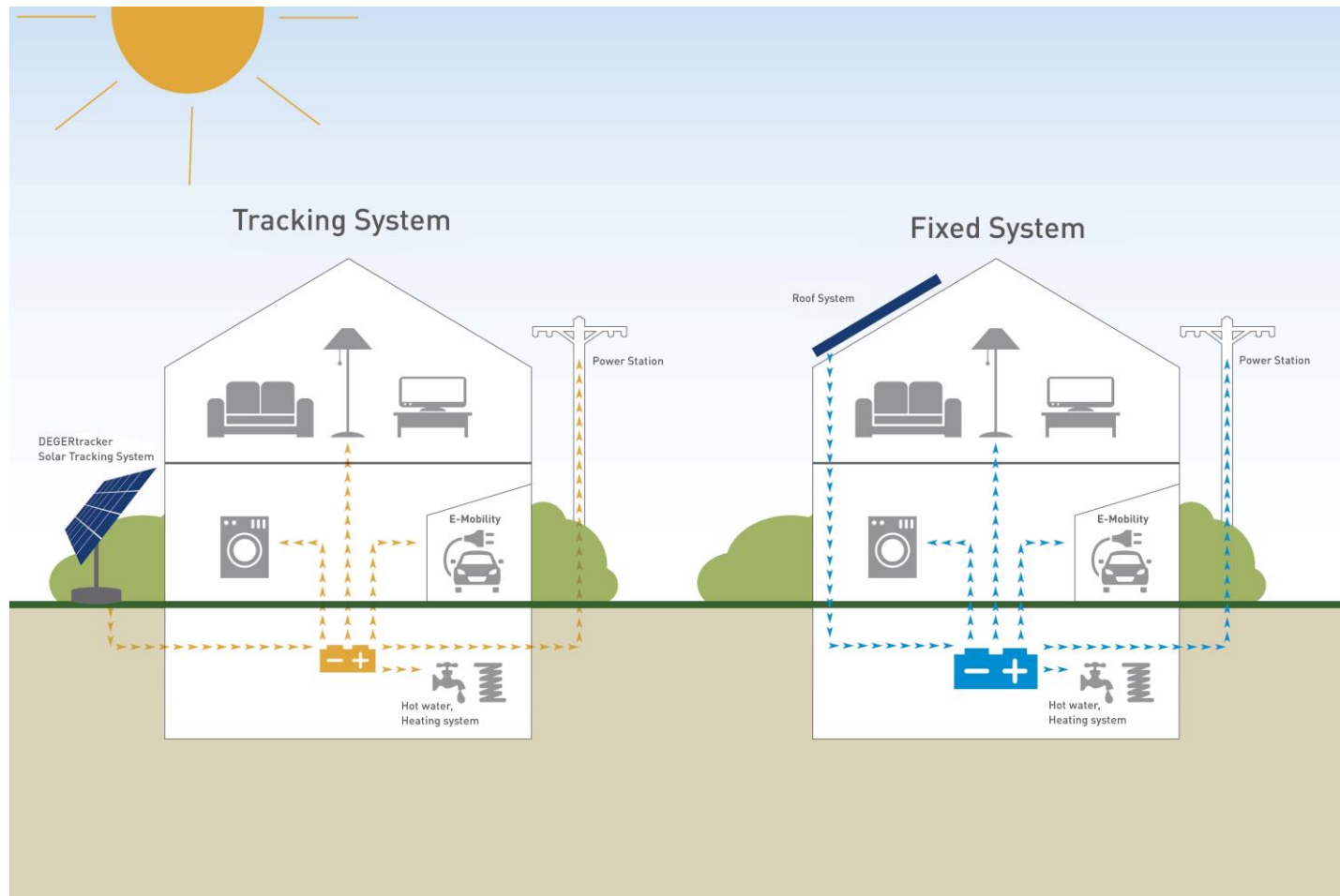
Maximum Solar Storage by DEGERHellas



Knowledge Autonomous PV



Maximum Solar Storage by DEGERHELLAS



Offering Autonomous Systems

Οι επιλογές είναι απεριόριστες
Συστήματα από 15kW – 200kW peak ισχύος



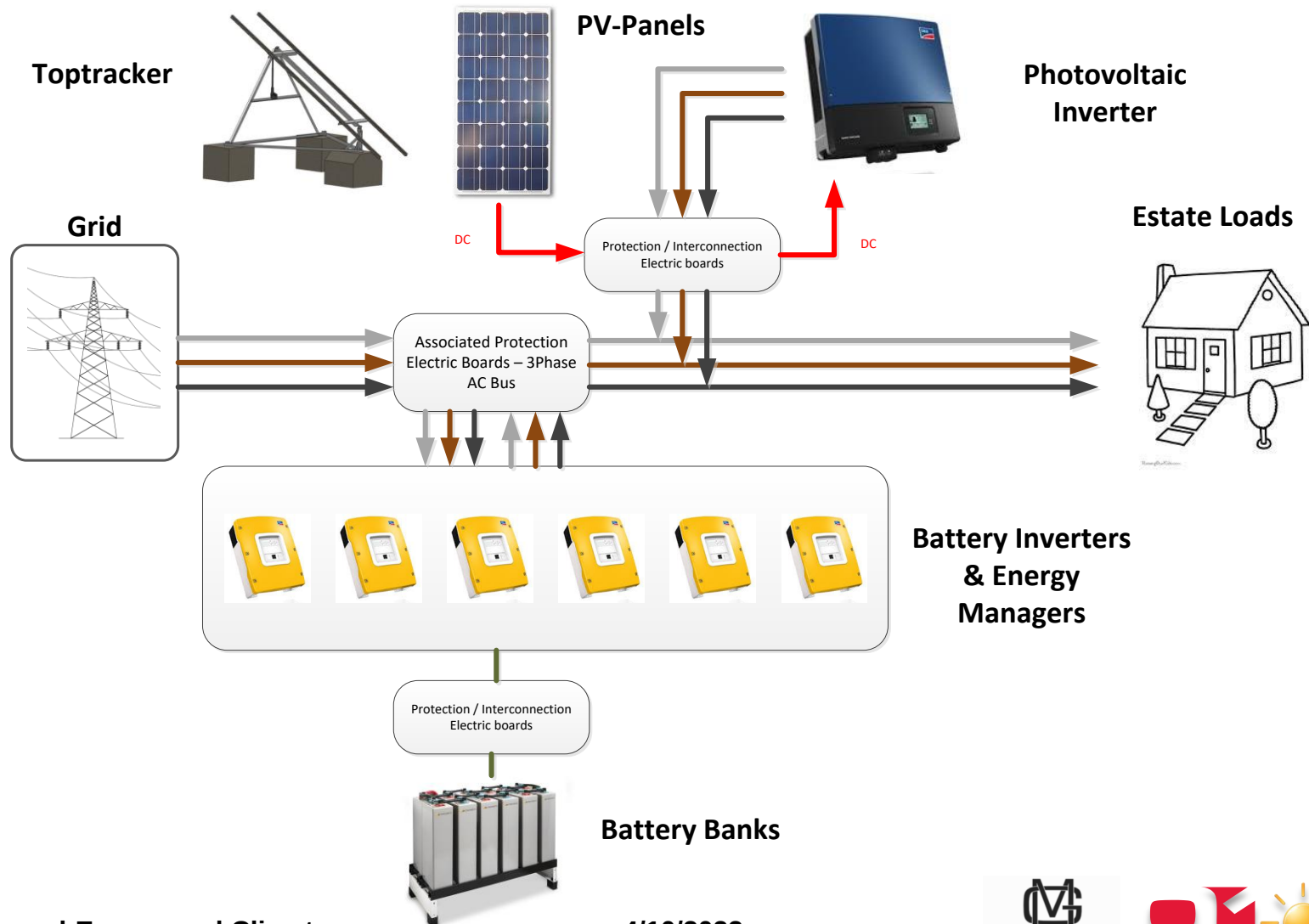
Just like a household apparatus



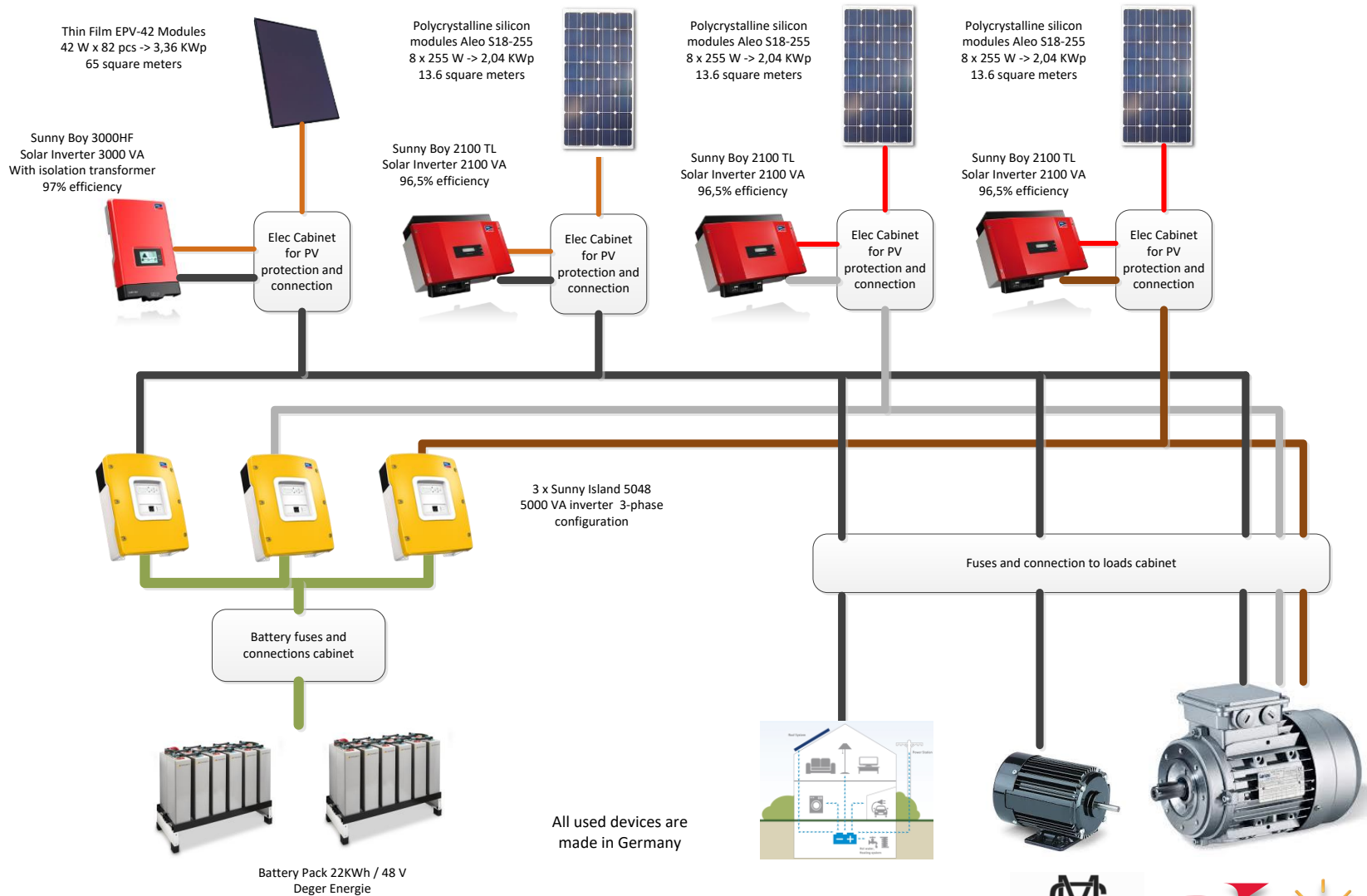
A small autonomous PV production plant (30kW)



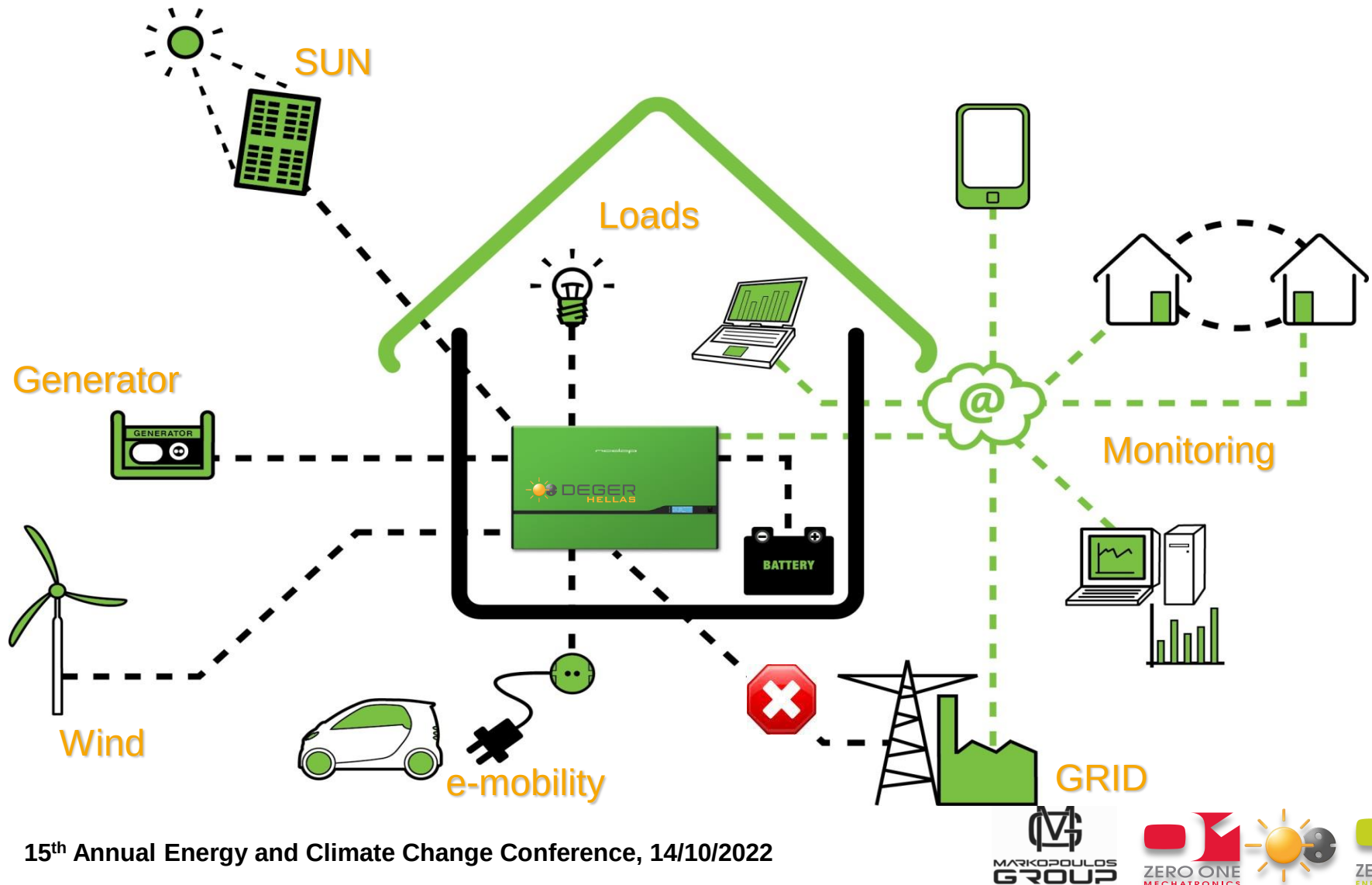
Architecture



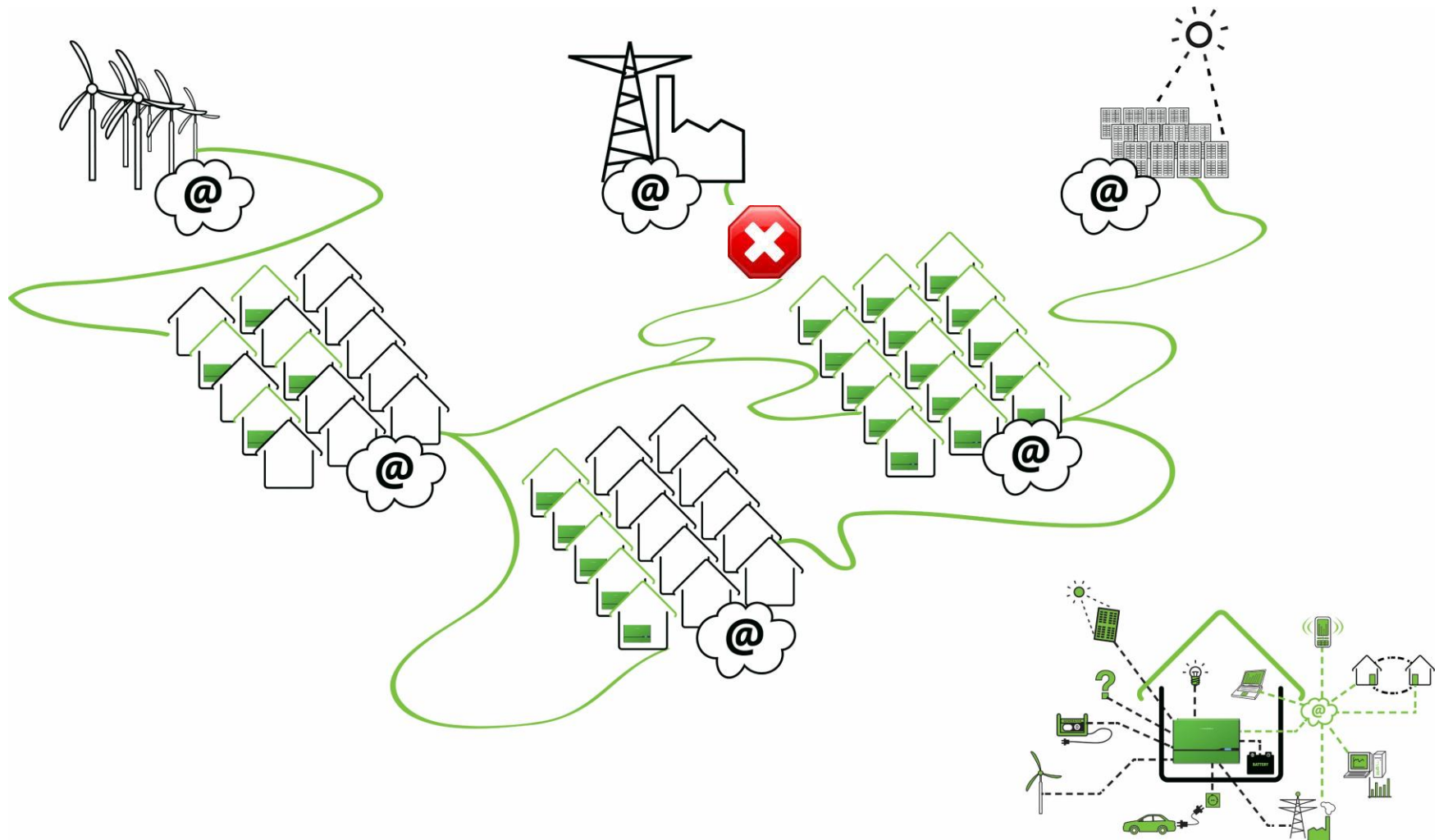
An 40kWh PV production plant



A COMPLETE SYSTEM



A VISION FOR THE FUTURE



PROVIDING SIMPLE SOLUTIONS BRINGING

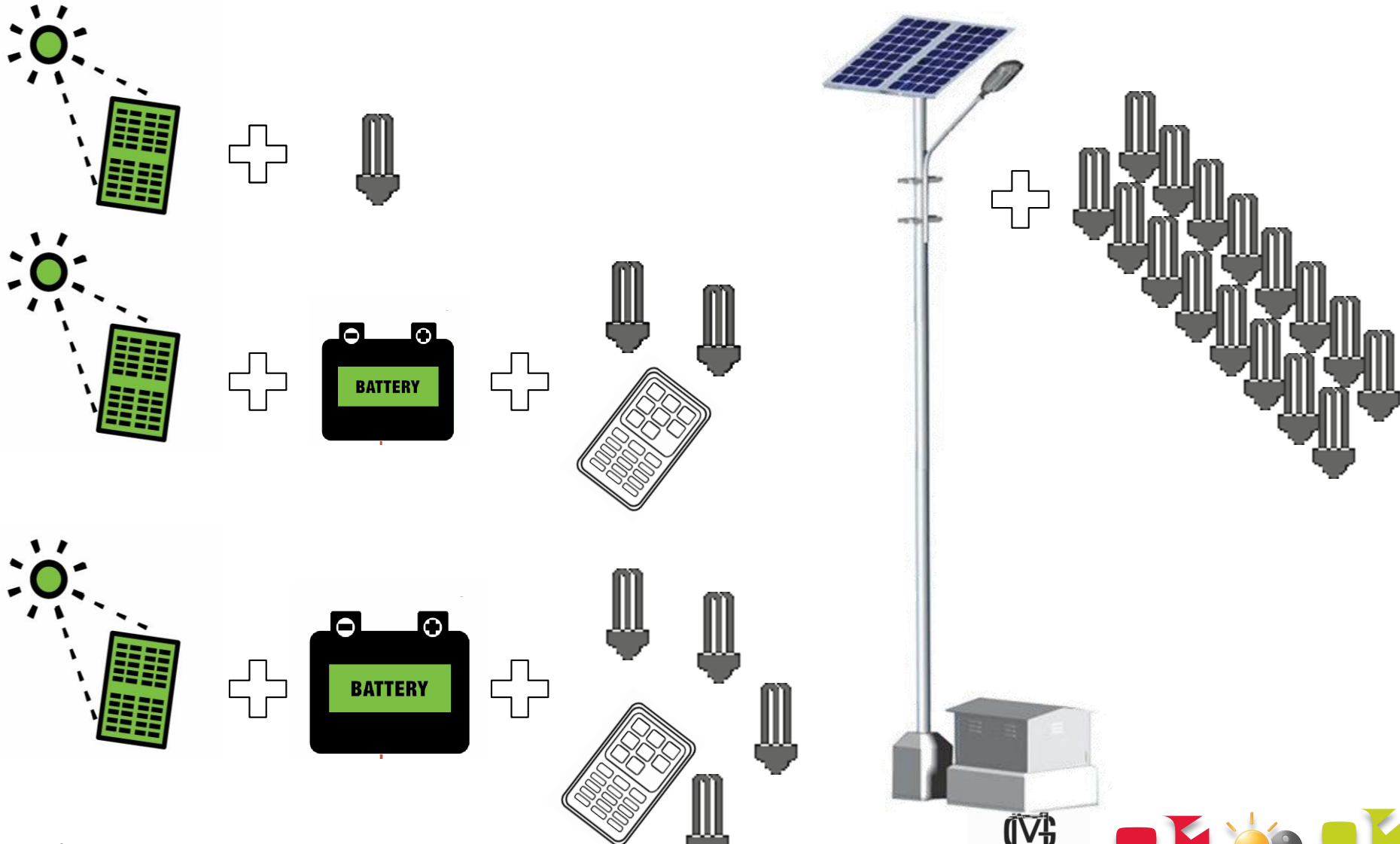
“Energy to the People”

Energy Autonomy in Africa

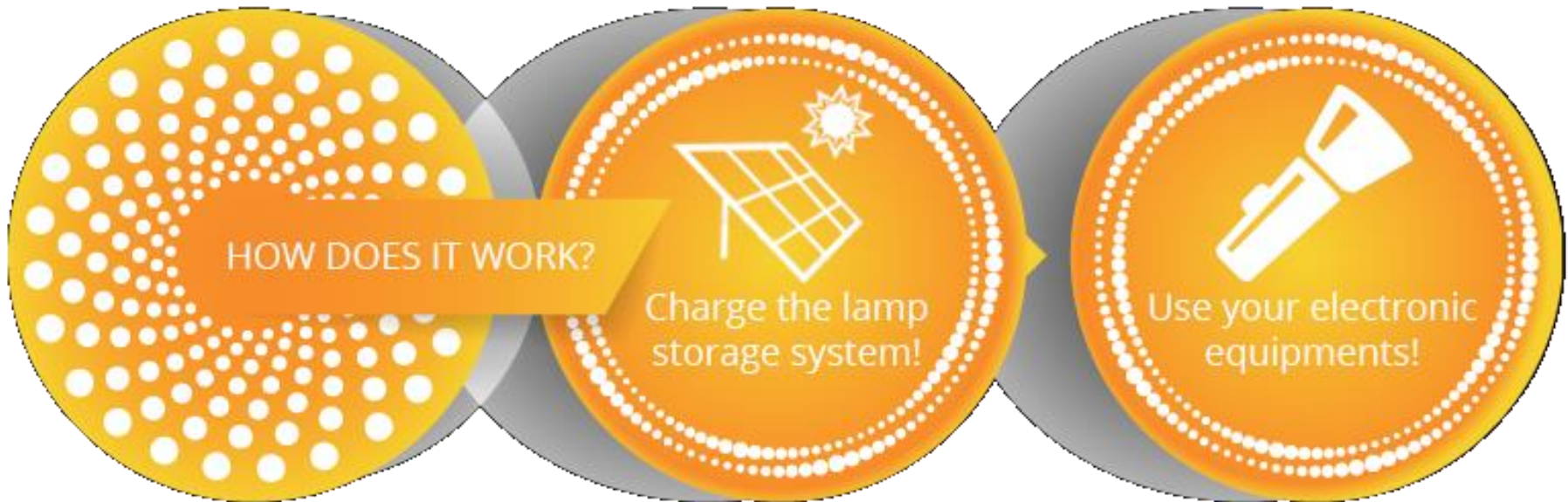
- The International Energy Agency estimates that 585 million people in sub-Saharan Africa lack access to electricity
- In East Africa, only 23% of Kenyans, 10.8% of Rwandans and 14.8% of Tanzanians have electricity, the World Bank says
- Off-grid households in East Africa spend about \$0.50-\$0.60 (33p-40p) per day on kerosene lighting and basic charging costs

WE GOT THE SOLUTIONS

What our MSS systems can offer



Personal Light Systems



Set the solar panel into the sun, and connect it to the lamp.

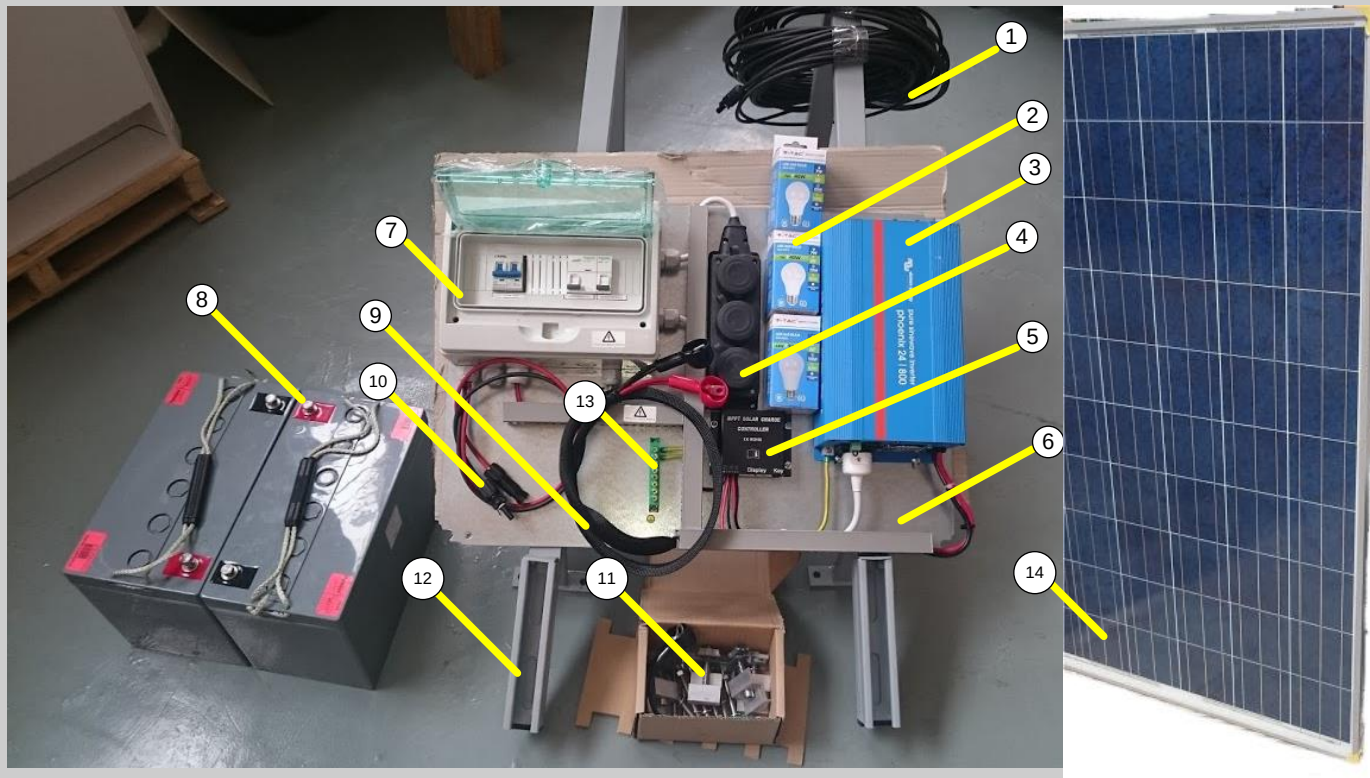
Anytime and anywhere you can connect to the loaded lamp storage system by mobile charger too.

Personal Light Systems



All offering very bright
Lights for 5-6 Hours operation

DEGERHELLAS MSS 800VA|2kWh for a house

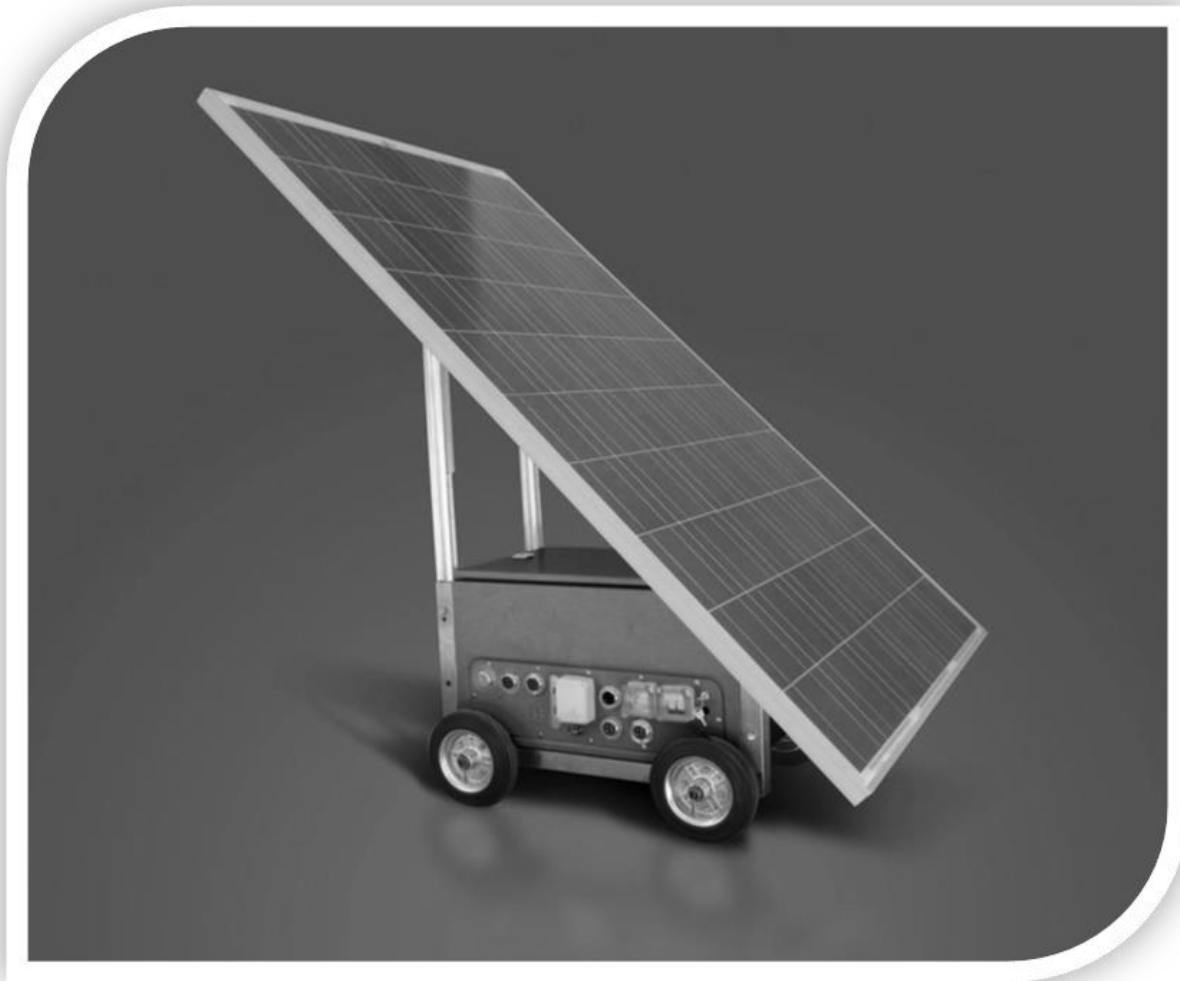


ΠΕΡΙΕΧΟΜΕΝΑ KIT 800VA/240Wp Panel			
1	Καλώδιο Solar 6mm ²	8	Μπαταρίες 2X12X100Ah
2	Λάμπες Led 14Watt	9	Καλώδιο Σύνδεσης Μπαταριών
3	Inverter 24/800	10	Καλώδιο Σύνδεσης Πάνελ
4	Πρίζα 3 Υποδοχών	11	Παρελκόμενα υλικά σύνδεσης
5	Ρυθμιστής Φόρτισης MPPT	12	Βάση Στήριξης
6	Πλάτη Τοποθέτησης	13	Κλέμμα Γειώσεων
7	Πίνακας Προστασίας & Χειρισμού	14	ΦΒ Πανελ 240Wp

DEGERHELLAS MSS 800VA

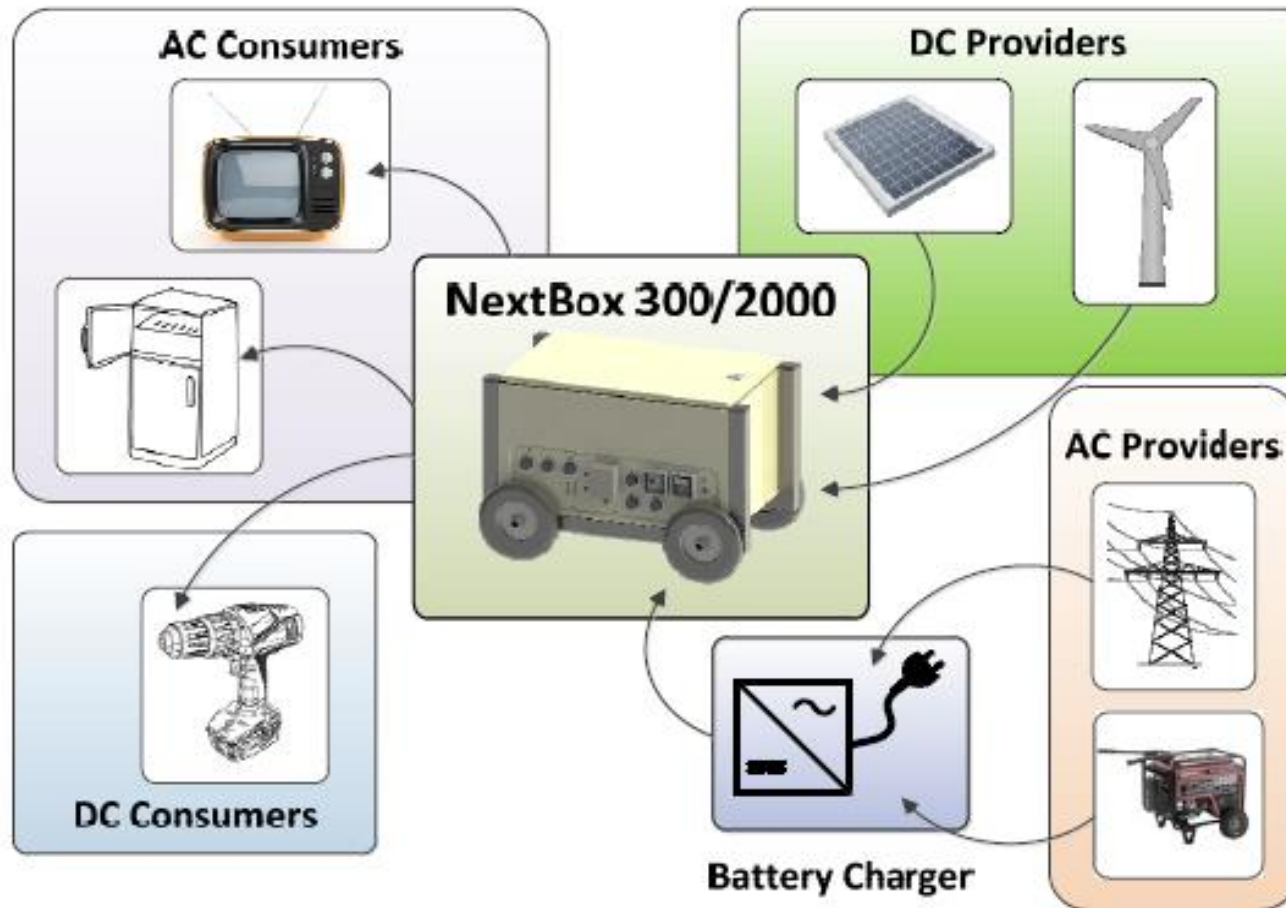


DEGERHELLAS MSS BOX



What it can offer

The NextBox 300/2000 portable power pack







*Ο μπαμπάς μου
είναι ενεργειακά
ελεύθερος!*

Εσείς, ακόμα;

