DESIGN, DEVELOPMENT
AND EUROPEAN MANUFACTURING

ENERGIE®
THERMODYNAMIC SOLAR ENERGY

Iris Hellas
Technology Innovations

ECO

ECONOMY | ECOLOGY | COMFORT

PROBABLY THE MOST ADVANCED SOLAR WATER HEATER IN THE WORLD.

HOT WATER
24 HOURS
A DAY

WORK DAY
AND NIGHT,
RAIN OR
SHINE

UP TO
85%
ECONOMY

THE LATEST
GENERATION
OF ENERGY
SOLAR

WORKS
WITH YOUR
PV SYSTEM

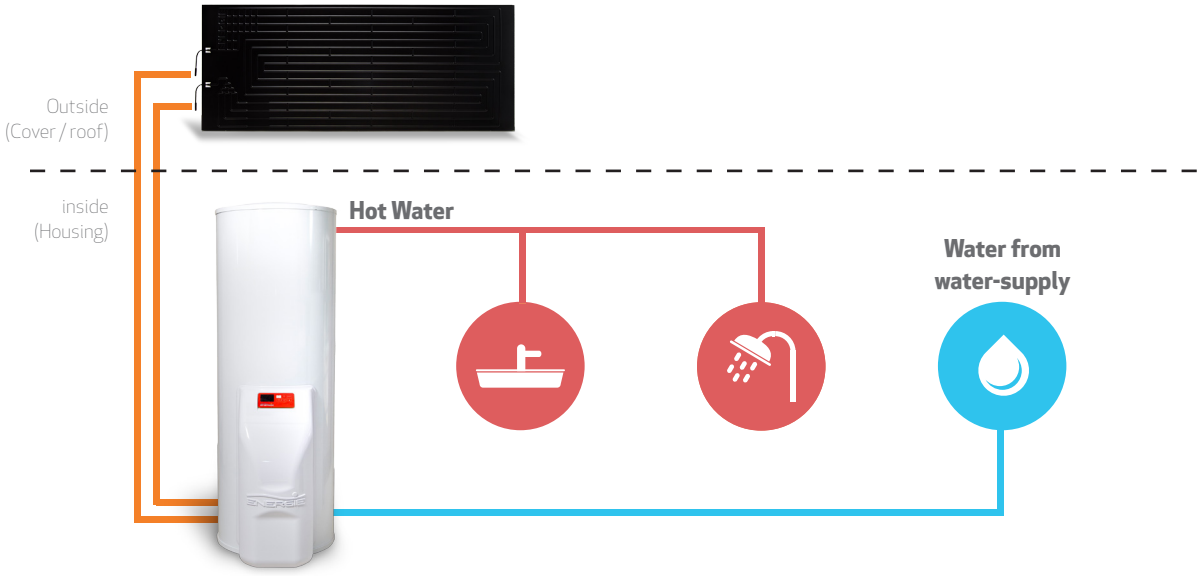
New Design

We select the best components and subject our systems to rigorous quality testing to ensure maximum customer satisfaction

100% ENVIRONMENTALLY FRIENDLY

MAXIMUM PRODUCTIVITY WITH SOLAR PERFORMANCE

- HEAT IS CAPTURED IN THE FORM OF SOLAR RADITION, ENVIRONMENTAL TEMPERATURE, RAIN, WIND AND EVEN SNOW
- THE HEAT PRODUCED ON COLDER DAYS, EVEN AT NIGHT IS SUFFICIENT TO PRODUCE THE WATER TEMPERATURE DESIRED
- THE SOLAR PANEL IS LIGHT, DISCREET AND VERSATILE IN TERMS OF WHERE TO PUT IT
- OUTSIDE CYLINDER CONDENSER (NO CONTACT WITH WATER)
- 3RD GENERATION THERMODYNAMIC SOLAR ENERGY
- HOT WATER UP TO 55º AVAILABLE 24h PER DAY
- ALMOST NON-EXISTENT MAINTENANCE
- THE ENERGY CONSUMPTION OF THE EQUIPMENT IS REDUCED DUE TO A SUPER EFFICIENT COMPRESSOR
- NO DEFROST CYCLE
- VERSIONS WITH 1 OR 2 THERMODYNAMIC SOLAR PANELS
- ENAMELLED OR STAINLESS STEEL CYLINDER
- WITH OR WITHOUT SUPPLEMENTARY COIL



FAQ's

What is the ENERGIE Thermodynamic Solar System?
ENERGIE Thermodynamic Solar Systems use a technology based on the principle of the French physicist Nicolas Carnot, who discovered thermodynamics. Thanks to him, Thermodynamic Solar Panels are capable of capturing the heat from the sun, or even from the rain and wind, 24 hours a day, 365 days a year. One of the innovative aspects is that an ecological fluid at freezing temperatures circulates through the solar panel, allowing a greater uptake of the solar energy and a higher absorption of the environmental energy that is then released to the water through a heat exchanger. Thus, ENERGIE's Thermodynamic Solar Panels surpass the limitations of the traditional solar panels and make possible a more efficient increase of the water temperature.

Can I have hot water in days without sun?
Because the fluid passes inside the panel at very low temperatures, it can receive more solar energy than a normal liquid and even on days without sun or at night. Because of this thermal difference, the solar panel can capture the heat existing in the environment and transmit it to the water. Thus, the system always ensures hot water up to 55ºC.

Does the Thermodynamic Solar System require extensive maintenance care?
Maintenance is almost non-existent, you are just advised to check the magnesium anode, a protection element of the tank, once a year.

Does this system have any anti-bacterial device?
Yes it does. According to the standard in force, the equipment for sanitary hot water has a function that allows the tank's temperature to be raised to over 70ºC, whose activation is manual with automatic deactivation.

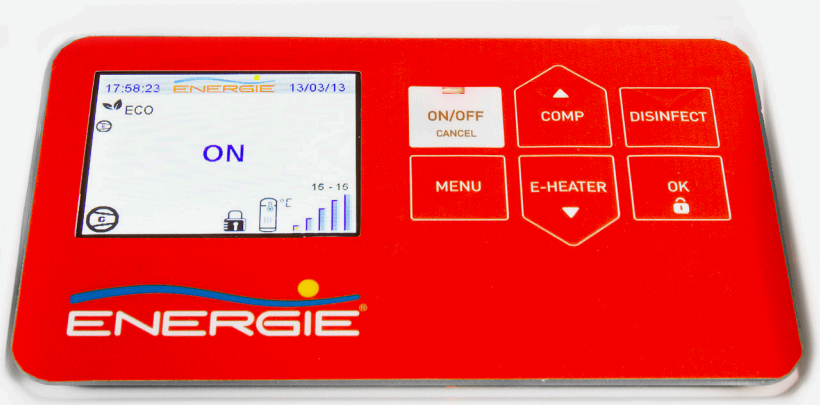
Can the ENERGIE Thermodynamic Solar System be installed in any region?
Yes it can. The ENERGIE Thermodynamic Solar System can be installed anywhere in the country, including in areas where it rains or snows.

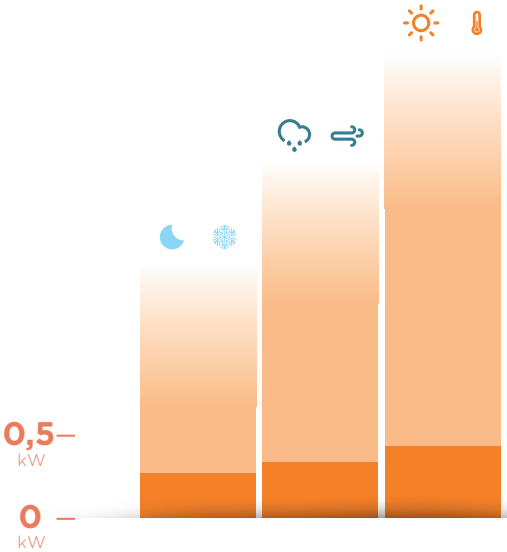
Electronic Controller

ECO Operating Mode
The equipment only works as a Thermodynamic Solar System

AUTO Operating Mode
The equipment works as a Thermodynamic Solar System and/or electrical support should it be required.

BOOST Operating mode
The equipment works with a Thermodynamic Solar System and electrical support simultaneously.





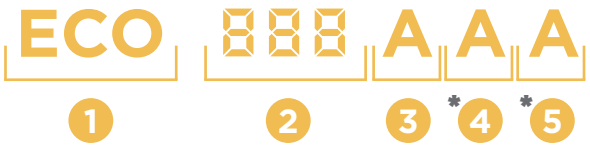
Behaviour of a thermodynamic solar system according to the different weather conditions

Heat Produced
Consumption

Check warranty conditions

ENERGIE®
THERMODYNAMIC SOLAR ENERGY

Choose your model



1. **Model**
   Eco
2. **Capacity (litres)**
   200, 250, 300, 450 litre Cylinders
3. **Cylinder Material**
   esm (Enamelled)
   i (Stainless)
*4. **2 Solar Panels**
   S
*5. **Supplementary Coil**
   X

*Optional and when applicable
888 Represents the capacity of equipment

PV intelligent function

Take Full advantage of your PV System
· Sets new standards of smart energy management
· Maximize your PV Solar Panels production and reduce your DHW costs.
· Maximize the solar irradiance available by having the thermodynamic solar system working more when there is more sun available.
. Get the balance between PV production and consumption with our intelligent controller

With PV Smart Grid Ready, the Energie solar system absorbs the extra power generated by PV Panels, Wind Energy or Small Hydro storing, what would be lost energy, into the water, enabling you to save even more.

List of equipment from the range

Model	No. of Panels	Enamelled	Stainless	Thermal Power W(Max)	Power Consumption W(Avg)	Electrical Supply V/Hz	Extra Coil	Liters
Eco 200esm	1	x		2900	390	230/50		200
Eco 250esm	1	x		2900	390	230/50		250
Eco 300esm	1	x		2900	390	230/50		300
Eco 250i	1		x	2900	390	230/50		250
Eco 300i	1		x	2900	390	230/50		300
Eco 250ix	1		x	2900	390	230/50		250
Eco 300ix	1		x	2900	390	230/50		300
Eco 300esms	2	x		4550	595	230/50		300
Eco 250is	2		x	4550	595	230/50		250
Eco 300is	2		x	4550	595	230/50		300
Eco 450is	2		x	4550	595	230/50		430
Eco 250isx	2		x	4550	595	230/50		250
Eco 300isx	2		x	4550	595	230/50		300
Eco 450isx	2		x	4550	595	230/50		430

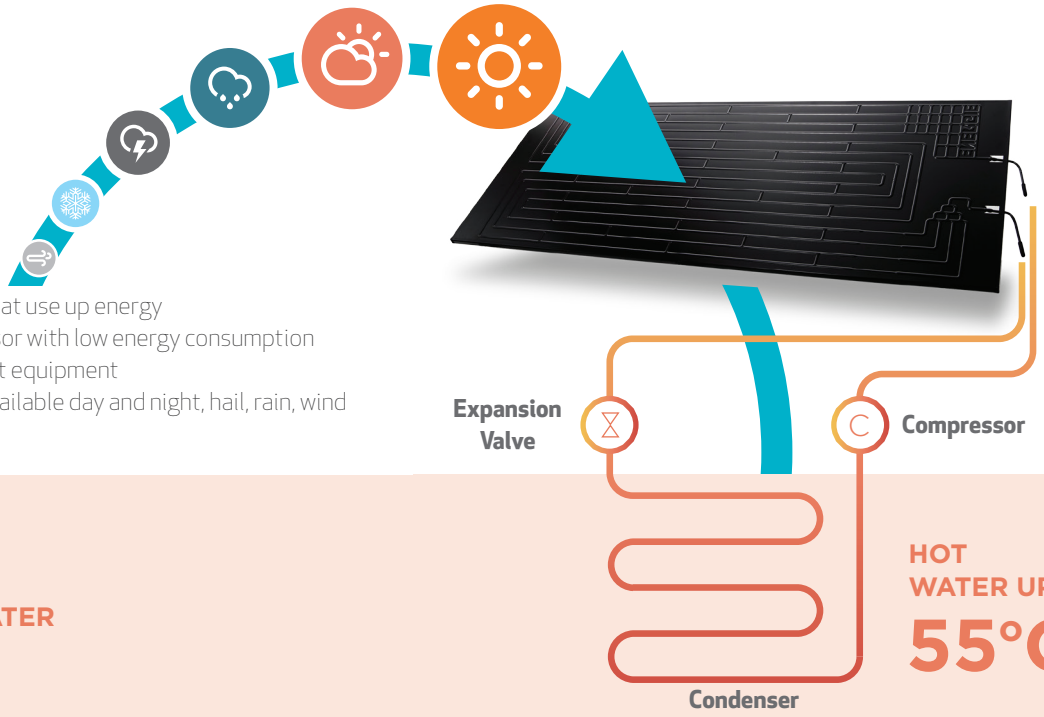
THERMODYNAMIC SOLAR SYSTEM OPERATING PRINCIPLE

Solar Panel

- Captures heat regardless of climate.
- Primary circuit does not need to dissipate excess heat on hotter days.
- Easy integration with architecture, versatile, no visual impact.

Equipement

- Without ducts
- Without ventilators
- Without defrost cycles that use up energy
- Super efficient compressor with low energy consumption
- No need to install support equipment
- Hot water guaranteed, available day and night, hail, rain, wind or shine up to 55ºc



DOMESTIC HOT WATER

HOT WATER UP TO 55°C

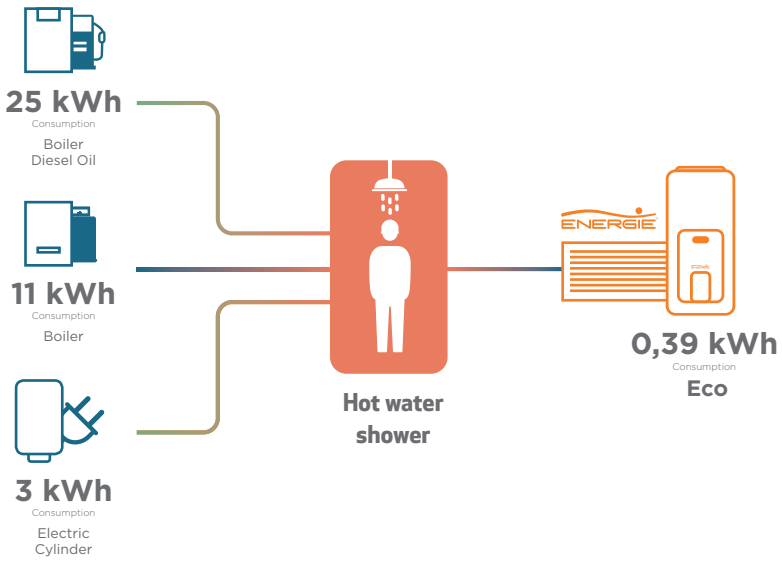


Solar Panel

- ANODIZED ALUMINIUM, WITH HYDROFOBIC FLEXIBLE COATING
- LIGHT WEIGHT – ONLY 8 KILOS, EASY TO TRANSPORT AND INSTALL
- DIMENSIONS: 2m X 0,8m X 0,02m
- NO GLASS, RUBBER OR FRAGILE MATERIALS
- NO RISK OF OVER HEATING
- NO RISK OF FREEZING
- HIGH RESISTANCE IN SALINE ENVIRONMENT
- HIGH RESISTANCE TO HUMIDITY
- IT CAN BE INSTALLED FROM 10º TO 85º IN A HORIZONTAL POSITION
- IT CAN BE INSTALLED ON THE ROOF, WALL, IN THE GARDEN, ETC...
- THE PANEL DOES NOT LOSE ITS EFFICIENCY WITH TIME OR WITH DIRT
- NO NEED TO CLEAN
- ESTIMATED USEFUL LIFE OF 25 YEARS

More detailed information on
energie.pt

Distribution of consumption to different systems



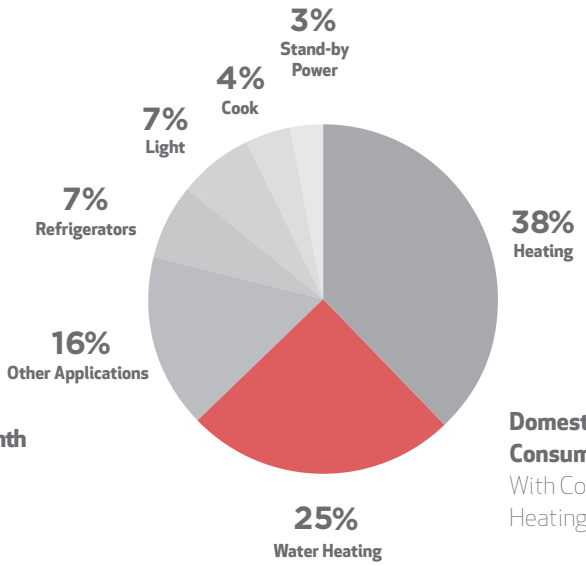
DID YOU KNOW?

That all thermodynamic solar systems only have one mechanical element that requires electricity? This element is a low energy consumption compressor and is extremely efficient. As the capacity to capture heat from the environment is primarily ensured through solar radiation, it is superior to other equipment with the same goal offering maximum savings. The maintenance of the system is practically non-existent and it has high longevity.

SAVE UP TO

85%

Taking into account Eco300
7 Hours operation per day
Consumption of 0.39 kW/h
Energy necessary / month: 0.39 kW x 7 h x 30 days = 81.9 kWh / month



Domestic Energy Consumption
With Conventional Heating Equipment

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