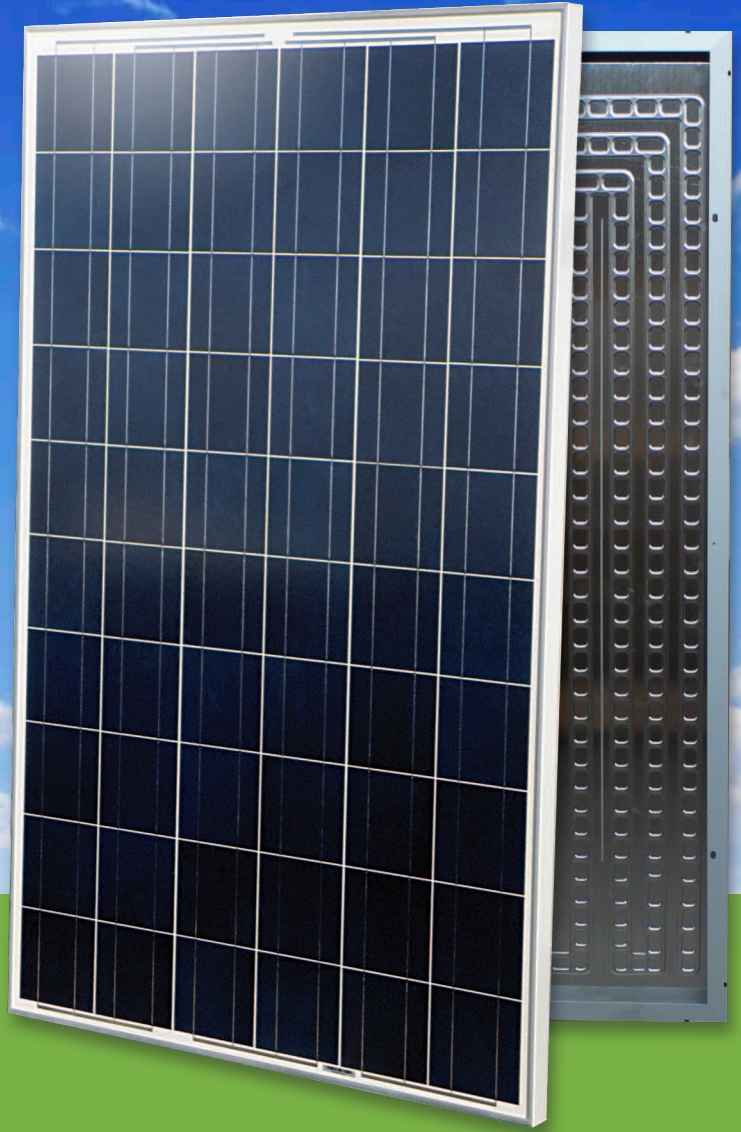


# The Next Solar Frontier

## More usable energy!



## The H-NRG

Moving energy *for you*

The H-NRG hybrid Photovoltaic-Thermal (PVT) panel not only gives a much better electrical yield but the additional high thermal energy means even more useable energy than any traditional PV panel on the market!



**AnafSolar**

# The H-NRG

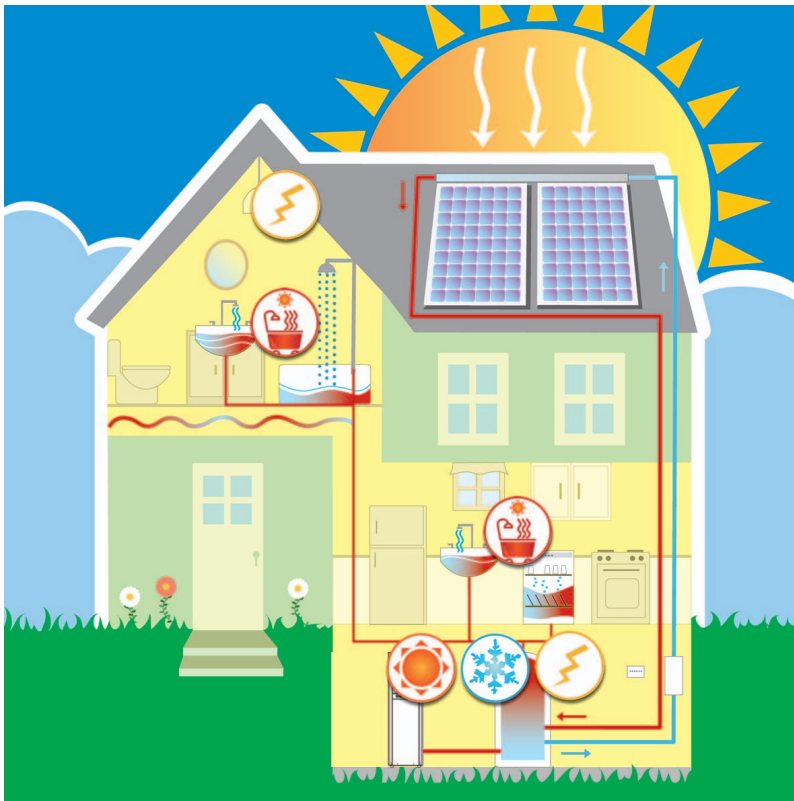
## The PVT revolution is here!

Up to now, traditional Photovoltaic (PV) systems have been relatively inefficient in terms of converting the sun's rays into useable electrical energy (ca. 15%).

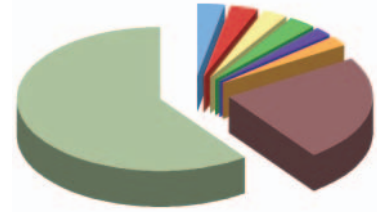
The technical breakthrough by AnafSolar to increase the electrical yield of the PV panel through cooling has received worldwide acclaim for innovation.

In addition to increasing the electrical yield, the H-NRG also provides incredible thermal energy for household energy use (ca. 50%).

The technology has been made commercially viable to address today's energy needs with his unique conversion (rate of 65%).



## UK HOUSEHOLD ENERGY CONSUMPTION<sup>1</sup>

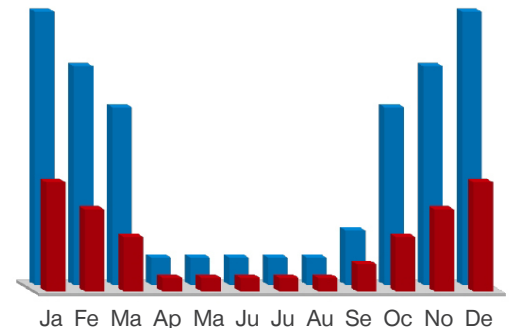


- Cold Appliances
- Consumer Electronics
- Cooking
- Lighting
- Wet Appliances
- Misc.
- Hot Water
- Space Heating

More than 80% of energy typically consumed in Europe is for Heating and Hot Water.

<sup>1</sup> Source: The DTI 2004

## GAS HEATING AND PVT



- The H-NRG
- Traditional Gas Heating

To calculate your own benefit, please visit our website [www.anafsolar.eu](http://www.anafsolar.eu)

**THE H-NRG IS  
+ MORE ELECTRICAL ENERGY  
+ MORE THERMAL ENERGY**

**= MORE USABLE ENERGY  
AND HIGHER ROI!**

PV PANELS



ELECTRICITY

THE H-NRG



ELECTRICITY



HEATING



COOLING



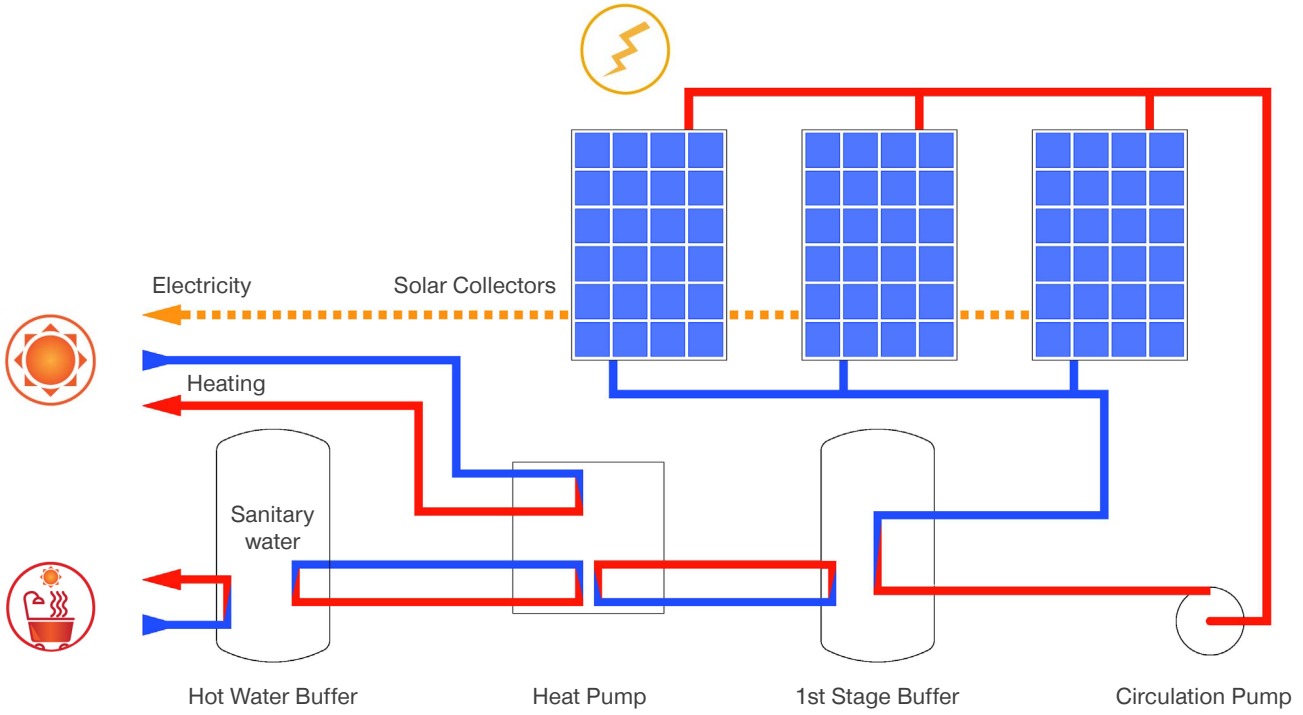
HOT WATER  
& HEATING

**SO MUCH MORE THAN JUST A  
PV PANEL!**

## Basic Kit Setup

### A) Sanitary Water Configuration

### B) Heat + Sanitary Water Configuration



### A) Sanitary Water Configuration

The H-NRG modules are connected directly to the hot water tank. In this way, hot water is produced on average at some 0.4 kWh on average per panel. During sunlight hours yielding some 50kWh daily on average for a typical 3kWp system.

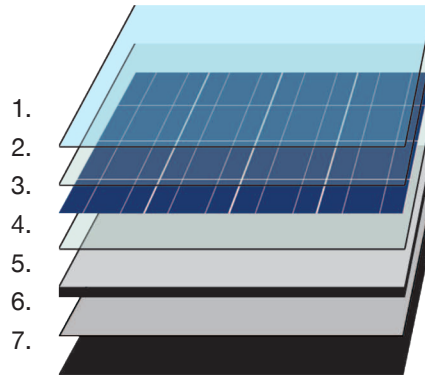
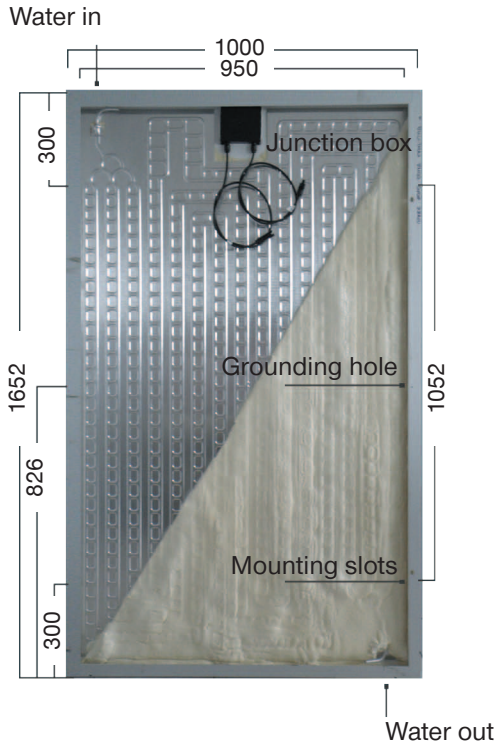
### B) Heat + Sanitary Water Configuration

The H-NRG modules are connected to the heat pump. In this case, the system not only provides all the required sanitary hot water but also the thermal energy needed for domestic heating, with an average thermal energy production of some 0.6Wh per panel. In addition, the H-NRG panels can also provide additional thermal energy during the night of some 180kWh a day for a typical 3kWp installation!

**MORE  
ELECTRICAL  
ENERGY  
+  
MORE  
THERMAL  
ENERGY**

**MORE USABLE ENERGY FROM THE SAME SPACE!**

# KIT H-NRG



1. Tempered Glass, Low Iron Content, High Transmittance.
2. E.V.A. (Ethyl Vinyl Acetate) Encapsulating Film.
3. Solar Collectors.
4. E.V.A. (Ethyl Vinyl Acetate) Encapsulating Film.
5. Back Sheet TPT and TPE Protection.
6. Aluminium H-NRG system.
7. Insulating layer (optional).

## A) Sanitary Water Configuration

	3 kW			4 kW			5 kW		
	Summer	Mid-season	Winter	Summer	Mid-season	Winter	Summer	Mid-season	Winter
Ambient Temperature	20°C	10°C	5°C	20°C	10°C	5°C	20°C	10°C	5°C
Total Panel Thermal Output (kW)	7,39 (45°C)	3,74 (35°C)	1,87 (20°C)	9,66 (45°C)	4,89 (35°C)	2,45 (20°C)	14,77 (45°C)	7,48 (35°C)	3,74 (20°C)

## B) Heat + Sanitary Water Configuration

	3 kW			4 kW			5 kW		
	Summer	Mid-season	Winter	Summer	Mid-season	Winter	Summer	Mid-season	Winter
HEAT PUMP COP	6,10	3,80	3,00	6,15	4,10	3,20	6,20	4,50	3,50
Overall thermal capacity at 40°C (kW)	8,86	8,37	6,36	10,42	9,85	7,48	14,77	11,04	8,28
Cost of 100 dm <sup>3</sup> water at 40°C (EUR)	0,10	0,20	0,26	0,05	0,18	0,25	0,00	0,18	0,24
Overall thermal capacity at 40°C (kW) with natural gas	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27

Note: These values are indicative based on PGVIS data for London – tilt 35°; Azimut 0°



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