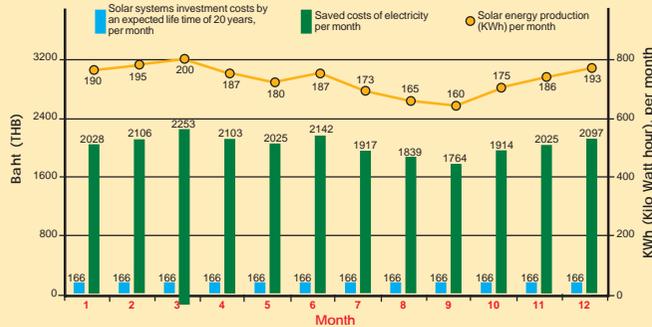


Monthly saving with CHIANG MAI SOLAR solar heating system for a house in Nonghoi (Chiang Mai) as our first case study, with 2 solar collectors (=4m²), 240 liters between 55-85°C, in operation since 2006 (last update February 2012).



Solar energy production: 7.4 MWh (Mega Watt hour) per year. In case you would use all the produced energy (hot water), the saved costs of electricity are about 24,000.- THB per year. This saves the world about 4.4 tonnes of CO₂ per year.

References



Lanna Pinery Homes (Chiang Mai)



San Sai (Chiang Mai)



Nonghoi (Chiang Mai)



Solar Heated Pool at San Sai (Chiang Mai)



The Spa Resort (Chiang Mai)



Saraphee (Chiang Mai)



Sang Tong Huts (Maë Hong Son)



Wildflower Home Foundation at San Kamphaeng (Chiang Mai)



Ratilanna Riverside Spa Resort (Chiang Mai)



CHIANG MAI SOLAR
your Address for Solar Energy

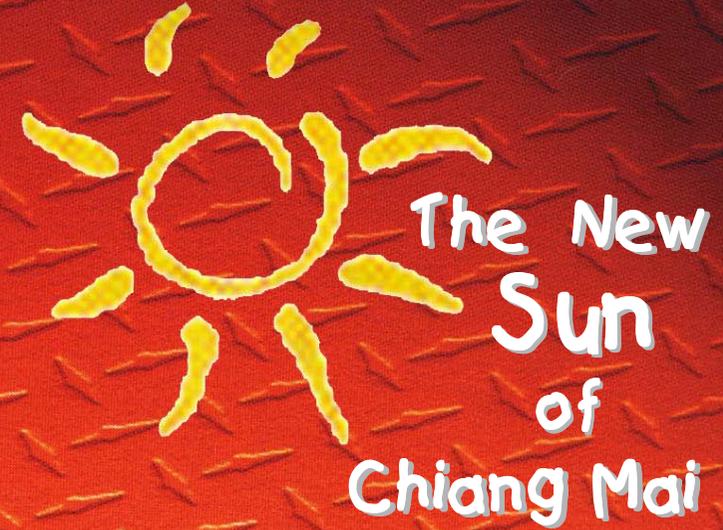
Showroom:

Sample systems are on display at
ENGINEO'S Green Energy Shop!
76/2 Changpuak Road
Sriphoom, Chiang Mai 50200
(opposit Bangkok Bank)
Phone 0-5322-2760, 0-5322-2570



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www.chiangmaisolar.com

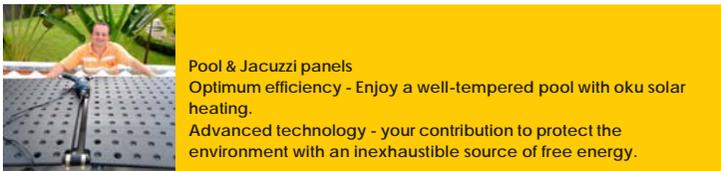


CHIANG MAI SOLAR
SOLAR WATER HEATER

PRESSURIZED SYSTEMS
&
NON-PRESSURE SYSTEMS

OELMAIER TECHNOLOGY CO., LTD.

WE ARE A LOCAL MANUFACTURER
MADE IN CHIANG MAI

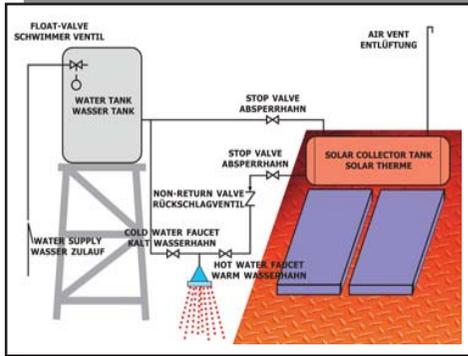


Pool & Jacuzzi panels
 Optimum efficiency - Enjoy a well-tempered pool with oku solar heating.
 Advanced technology - your contribution to protect the environment with an inexhaustible source of free energy.



Solar Test Field from GTZ (German Technical Cooperation) in Thailand

NON-PRESSURE SYSTEM



For the non-pressure system the Natural Gravitation is the most simple, but at the same times most economical and reliable principle. The water tower guarantee you enough water and constant pressure even when water supply stops or the electricity is off for a while. In modern buildings such a fresh water storage tank is hidden inside the roof construction.

It is another common principle to use a pressure pump to supply water to your house. All non-pressure solar water systems using a refill feeder.

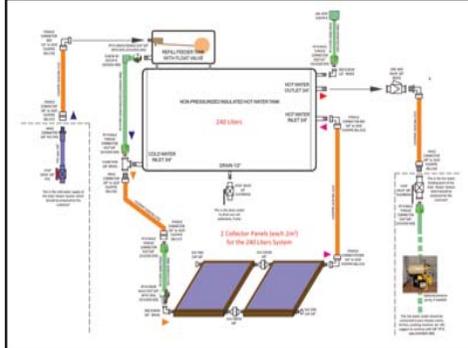
In case the hot water pressure is not high enough, may because of the roof is not high and the natural gravitation is insufficient, often an additional small low power pressure pump is used at the hot water side.

To enhance the comfort of having a stable temperature during shower, may an automatic thermostatic mixing valve is usefull.

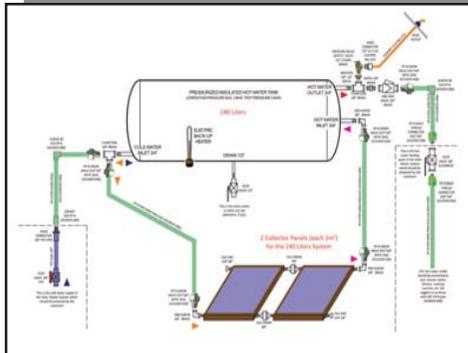


The non-pressure solar water heater is also a simple solution to be placed in the garden, at farms or resorts; or just simply on a flat rooftop.

Pressurized systems having several advantages! Mainly that the pressure at the hot water site is the same as at the cold water site, because the solar system is direct connected to the main water supply. Whatever is the pressure at the main water supply is also the pressure at the hot water. This made the system very comfortable in operation. Further there is no additional pressure pump needed.



PRESSURIZED SYSTEM



There are no movable parts, for that the system is maintenance free. Only in the case that the insulated pressure tank can not be installed in a higher position than the collector panels, or in case of a long distance between tank and panels a small low power circulation pump together with an electronic controller is needed.

There are several ways to build up your solar water system. Different system configurations will have different advantages or disadvantages. Ask us, we will help you to choose the right set-up for your individual purpose.

Our standard System

with 4 m² flat panel collector area (2 panels) and 240 liters storage tank is suitable for an extended family of may be up to 5 person. Diluted with cold water it gives up to 500 liter of warm shower water. Further it is suitable to supply the kitchen sink and the washing machine, etc.



The system includes a refill feeder and a stand for the basic installation on the ground or at a flat roof. The optional roof installation set should be applied for slope roofs. The installation set is suitable for nearly any roof style and roofing-tile type. There are special mounting parts available for the very common CPAC-Monier roofing tiles.

The hot water storage tank of this gravitation type system must be above and as close as possible to the collector panel. If the roof is high enough it is possible to hide the tank inside the roof.

For more living quality and a healthy environment!

Your advantages:

- ✓ Very good price/performance ratio
- ✓ Outstanding workmanship and quality
- ✓ High reliability and efficient
- ✓ Long live time and high durability

Our service includes free delivery within Chiang Mai province. It not includes installation service, which will be quoted separately depend to accessibility of the installation side (slope roof, scaffold needed or not, e.g.) and depend to the difficulty of the installation job (water tank inside or outside the roof, e.g.). Also not include any changes at the existing water system or the installation of additional piping inside the house.



Tank Features:	Non-pressure tank	Pressurized tank
Inner tank	SUS304 stainless steel	
Outer tank	coated sheet metal	aluminium foil
Insulation	50mm PU-foam	10mm PU-foam 50mm glass wool
Operating pressure	0.1 bar	2 bar (29 psi)
Testing pressure	non	5 bar (72 psi)
Pressure relief safety valve	no	yes (3.5 bar / 51 psi)

Collector Features:	(standard size 2 m ²)
Panel size (1panel = 2m ²)	2000 * 1000 * 100 mm
Average energy absorption*	10 kWh/day
Saved CO2 emission	2200 kg/year
Average heating ability**	80-90 l/day/m ²
Maximum temperatur	about 93°C
Max. operation pressure	2 bar (29 psi)
Testing pressure	6 bar (87 psi)
Piping and collector	Copper or copper compound
Chassis	Coated Aluminium (brown, silver or white)
Insulation	Alu/PU-foam, glass wool, polycarbonate
Safety-Glass cover	tempered glass

* (based on average solar absorption for Chiang Mai) ** (liter per m² from 20°C up to 55°C)

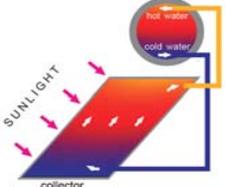
Solar average production per panel: 3.7 MWh (Mega Watt hour) per year. In case you would use all the produced energy (hot water), the saved costs in electricity are about 12,000.- THB per panel per year. Saved annual CO² emission: 2200 kg per year, equivalent to taking one car off the road.

*** Expected service life: 20 years or more ***

Without moving parts and build from rust free materials, our solar thermal systems are maintenance free!



The collectors absorbing heat radiation from the IR-spectrum (infrared). Also at cloudy days or during rain the collector collect sufficient heat from diffuse light to have still about 60% efficiency.



Welded and assembly under strict quality control. Every panel fulfills a 6 bar pressure test.



Aluminium housing with strong aluminium corners. The glass covers are from tempered safety glass.



Pressurized tank from SUS304 stainless steel.

The inner layer of the insulated non pressure tanks are produced of SUS304 stainless steel. The outer tanks are from corrosion protected (zinc coated) sheet metal.

