

New! Solar heating
for ordinary people.



The sun provides five times the energy your house uses.

No more do you need to be an astronaut or a master inventor to harness the sun's energy. Because what used to be awkward and expensive has now been packaged by CTC into a range of systems. We call it EcoSol.

Even in Northern Europe, solar energy is an attractive option for house-owners. Over the course of a year, your roof receives five times more energy than the house uses.

With just five square meters of solar panels, you could meet half your hot water requirement.

And now you can combine solar energy with CTC's heat pumps, making solar energy a sound investment that's easier to install.

Twice as efficient at half the cost

Over the past 15 years or so, solar energy systems have become twice as efficient at half the cost, while quality has also improved.

Now's the time!

Consequently, now is the time to start installing solar energy in standard houses. CTC has begun working with a German company that is one of the world's largest manufacturers of solar panels.

We have selected suitable products and incorporated control systems, components and assembly into a functioning whole.

The advantages are obvious – you will have a single supplier for installation, support and warranties for both the heat pump and the solar energy system.

Complete packages with two types of solar panel

Solar panels are sold in complete packages ready to be connected to CTC's heat pumps.

The packages include the control system, circulation pumps, expansion tank, heat exchanger, mounting kits, transmitters and optional solar panels.

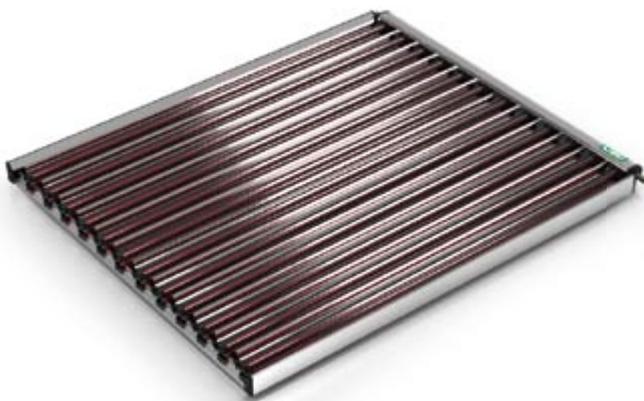
There are two different types of solar panel to choose from.

At least 40 years with virtually no running costs

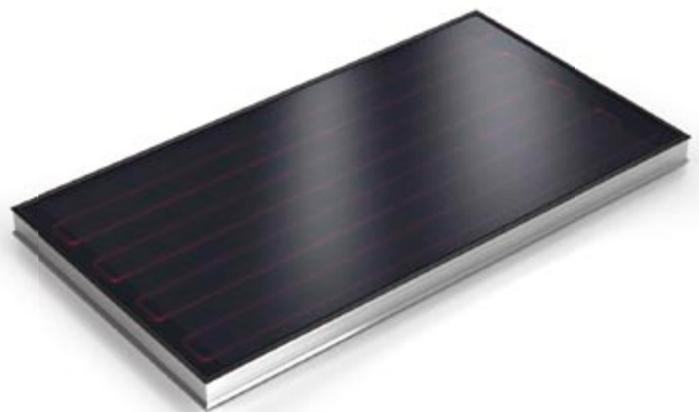
Solar panels have a long life span – at least 40 years is not unusual. Panels from the 1970s are still running today.

They are also maintenance free, with no need for ongoing inspection and care.

The running costs are minimal. All you need to pay is the low electricity cost for the circulation pump.



Vacuum solar panels can be wall or roof mounted and are more efficient during periods of low solar radiation in the spring and autumn (496 kWh/m²/year). Glass tubes in the panels act as insulation thanks to the vacuum inside, minimising energy loss. Also inside the tubes are copper pipes which circulate a heat-carrying fluid. Beneath each vacuum tube is a reflector which harnesses sunrays whatever the angle.



Flat solar panels cost slightly less but also generate slightly less energy (396 kWh/m²/year). They are ideal for recessing into the roof. In essence they are well-insulated boxes covered with tempered glass on one side. Inside the box is insulation, and on it the absorber plate. Underneath the absorber are copper pipes which circulate a heat-carrying fluid.

Running a solar energy system alongside a heat pump means you can use the sun's energy all year round. How much energy does a system provide? Between 300 and 600 kWh per m² a year depending on the type, where you live, roof angle and direction. There are two different types of solar panel to choose from: vacuum tubes or conventional solar panels. The EcoSol solar package from CTC includes everything needed to get up and running, and your installation engineer takes overall responsibility.



Two couplings that make all the difference.

Unsure of which heat solution to use? Or whether you should add solar energy later? Good. That's just the way we think at CTC.

The best thing about CTC's solutions is that they give you unlimited freedom of choice.

So you can start off with a heat pump and add solar energy, pellets, wood or some other heat source later on.

A solution that's unique to CTC

This flexibility is possible thanks to two unique couplings.

They may not look that impressive – just two pieces of standard threaded $\frac{3}{4}$ inch pipe on all our new heat pumps and associated control and distribution unit.

Even so, these couplings are unique to CTC. That's because we've chosen our own solution for how we harness the energy from a heat pump and how we heat up the water for heating and hot water.

The solution, the challenge

The solution makes it possible to connect to a heat source of your choice.

The challenge lies in getting everything to work as a whole.

And this is where the controls, system know-how and other factors come into the equation.

As one of Sweden's largest manufacturers of heating systems, you can rest assured that CTC's solutions genuinely work.

And that there are trained partners who can install them.

Free addition

Adding solar panels reduces the heat pump's running time while increasing performance and life span. This basically gives you a free addition of the most environmentally friendly energy around.

Charges boreholes during the summer

If you use (or choose) a CTC bedrock heat pump, the solar panels charge the borehole during the summer.

Another smart example: the level of incoming sunlight determines the circulation pump speed for maximum energy output in your solar panel. All this works automatically, with no manual regulation. No ongoing inspection or care.

Future-proof just in case

Few things are as uncertain as energy: supply, demand, taxes and government grants. What may be the optimum solution today may be less favourable tomorrow. For this reason, more and more homeowners are looking for flexible, future-proof solutions.



In the summer when the sun is at its brightest and there is excess heat, this excess heat goes down into the borehole and charges it with heat. Every additional degree Celsius in the borehole dramatically raises the efficiency all year round.

Thanks to CTC's solution for harnessing the energy from a heat pump and warming up the water for heating and hot water, you can easily connect any other heat source to our unique couplings: solar panels, wood, pellets or some other biofuel. A solution that's unique to CTC. Our solution also means you do not need to install a buffer tank. Which is a pretty strong argument in itself.



Long live choice. Our various heat pumps and solar energy systems.

There are various solar packages available for our different heat pumps. Each basic package contains all the necessary equipment.

We also have a package for customers who already have a system tank or accumulator tank with a solar coil. So as you can see, there is a wide choice available.



CTC EcoSol package contents.

	CTC EcoSol for EcoHeat/EcoPart	CTC EcoSol for EcoAir + EcoEI	CTC EcoSol for system/ accumulator tanks
Complete control unit inc. circulation pump, valves etc.	•	•	•
Expansion tank, 18 litres	•	•	•
Plate heat exchanger	2	1	
Circulation pump	•	•	
Reverse valve	•	•	
Transmitter	•	•	•

Solar panels and mounting kits are separately supplied.

CTC EcoHeat and CTC EcoPart – heat pumps for bedrock, soil and lake heating.

CTC EcoHeat and CTC EcoPart are heat pumps for houses and small buildings. Top-class performance for efficiency, noise level and hot water production. CTC EcoPart is designed for spaces with a low ceiling height. CTC EcoPart is therefore connected to the CTC EcoEI electric boiler, or a new or existing boiler.

- CTC's effective shunt-automatic system provides nice, even heat.
- The heat flow is constant, eliminating disturbing expansion noises in floors and pipes.
- Hot water that's guaranteed free of legionella bacteria. That's because it's produced in a two-step through-flow exchanger – the hot water never stands still.
- Available in five sizes: 5, 7.5, 8.5, 10.5 and 12 kW.
- Suitable for a one or two-pipe system for radiators or underfloor heating.



CTC EcoAir – the heat pump for air/water heating with CTC EcoEI.

CTC EcoAir converts outdoor air into hot water and heating right down to -20°C (Polar edition) or -15°C . High efficiency and silent operation. CTC EcoAir is one of the most operationally reliable pumps on the market.

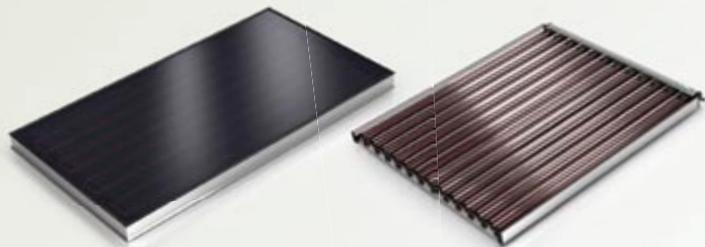
- Easy to install outdoors. Connects to EcoEI control and distribution unit which is a complete heating system that provides nice, even heat thanks to a shunt-automatic system and room/outdoor sensors.
- Top-performance scroll-compressor.
- Soft start comes as standard.
- Produces hot water in a two-step through-flow battery.
- Hot water is produced at the same rate as it is tapped off – so no risk of legionella bacteria.
- CTC EcoEI comes with all control equipment and an easily manoeuvred panel.



Facts and dimensioning – solar panels.

How many solar panels can you use? A few basic guidelines.

- The CTC EcoHeat heat pump is dimensioned for two solar panels (the excess heat charges up the borehole).
- The CTC EcoAir air/water heat pump with CTC EcoEI electric boiler is dimensioned for one solar panel.
- You can supplement CTC EcoHeat or CTC EcoEI with the CTC EcoTank accumulator tank if you wish to use a second solar panel.
- It's essential to dimension each property individually.



Flat

Output: 396 kWh/m²/yr
Length: 2,227 mm
Breadth: 1,220 mm
Depth: 98 mm
Weight: 52 kg

Vacuum

Output: 496 kWh/m²/yr
Length: 1,640 mm
Breadth: 1,390 mm
Depth: 80 mm
Weight: 37 kg

What used to be an awkward, expensive affair is now readily available to you, the house-owner: a packaged solution for solar energy. Just five square metres of solar panel is enough to meet half your hot water requirement.



Over the past 15 years or so, solar energy systems have become twice as efficient at half the cost, while quality has also improved.

Also, running a solar energy system alongside a heat pump means you can use the sun's energy all year round. This gives you a free addition of the most environmentally friendly energy around.

This brochure is about CTC EcoSol: packaged solutions for solar energy, ready for connection to CTC's heat pumps. Our experience and our partners guarantee you a total solution that genuinely works. A single supplier takes care of installation, support and warranties.

We didn't invent heat, but we weren't far off. CTC has been heating homes since 1923. So it's no exaggeration to say we developed the industry – we were first to introduce the central heating boiler, and among the first to launch air/water heat pumps.

And now we introduce solar energy system solutions that can be connected direct to a heat pump. No one knows more about heating.