

## Solar + Heat Pumps

October 2009

*A new Task on systems using solar thermal energy in combination with heat pumps will begin in 2010. **Be a part of this new work.***

Over the past few years, systems that combine solar thermal technology and heat pumps have been marketed to heat houses and produce domestic hot water. This new combination of technologies is a welcome advancement, but standards and norms are still required for its long term successful commercialization. At this time, most of the manufacturers are developing systems without a clear framework of what could be the best combinations of the two worlds and customers are lacking comparative approaches. The result is that systems reaching today the market are far from being optimized and sometimes simple enough to guarantee a life time problem free and efficient operation both technically and economically.

What is needed is a systematic analysis of the different possible systems and their potential for application in different climates and under different boundary conditions. To begin to tackle this, the SHC Programme has initiated Task 44, *Systems using solar thermal energy in combination with heat pumps (HP+Solar)*.

The scope of this new Task, which will begin in 2010, will be on the following items:

- Small-scale residential heating and hot water systems that use heat pumps and any type of solar thermal collectors as the main components.

---

Proposed Task 44 "Systems using solar thermal energy in combination with heat pumps"

---

- Systems offered as one product from a system supplier/manufacturer and that are installed by an installer.
- Electrically driven heat pumps, but during the development of performance assessment methods thermally driven heat pumps will not be excluded.
- Market available solutions and advanced solutions (produced during the course of the Task).

To better focus on the current market demand, large scale systems i.e. systems using any type of district network or systems for large buildings are not included, nor is the comfort cooling of buildings. However a heat pump can also be used for cooling, and the performance assessment methodology should not forget this “optional” feature.

Task participants are thinking to divide their work into four Subtasks:

- Overview of solutions (existing, new) and generic systems
- Performance figures and performance assessment
- Modeling and simulation
- Dissemination and market supporting measures

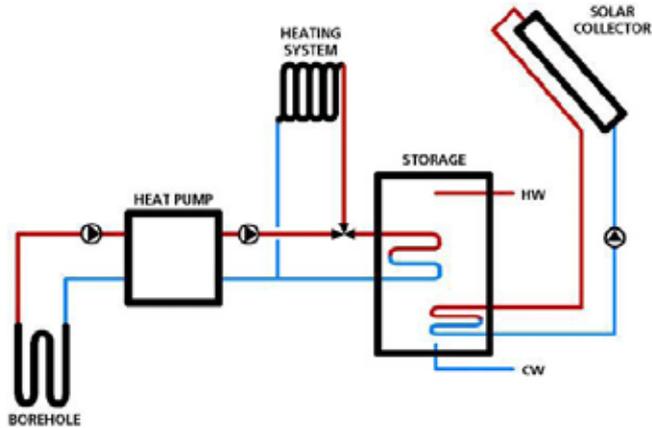
Why Participate ?

- The combination heat pump and solar will represent a large market share in future decades. In some regions, systems are already installed in 80% of new homes !
- An IEA framework provides a unique opportunity to meet and share with the experts from universities and industries working on thermal solar and heat pumps.
- We are attracting top engineers and manufacturers to the Task!
- Future systems will be sketched and new ideas will emerge from the exchange of practice, knowledge and experience.

Proposed Task 44 "Systems using solar thermal energy in combination with heat pumps"

---

- The prenormative work will produce materials to assess performances of combined system, the definition of which are currently lacking.



One system among 10. Is this a good enough or can we do better ?

*For more information on this new work contact the Operating Agent, Jean-Christophe Hadorn, [jchadorn@baseconsultants.com](mailto:jchadorn@baseconsultants.com) from Switzerland.*