

# CPC Vacuum Tube Collectors Harvest Maximum Solar Energy



## Large-scale solar-thermal installations produce excellent return on investment

No one really knows if the explosion in energy prices is a curse or a blessing for the world in the long term. It is clear, however, that something must change! The message that large-scale solar-thermal installations can produce an excellent return on investment comes at just the right time. The fascinating thing about a solar collector system is the breakeven point marks the beginning of many years of virtually free energy, the operating life of an installation being about 20 years and the breakeven point being reached in less than 10 years.

The energy price that can be achieved over the lifetime of a system is typically €0.05 per kilowatt hour or less. Fuel savings are equivalent to an effective interest rate of more than 10 percent per annum on the investment costs. So it makes sense to invest today in profitable large-scale solar collector systems to save money, create stable value, protect the environment, and reduce our reliance on oil.

German company Paradigma has been building large-scale solar installations for many years. There are more than 30,000 successful installations to date and one of them is the world's largest, with a cross collector area of 1,330 square meters. Systems are exclusively equipped with CPC vacuum tube collectors filled with water. Frost protection is ensured by heat generated by the system itself.

*Because heat is generated by the system, Paradigma guarantees lifelong frost protection.*

## Operation with water free of antifreeze:

- Allows easy, direct connection to the in-house heating network.
- Requires less equipment such as heat exchangers, de-aerators, valves, pumps, and controllers.
- Is the precondition for the use of efficient and small storage tanks.
- Eliminates the high cost for antifreeze and the associated running costs.
- Considerably reduces the costs and time for commissioning.
- Ensures a long operating life with almost constant performance.
- Removes risks associated with thermal stagnation.
- Minimizes running costs (for example, maintenance and repairs).

Use of CPC vacuum tube collectors ensures the maximum harvesting of solar energy with a system that has a long operating life and is virtually maintenance free. Existing and potential customers include breweries, food producers, large-scale cleaning plants, electroplating plants, paint shops, cooling plants, hospitals, barracks, hotels, and leisure centers—in general anyone needing a lot of hot water at temperatures of up to 130 degrees Celsius.

Paradigma has overcome major obstacles previously associated with large-scale solar collector systems and offers a surprisingly simple, clean, and very comfortable concept for investors and planners. High interest in and demand for these systems indicate the market is ready for this concept and supporting technology. Paradigma's guarantee of up to 10 years and lifelong frost protection vouches for high quality and leading know-how.

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