

# Structure for Heliac's reflective foil

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## ABSTRACT

All energy available to us originates from the sun. At the surface of the earth sunlight carries approximately  $1\text{kW/m}^2$ . The challenge is how to harvest that energy in an economically competitive way. In collaboration with HELIAC, this project focuses on obtaining such a way. The purpose of the project is developing a construction to support HELIAC's patent pending nanotech foil.

Today's solar panels are partly made from silicon, which is quite expensive. This newly developed nanotech foil can be produced at extremely low cost and therefore has the potential to radically change the market of solar energy. The sunlight hits the solar panel perpendicularly at (1), it is then reflected at a 30 degree angle onto the so-called central receiver (2). Because the sunlight is concentrated onto the central receiver it becomes heated. The heat is then transferred into an internal water carrying system. The energy stored and transported this way can be used for heating.

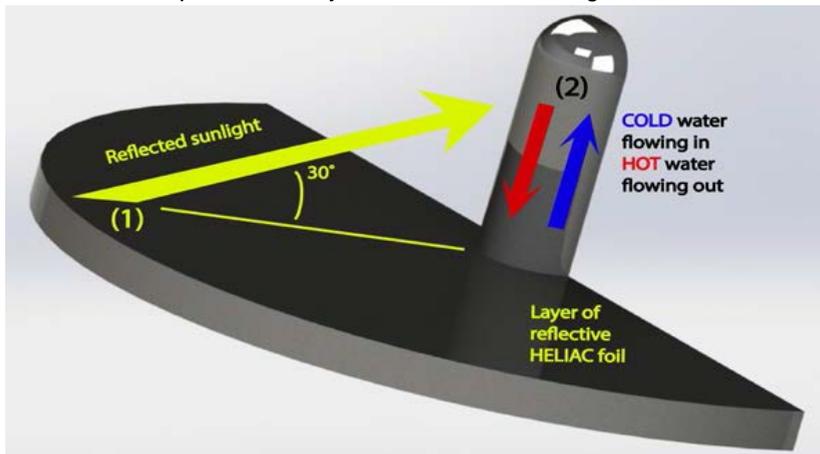


FIGURE 1: Principles of the Nanotech Foil

The construction itself is relatively simple and illustrated in principle above. The project is split into two groups; one focusing on larger sized structures for the industry and one on smaller constructions for individual households. The larger sized structure has an effective area of about  $70\text{m}^2$  and the smaller one  $3.5\text{m}^2$ . With an efficiency of about 70% that means that the larger structure will be able to provide energy for several households, and the smaller one will provide a large part of the household's energy needs.

As the future calls for more green energy, we believe that this solution could be a great way to meet those demands. This technology has the potential to provide clean energy much cheaper than it is currently possible.