

# Designer creates solar powered oven to cheaply freshen salt water

September 7 2012, by Bob Yirka

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(Phys.org)—Designer Gabriele Diamanti has created a solar oven he calls the Eliodomestico (household-sun); its purpose is to boil saltwater to produce clean drinking water for people in places where such water is difficult or impossible to obtain. What's unique about the Eliodomestico is that it's been designed in such a way as to be easily built by local people, rather than elsewhere and shipped in. This way, the profits from

making and selling the oven remain local.

Diamanti says he came up with the idea for the Eliodomestico while visiting friends working for non-governmental agencies (NGOs) in third world countries, trying to help those in need. What he heard was that there was a great need for fresh drinking [water](#). What he saw was that one resource they all seemed to have in common was lots of sunshine, which of course got him thinking about using solar energy to distill water. Boiling [salt water](#) to create steam that collects on a surface and then drips off as [fresh water](#) isn't new, it's a technique that's been around for thousands of years. What's new here is the idea of using the sun and no moving parts to boil the water using materials available almost anywhere.

Using those simple constraints Diamanti came up with a design that he believes should work. It's made of clay and pottery along with simple metals that can be easily welded. It works he says, like an upside down coffee maker. It has two parts, an upper boiler and a lower oven. Saltwater is poured into the boiler through a hole in the top that has a screw-on cap. As the [sun](#) heats the water to boiling, the pressure forces the [steam](#) through a metal tube that reaches down into the oven below where it collects on the top of the oven and then slowly drips down into a collector basin at the bottom, which is not only easily removable but is flat bottomed, allowing for carrying atop the head, a common method of transport in many third world countries.

The whole concept is open-source which means anyone, anywhere that wishes to make one of his ovens is free to do so without having to pay for licensing. They're also free to modify the design to suit local needs as well. Diamanti is hoping that NGOs throughout the world can set up micro-loan projects to get the ovens built which can then be sold at very low prices to those in the local area. One oven is enough, he notes, to

serve a family of four for a day.

**More information:**

via [humansinvent](#)

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