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Solar Ovens - From Lafayette to Kabul

By Sophie Braccini



Scharline and Jack Howell cooking solar. Photo Sophie Braccini

Scharline Howell set the quesadilla on the solar stovetop 15 minutes before I arrived. When I was directed to the Howells' backyard, the cheese had melted and the tortilla was browning in the pan, ready to eat. On a nearby table, Jack Howell set up a solar oven he built 20 years ago and still uses today. The sun on this February morning was already warming the air and the thermometer set at the center of the oven read 300 degrees F.

100 such solar ovens, constructed under Howell's direction for Budd MacKenzie's Trust in Education, will soon be shipped to Kabul, Afghanistan. (See www.lamorindaweekly.com/archive/issue0313/Budd-MacKenzie-a-Man-Consumed-by-his-Passion-for-Freedom.html or www.trustededucation.org.)

About thirty years ago, Howell founded Morning Sun Press, a publishing company that he still manages part-time today. In 1978 he met Dan Halacy, who designed solar cookers that could be built very inexpensively. Howell published Halacy's book, *Cooking with the Sun*, and built the solar cookers he still uses. "They last forever," says Howell, "as long as you keep them out of the rain."

"The stovetop cooker is made of cardboard, with a Mylar coating, an EMT pipe attached at the center with a floor flange, and a holder for the pan," explains Howell, "it is very easy to assemble, and weights only three pounds. We take it everywhere - for picnics and on trips." Howell, who according to his wife is the cook of the family, says he can do anything in the cooker; pieces of chicken, potatoes, pizza, casseroles, just like on a regular stovetop. The Lafayette resident thinks solar cookers are a great addition to an earthquake kit or emergency plan.

The oven is a slightly heavier construction that sits on a plywood frame. The sides are made of cardboard covered in Mylar as well. The center - the oven itself - is made of foam painted black to retain the heat. "The paint has to be a special non-toxic material," says Howell, "for the 100 ovens for Afghanistan, we got a special deal from Ecohome Improvement in Berkeley," Howell explains. "We use the oven for slow cooking food," he adds, "The temperature reaches 350 degrees after 40 minutes of pre-heating. It takes about 1 1/2 hours to cook a whole chicken."

When he met MacKenzie, Howell knew he had found a new outlet for the oven. "At first I was too busy to think about it," says MacKenzie, "but I told Jack, if you run it, I'll support it!" MacKenzie took a trial sample of five solar cookers that Howell built to Afghanistan and after testing in refugee camps they decided to build 100. "People in camps are the least likely to be able to afford the wood that they use to cook and sterilize the water," says MacKenzie, "70% of their wood supply is consumed just to boil water. In a country that has 300 days of sun a year, it is at least a very cost effective way to sanitize the water."

MacKenzie's volunteers have been spending their Sundays working in Trust in Education's warehouse. "The ovens are almost complete," said MacKenzie, "the team still needs some handy volunteers."

Howell believes that solar ovens are a great solution in many different environments. According to Sperling's "Best Places to Live," there are 262 sunny days per year in Lafayette, so solar ovens can be used 72% of the time, saving on gas and/or electricity. They are lightweight units perfect for outdoor and emergency cooking. In developing countries they are an inexpensive solution to the serious problem of indoor air pollution that some areas are crippled with - according to the World Bank, indoor air pollution ranks eighth globally among health risk factors, and fourth in developing countries (indoor air pollution is due to the use of low-cost, widely available traditional energy sources such as coal and bio-mass for cooking and home heating.)

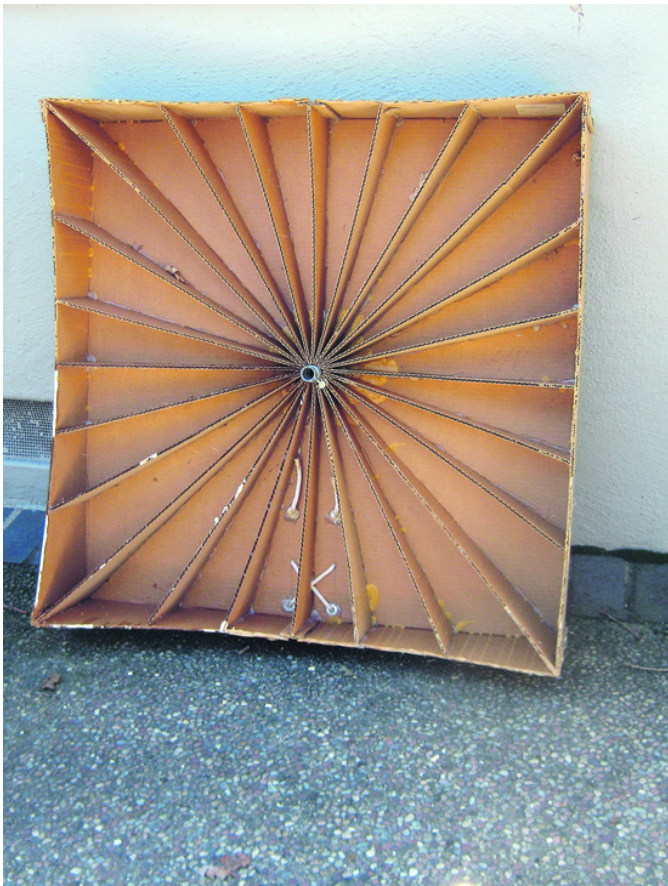
The original book, "Cooking with the Sun," by Beth and Dan Halacy, is out of print. Interested individuals can buy a solar cooker how-to booklet on the Morning Sun Press website at [//home.ix.netcom.com/~jdhowell/](http://home.ix.netcom.com/~jdhowell/) (go to Morning Sun Press Products).



Jack Howell (right) constructs ovens with other Trust in Education volunteers. Photo Budd MacKenzie



A family in a refugee camp in Afghanistan receives a solar oven. Photo Budd MacKenzie



The frame of the solar stovetop is made of cardboard
Photo Sophie Braccini

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