



**Solar Household Energy, Inc.**

Solar Cooking for Human Development and Environmental Relief

# Sharpening the Focus

FY 2011 ***Annual Report***

for

**Solar Household Energy**

*a 501(c)(3) not-for-profit corporation*

The promise of solar cooking shines as brightly as ever. Since 1998, Solar Household Energy Inc. has been hard at work tapping solar cooking's potential to alleviate urgent human and environmental challenges around the world. We have played an important role in advancing global awareness of solar cooking, techniques for disseminating the practice and the efficacy of solar cooking technology.

May 31, 2011 marked the end of another year of progress towards the achievement of our vision: A world of sustainable communities where solar cooking is widely available as part of an integrated cooking solution that no longer endangers health, perpetuates poverty or degrades the environment. Integrated cooking involves a solar oven plus the addition of complementary cooking technologies, including fuel-efficient stoves and retained heat devices for a complete 24/7 cooking solution.

Our work is not without challenges, as we have described in previous annual reports. However, our 2011 fiscal year was characterized by important accomplishments on several fronts, and by laying the foundation for more to come. Those achievements include both internal capacity-building and, more importantly, contributions to the cause of solar cooking.

During this year, we completed a strategic review process, led by board member Paul Arveson. Mr. Arveson is a cofounder of the Balanced Scorecard Institute, which assists organizations with strategic planning efforts. The process led to the reinforcement of three strategic areas of emphasis for Solar Household Energy:

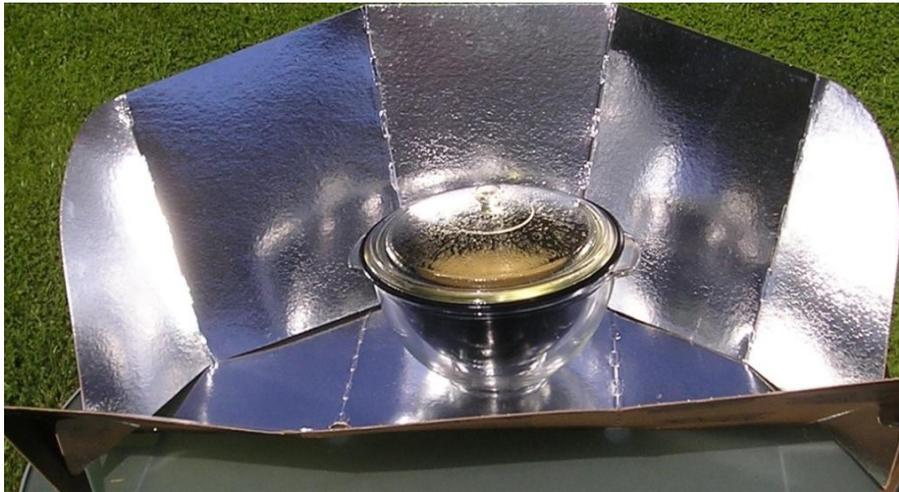
- **Investigation and research** to improve solar cooking technologies and dissemination
  - **Educating** the public and policy leaders on the multiple benefits of solar cooking as part of an integrated cooking solution (that also includes a fuel-efficient stove and retained heat device)
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- **Making solar cooking available** to those who can benefit from it most, through partnerships with local organizations

Following are highlights of our achievements this year in each of those areas.

## Investigation and Research: Finding and Sharing a Better Way

The HotPot solar oven, developed through the original efforts of Solar Household Energy a



decade ago, traditionally has used two types of reflectors: An inexpensive, fiberboard-based model and a more expensive hinged aluminum version (see below).

While economical, the fiberboard model lacks the optimum level of durability, particularly when

exposed to rain. The aluminum model, in turn, is highly durable, but its cost makes it impractical for many applications. In a search for a “middle ground” solution, we contracted with a Jacksonville, Florida-based energy products R&D company, Energy Laboratories, Inc., to devise a third option. Initial results show promise, but the effort is ongoing.

Over the course of the year we also worked on developing a protocol for the evaluation of solar cooking projects. The project led to the development of “before” and “after” questionnaires to more consistently and accurately determine the impacts of solar cooking on many dimensions. The baseline questionnaire identifies cooking practices and fuel use of individuals prior to the introduction of solar cooking. A follow-up questionnaire several months later helps to provide information on what effects solar cooking has for households and communities. These



questionnaires were employed in a project (described elsewhere) funded by the United Nations High Commission for Refugees in Chad. Results should be forthcoming soon.

A third area of research pursued this year involved the applicability of microfinance lending to support acquisition of solar cooking technology by low-income consumers. We supported the work of a researcher, Gunjan Gautam, at George Tech University to examine this issue. The fruits of that effort are a set of sophisticated decision models to assist microfinance lending institutions determine the profitability of financing consumer purchases of solar cooking technology in various circumstances.

## **Educating: Spreading the Word**

Lack of awareness of solar cooking, as well as misconceptions about its potential, have always represented a large challenge -- and opportunity -- for Solar Household Energy. Our efforts this year to spread the word and deepen public understanding took place on multiple fronts.

For example, SHE Co-founder Darwin Curtis accepted an invitation to serve on the Technology and Fuels working group of the Global Alliance for Clean Cookstoves (GACC). He has played an active role in that capacity ensuring a place for solar cooking within the mix of clean cooking options being promoted by the Alliance.

SHE is also participating as a partner in the Global Alliance in the capacity of “solution implementer.” This high-profile Alliance, actively promoted in the news media by U.S. Secretary of State Hillary Clinton and actress Julia Roberts, is a public-private initiative organized by the United Nations Foundation. Its mission is to create “a thriving global market for clean and efficient cooking solutions.” A public-private partnership of agencies and corporations from multiple countries, the GACC has as its goal to replace 100 million cooking fires with clean cookstoves by the year 2020.

Solar Household Energy was also active on the conference circuit this year, as in the past. In February, for example, SHE co-founder Louise Meyer represented SHE and solar cooking at the Partnership for Clean Indoor Air (PCIA) forum in Lima, Peru, a biennial gathering of the “who’s who” of the worldwide clean cooking movement. In April, SHE board member Dorothy Zbicz organized a solar cooking exhibit at the “Power Shift 2011” event, a national alternative energy conference attended by 10,000 college students from around the U.S. interested in energy issues.



Photo by Simone Meyer

SHE co-founder Dar Curtis demonstrates the use of a parabolic solar oven at a solar cooking demonstration at the National Geographic Society in Washington.



Photo by Louise Meyer

5<sup>th</sup> grade students at E.L. Haynes Elementary School in Washington, D.C. participated in a solar cooking “cook-off.” SHE provided instructional support for the project.

## Making Solar Cooking Available: Changing Lives

This year Solar Household Energy established or advanced several important relationships, and provided technical assistance to these new partners. The **United Nations High Commissioner for Refugees** (UNHCR) contracted with SHE to train 48 women (one of whom is pictured below) in the Gaga refugee camp in Chad to solar cook, and to distribute HotPots solar ovens for them to use. UNHCR was interested in this project as a pilot to determine if a larger scale program of solar ovens is warranted in the camps.



Photo: Patrick Fourier, BISS

A new solar cook with a HotPot solar oven at the Gaga refugee camp in eastern Chad.

The preliminary results are extremely positive. The following description of the project is excerpted from SHE's final report to UNHCR: *The preliminary results indicate that introducing solar cooking has caused them [the participants] to reduce their wood use by an average of 25-40% after only two months. These savings are likely to grow over time and could be further increased by additional measures. The users are extremely enthusiastic about their new HotPots and have adapted their cooking to use them every midday meal.*

In the Western Hemisphere, Solar Household Energy began working with **The Nature Conservancy** (TNC) in the Dominican Republic on a project to introduce solar ovens, fuel-efficient stoves and retained heat cooking devices and train women in their use in the remote Tilorí community, near the Haitian border. The project, a component of a larger reforestation effort, is to be completed later in 2011.



Photo by Francisco Nunez

SHE co-founder Louise Meyer with future solar cooks, members of a tree planting team sponsored by The Nature Conservancy, in Tilori, Haiti, on the border with the Dominican Republic.

SHE also strengthened a strategic partnership, which began in the previous year, with Grupo Jaragua, another NGO in the Dominican Republic. Grupo Jaragua provides solar ovens to communities throughout the island and provides demonstrations and training through solar-cooked lunches at community centers. Solar Household Energy is delighted to be partnering with Grupo in these projects, and looks forward to expanding the work into Haiti through that partnership.

Solar Household Energy is again partnering with the **Mexican Fund for the Conservation of Nature (FMCN)** (a SHE partner since 2004). The World Bank approached SHE as a previous winner of its Development Marketplace to participate in the Development Marketplace II, in which the Bank is pursuing external investment for scaling up projects of previous winners. SHE and FMCN have submitted a proposal for a project entitled “From Solar Cooking to Sustainable Rural Life,” a multidimensional program that expands the scope of the original HotPot project to incorporate solar cooking as a part of sustainable rural communities. The first phase of the proposal involves a comprehensive evaluation of SHE and FMCN’s solar cooking activities in Mexico to fully incorporate these lessons into the new program.

## Organizational Progress: Building Capacity

SHE's Board of Directors was strengthened this year with the addition of two seasoned professionals. One is **Cora Shaw**, a former World Bank senior economist, currently a consultant on agricultural economics, land-use and related economic development issues. Our other new Board member is **Scott Hajost**, Chief of Party of the Forest Carbon, Markets and Communities Program, funded by the U.S. Agency for Development. His previous positions include serving as Senior Counsel at the Center for International Environmental Law, executive director of the International Union for the Conservation of Nature's USA Multilateral Office, and International Counsel for the Environmental Defense Fund.

Shaw and Hajost join SHE co-founders **Darwin Curtis** and **Louise Meyer**, along with strategic planning consultant **Paul Arveson** and international environmental policy consultant **Dorothy Zbicz**.

Solar Household Energy's day-to-day operations are managed by **Richard Stolz**, who has been associated with SHE since 2002 and currently serves as the organization's Executive Director. Our efforts are also advanced by a network of talented and faithful volunteers, including retired environmental and economic development professionals, and students. In FY 2012, this network will be strengthened and expanded through the recruiting and further engaging of volunteer talent.

SHE undertook several initiatives this year to strengthen the organization's financial capacity and credibility. Solar Household Energy has obtained the status of a Guidestar Exchange member and a member of Universal Giving, where organizational descriptions are now featured on their respective websites. It is our intention to pursue capital development more aggressively in the year ahead.

## Looking Ahead

We look back on FY 2011 as a year of important achievements for Solar Household Energy. Our next year will also witness important actions and accomplishments, including an aggressive public education effort, continuing engagement with partner organizations in the Dominican Republic, Haiti, Mexico and elsewhere, a return to Senegal to evaluate the long term results of previous projects there, solar cooking technology research and development, exploration of new opportunities for collaboration in India, and becoming a member of the World Conservation Union.

Our modest financial resources continue to require creativity, efficiency and the dedication of countless hours of effort by dedicated volunteers, including our board members. Their high competence, long experience and extensive contacts in the developing world prove to be valuable assets and allow them to continue to guide Solar Household Energy into the future. With the ever-increasing need for household energy, SHE is ready to support health, environmental and gender programs wherever sunshine is abundant.

Looking to the future, we are confident of our ability to continue to carry out our mission to improve the lives of individuals and relieve pressures on the environment through solar cooking. Our confidence is built upon the ongoing support of the individuals who have committed themselves to the work of Solar Household Energy, and the expectation, based on experience dating back to our founding in 1998, that new sources of support will continue to emerge tomorrow and in the years ahead. We invite you to join us in our world-changing work through contributing your voice, your time and a donation.

We are proud to conclude this year's report with a graphic representation of the enormous potential of solar cooking as depicted by Lunda Vicente, a refugee from Congo living in a refugee camp in Zimbabwe. Mr. Vicente has been communicating with Solar Household Energy since 2008 when he learned about our existence and our mission through a press account. Co-founder, Louise Meyer has been corresponding with him and has shared his solar artwork with various U.N. agencies, as an informal ambassador of solar cooking.



Illustration and Text by Lunda Vicente