Solar Household Energy, Inc.
Solar Cooking for Human Development and Environmental Relief

FY 2008 Annual Report
June 2007-May 2008

A milestone year

In 2008, Solar Household Energy, Inc. reached an important milestone -- a decade of promoting the use of the sun's free energy for cooking to combat the acute environmental, health, and economic problems associated with burning wood and other traditional cooking methods. Our 2008 fiscal year, as in prior years, was characterized by a blend of accomplishments and ongoing challenges that set our course for the decade ahead. Our efforts are only possible through the generosity, encouragement, and vision of our contributors, advisors, and fellow solar cooking advocates.

On the plus side, fiscal 2008 highlights include the following:

- The establishment of stronger alliances with our NGO partners, particularly in Sénégal and El Salvador, captured by the vision of solar cooking's potential to benefit their constituencies;
- Growing interest in and the prospect of support from local governments which hold the keys to greatly expanding our local impact;
- The beginning of promising dialogues with organizations that may help us to harness "carbon trading" mechanisms to generate financial support for our projects; and
- Increasing evidence of interest in solar cooking within developed countries. This contributes to the perceived "legitimacy" of solar cooking in the developing world, and it helps us to build a foundation for financial support essential to promoting solar cooking in appropriate areas of need.

HotPot training, Maroua, Cameroon

Our ongoing challenges this year primarily revolved around the high cost and vexing administrative impediments associated with the shipment and importation of solar cooking technology to targeted developing world communities. These issues are not new to us, and we are continuously striving to create systemic solutions, including the local manufacture of solar cooking technology, to address them.

Kiné Seck, SHE Project Assistant, answering questions about the HotPot from girls 14-18 years old who often help their mothers cook. Thiès, Sénégal

Program operations… and plans for the future

The place where the "rubber meets the road" at Solar Household Energy, Inc. is our field projects in the developing world. The overarching goal of all of our projects is to introduce low-income communities to the theory and practice of solar cooking and to establish mechanisms which will enable new solar cooking "converts" to adopt solar cooking on a long-term basis. Fiscal 2008 was characterized by significant progress, as well as stubborn operational challenges, in the field.

Our most ambitious single solar project this year was the launch of a two-year program in **Sénégal**, which ultimately will see the distribution of "HotPot" solar ovens to 2,000 families. The project is built upon a prior pilot project, which concluded that fledgling solar cooks are able to reduce wood burning by 25%, significantly reduce expenditures for propane, and cut their use of cooking oil by one-third.

Our primary local implementation partner is Tostan, a 17-year-old Sénégalese NGO whose mission is to "empower African communities to take charge of their own development." Tostan has managed projects in some 2,000 communities in Sénégal as well as in several neighboring countries.

Planning for the Sénégal solar cooking project, which began in FY 2007, culminated in an agreement signed in January 2008. In addition, a third project partner, the Center for Evaluation of Global Action (CEGA), affiliated with the University of California at Berkeley, assisted with the design of the project to support its evaluation of the health and economic benefits of solar cooking. The project began in earnest in March 2008, with solar cooking demonstrations in 20 villages in the region of Thiès.

HotPots were offered for sale for a price of about $20, payable in monthly $5 installments, a figure that corresponds to the approximate combined manufacturing cost of the basic HotPot's reflector, steel pot, and tempered glass greenhouse. The work with

Tostan and CEGA reinforced the finding that solar cooking is culturally acceptable and deemed useful by the local population; the work also showed that many rural families need a larger solar oven than the HotPot. (The average family size women had to cook for was 14.)

A volunteer explains carbon monoxide monitoring device to Malicounda Bambara, Sénégal

The Sénégalese government's imposition of extremely high (50%) import duties on HotPot shipments, as well as the size of rural families, has caused us to redouble efforts to explore the viability of the local manufacture of solar cooking devices. In our 2007 Annual Report, we highlighted efforts to manufacture the aluminum reflector locally. Accomplished metal workers produced quality prototypes with recycled printing plates; unfortunately, the lack of a local source of highly reflective materials needed for the reflector halted that activity. In July 2008, Solar Household Energy, Inc. began negotiating with the Sénégalese Minister of Renewable Energy to engage the government in a partnership to train solar cooks, research and build solar box ovens with local materials, and ease import restrictions on the HotPot and other materials needed to build solar ovens.

HotPot trainees prepare food to cook in the HotPot, Maroua, Cameroon

Solar Household Energy, Inc.'s presence was felt elsewhere in Africa this year as well. In **Cameroon**, we completed a pilot project involving the distribution of 25 HotPots with our local partner, the Association pour la Protection d'Environnement et la Lutte contre la Désertification (APELD). Nearly half of pilot project participants had completed financing payments on their solar oven purchases by the end of the year. An additional 150 HotPots are expected to be distributed in Cameroon, and possibly several dozen in **Chad**, by 2009; an evaluation will be conducted.

HotPot purchaser cooks lunch while working at his metal shop, Ouahigouya, Burkina Faso

In **Burkina Faso**, 100 HotPots were purchased for approximately $20 by families in four distinct regions of the country – Ouagadougou, Fada N'gourma, Bobo Dioulasso and Ouahigouya. In addition to overseeing the training and sale of HotPots in these communities, our local NGO partner L'Association des Ateliers d'Énergie Solaire et de Technologies Appropriées (ATESTA) arranged for the local replication of the HotPot's aluminum hinged reflector. However, once again, local supplies of the high quality aluminum sheet metal required for the reflector's construction were lacking.

Solar cooking technology distribution in **Mali**, the site of Solar Household Energy, Inc.'s first large-scale project in 2006, continued this year without substantive Solar Household Energy, Inc. direct involvement. Our partner in Mali, SYST-COM & Énergie, continued to sell HotPots obtained through our 2006 effort. Sales of 100 HotPot units were facilitated by a grant from the Malian government which enabled SYST-COM to offer HotPots at a subsidized price.

Solar Household Energy, Inc.'s 2007-2008 efforts in Latin America were concentrated in **El Salvador,** some 350 new solar cooks were trained during this period. We maintained our relationship with the Asociación Comunitaria Unida por el Aqua y la Agricultura (ACUA), and signed agreements with two new NGO partners -- Unidad Ecológica Salvadoreña (UNES) and Asociación de Lisiados de Guerra de El Salvador (ALGES).

Salvadoran training participants practice folding reflector, Suchitoto, El Salvador

We expanded our geographical reach in El Salvador to include the departments of La Libertad, San Salvador, Sonsonate and

Cuscatlán. Projects have involved both the use of a work exchange system in villages where women still collect wood, and micro-credit payment systems where women pay for a significant proportion of their cooking fuel. We have learned that when cooking fuel is available by foraging, it is often unrealistic to expect women to pay for solar ovens. But where they are accustomed to purchasing cooking fuel, they are more amenable to buying a solar oven. Work performed in exchange for HotPot solar ovens typically involves ongoing environmental projects being managed by our NGO partners.

In the year ahead, we will add five additional NGO partners, and through our expanded base of local partners, we will distribute 1,000 HotPot solar ovens in El Salvador. Our ultimate goal is to reach a tipping point when the general adoption of solar cooking in El Salvador is inevitable.

Training participants serving first solar cooked lunch, Tecpán, Guatemala

Our activities in **Guatemala** this year included establishing a productive relationship with the NGO Asociación Kajih-Jel based in Tecpán in the Guatemala highlands. Working with that organization and with Defensores de la Naturaleza, we conducted two solar cooking training sessions with 50 women in two rural communities: Tecpán, and El Jicaro in the Motagua Valley. Kajih-Jel reports that the newly trained solar cooks in Tecpán can cook traditional foods in their solar ovens and are using those ovens regularly. Looking to the future, we have been in discussions with American and Guatemalan Rotary Club members about the opportunity to expand our efforts in Guatemala with financial support from U.S. and Guatemalan Rotarians.

In **Peru**, Solar Household Energy, Inc. provided technical support for ECOAN, a Peruvian environmental NGO, for a solar cooking training project involving 100 HotPot solar ovens distributed to women in rural communities in the vicinity of Lucre. The project, financed by the Spanish non-profit Acciónatura, is expected to continue into the future.

In our Fiscal 2007 Annual Report, we reported on an effort in Peru to identify a private sector commercial distributor to sell HotPots in that country. Although a handful of

Women observing the HotPot after setting them up, Lucre, Peru

prospects was identified through the efforts of Intrix, a U.S.-based export development consulting firm, the effort ultimately faltered when the importers sought concessional inventory financing that was not available either through Solar Household Energy, Inc. or the HotPot's manufacturer in Mexico. However, this result has not dissuaded us from the conviction that, over the long term, self-sustaining commercial distribution of the HotPot (and/or other solar cooking devices) will be a significant, or perhaps the primary, force driving the spread of solar cooking globally.

Mexico, the focus on Solar Household Energy, Inc.'s initial project activities, continued to benefit from the efforts of our original program partner, the Mexican Fund for the Conservation of Nature. Approximately 3,000 HotPot solar ovens were distributed in Mexico through the efforts of that organization this year via small NGOs, and an additional 2,000 HotPots were distributed to flood victims in the state of Tabasco, with support from International Logistics Solutions, the Monterrey, Mexico-based manufacturer of the HotPot. We anticipate that the evaluations of these events by our Mexican partners will make a major contribution to evidence of cultural acceptance.

Spreading the word

Solar Household Energy, Inc. was actively promoting solar cooking in a number of venues this year. Crucial to the successful promotion of solar cooking is supplying statistical evidence of its potential to change behaviors and solve problems. This year, we concluded that focusing project evaluation efforts on self-reported utilization statistics compiled by new solar cooks is inadequate to the task. Even very streamlined survey instruments that do not require basic literacy on the part of users are not completed with requisite reliability or regularity. Going forward, our evaluation efforts will be centered on data collection by community-based solar cooking trainers, using pre- and post-project questionnaires and a methodology developed by Melanie Szulczewski, Ph.D., Solar Household Energy, Inc.'s scientific advisor.

Meanwhile, Solar Household Energy, Inc. staff and board members gave many demonstrations and presentations at, among other venues, the Washington International Renewable Energy Conference, the annual meeting of Engineers in Technical and Humanitarian Opportunities of Service (ETHOS), the Green Festival, the Washington (D.C.) Environmental Film Festival, and various universities around the country. We have also collaborated with Practical Action, a UK-based NGO that attempts to assess the effectiveness of various technologies deployed to support poor communities, to update their assessment of solar cooking.

In addition, Louise Meyer, Solar Household Energy, Inc.'s outreach director and board member Pat McArdle gave solar cooking demonstrations at events sponsored by the U.S. Department of State, an event for members of Congress, the Embassy of Chad, "Darfur Day" at The American University, and local farmers' markets, among others.

SHE staff and board members at a solar cooking demonstration on Capitol Hill in Washington, D.C.

Several publications and broadcasters (including Washington D.C. TV affiliates of the CBS and Fox networks) interviewed Solar Household Energy, Inc. staff members for articles on solar cooking this year. In addition, videos produced by Solar Household Energy, Inc. were placed on YouTube.

Solar Household Energy, Inc.'s promotion of solar cooking and its work with local partners is also supported by the sale of HotPot solar ovens in richer countries, to the extent that "full price" purchasers help to provide the capital underpinning for the subsidized sale or distribution of the cooking devices in communities with which we work. In addition, greater awareness of the benefits of solar cooking encourages charitable contributions to solar cooking projects.

This year, retailers in Geneva, Switzerland, Barcelona, Spain, and Washington, D.C. began selling the HotPot. Retailers generally purchase HotPots directly from International Logistics Solutions (ILS), a for-profit business based in Monterrey, Mexico

that manufactures the HotPots. (ILS is not affiliated with Solar Household Energy, Inc..) Solar Household Energy, Inc. also sold several dozen HotPots via its web site, www.she-inc.org.

Integrated cooking system

While the HotPot is the primary cooking device employed in Solar Household Energy, Inc. projects, it must be emphasized that Solar Household Energy, Inc.'s advocacy of solar cooking is not limited to its practice of using the HotPot solar oven. Nor does Solar Household Energy, Inc. believe that solar cooking by itself can replace traditional cooking methods. We support the concept of the "integrated cooking system," a three-part strategy which involves combining appropriate solar cooking technology with fuel-efficient stoves and retained heat cookers, also known as "hay baskets." In October 2007, Solar Household Energy, Inc. participated in a five-day Integrated Cooking workshop in Oaxaca, Mexico sponsored by Rotary International.

Fuel-efficient stoves are compact fire-based cooking devices, generally made of steel or ceramic material, which consume dramatically less wood or biomass than traditional "three-stone" fires. Fuel-efficient stoves are essential for cooking when adequate sunlight is not available for solar cooking, or for cooking certain foods which require the intensity of heat produced by fire. Retained heat cooking devices are any form of heavily insulated vessels into which a solar-heated cooking pot is placed to extend the cooking cycle once adequate sunlight is no longer available.

By combining solar cooking with fuel-efficient stoves and retained heat devices, the "integrated cooking system" offers users an all-weather, year-round, versatile, and low-impact approach to preparing meals. Although none of Solar Household Energy, Inc.'s projects has yet incorporated training or facilitated the acquisition of the necessary equipment to enable the utilization of integrated cooking, we anticipate doing so in the near future.

Solar-cooked chicken and eggs, Burkina Faso

Organizational highlights

Solar Household Energy, Inc. gained a new corporate director this year: Dr. **Mary Hill Rojas**, a 25-year veteran of the international development and education fields with experience in Asia, Latin America and Africa. Among other accomplishments, Dr. Rojas has worked with the Food and Agriculture Organization to design the women's component for the Ministry of Agriculture in Egypt, served as chief of party for a review of the Rural Integrated Support Project in Tanzania, facilitated the strategic planning for

Heifer International's global gender program, and advised on the integration of social dimensions into the World Bank's Rural Development Strategy.

Solar Household Energy, Inc.'s other directors include **Darwin Curtis**, a co-founder of the organization, **Patricia McArdle,** an energy independence advocate, retired senior Foreign Service Officer and current volunteer with Al Gore's Climate Project; **Mark Starik,** Ph.D. Professor of Strategic Management and Public Policy at The George Washington University School of Business and Public Management and developer of the Environmental and Social Sustainability Initiative at GW, and **Neville Williams**, Chairman of Standard Solar, and founder of the Solar Electric Light Fund and the Solar and Electric Light Company (SELCO).

Solar Household Energy, Inc.'s staff is lead by **Marie-Ange Binagwaho**, who has over 20 years of international and domestic experience in management information, monitoring, evaluation, and reporting systems and providing technical support to non-profit, private-for-profit, and community-based organizations as well as micro finance institutions.

Louise Meyer, a co-founder of Solar Household Energy, Inc., directs our community and U.S. outreach efforts. Louise led our original projects in Mexico, and continues to monitor solar cooking activities there. A long-time advocate of solar cooking, Louise has lived and worked in Africa supporting small enterprise development, as well as solar cooking promotion efforts.

Camille McCarthy is Solar Household Energy, Inc.'s Director of Programs for Latin America and East Africa. She holds an MA in International Development with an emphasis on the intersection of environmental and women's issues. She served in the Peace Corps service in El Salvador, where she gained substantial experience with sustainable development, environmental protection, and women's empowerment.

Bridget Huttenlocher is Solar Household Energy, Inc.'s Program Manager for West Africa. Prior to joining the organization, she raised funds for an HIV/AIDS institute in Uganda, and served as a Small Enterprise Development Peace Corps Volunteer in Mali. She has experience in sustainable development, international business and women's empowerment.

Melanie Szulczewski, Ph.D., is Solar Household Energy, Inc.'s scientific advisor and research director and professor at Mary Washington College. She was an agro-forestry Peace Corps Volunteer in northern Cameroon.

Richard Stolz, Solar Household Energy, Inc.'s Operations Manager, has worked for the organization in different capacities since 2002. He has held a variety of senior positions in the non-profit and for-profit sectors during his professional career, with an emphasis on communications and financial management functions.

Financial review

This year, Solar Household Energy, Inc. began a fundamental review of its financial development functions and retained The VOR Group,Ltd., a management consulting company that specializes in resource development, to assist with that process. The VOR Group, Ltd. is helping SHE, Inc. to prepare a Resource Development Plan with the goal of doubling our resources over the next three years through partnerships with individuals, foundations, corporations and local governments.

Solar Household Energy's audited Fiscal 2008 statement of activities and statement of financial position appear below:

Solar Household Energy, Inc.

Statement of Activities (audited)

For the Year Ended May 31, 2008

REVENUE AND SUPPORT	
Grants and Contributions	606,493
Solar oven sales	10,963
Interest	45
Other	60
Total Revenue and Support	617,561
EXPENSES	
Program services	350,510
Management and general	121,609
Fundraising	35,478
Total Expenses	507,597
Change in Unrestricted Net Assets	109,964
NET ASSETS, BEGINNING OF THE YEAR	32,905
NET ASSETS, END OF YEAR	142,869

STATEMENT OF FINANCIAL POSITION

May 31, 2008 (audited)

ASSETS	
Cash and cash equivalents	142,979
Grants and contributions receivable	4,000
Prepaid expenses	1,310
Loan receivable	25,045
Total Assets	173,334
LIABILITIES AND NET ASSETS	
Accounts payable and accrued expenses	30,465
Net Assets, Unrestricted	142,869
Total Liabilities and Net Assets	173,334

Looking ahead

In the year and decade ahead, we anticipate:

- Building upon the strong operational foundation and local alliances we have developed in Sénégal and El Salvador. In El Salvador we will work with five new partners and 1,000 new families next year. In Sénégal, we will work with the Ministry of Renewable Energy to research and build ovens locally while continuing to reach new communities with solar cooking technology.

- Cautiously and methodically evaluating possible additional venues and partnerships to sustain long-term solar cooking promotion projects;

- Providing solar cooking project design technical support without a program management role wherever possible;

- Expanding our base of financial support through more sophisticated and concentrated fund-raising efforts;

- Deploying the HotPot where culturally or economically appropriate, but, at the same time, developing capacities for the utilization of alternative solar cooking devices, including locally produced "box cookers";

- Encouraging exploitation of the integrated cooking system, including heat retention devices; and,

- Maintaining an aggressive public education effort.

When Solar Household Energy, Inc. was incorporated ten years ago, the strength of our commitment to harnessing the potential of solar cooking was matched only by our optimism that our efforts would promptly bring about a large-scale transformation of behavior in the communities we touched. Today, our commitment is as strong as ever and our optimism, while tempered by experience, continues to sustain us.

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