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**Solar Cookers International launches two pilot solar cooker testing centers**



SCI Performance Evaluation Process (PEP) testing station, California, US. *Photo: SCI 2017*

**SCI has launched pilot solar cooker testing centers in California, US and in New York, US**

The purpose of this pilot project is to check the repeatability, reliability and reproducibility of results from SCI Performance Evaluation Process (PEP) testing stations for solar cookers, irrespective of location. SCI's pilot testing centers are located at different latitudes and at different elevations. The two locations also experience different weather conditions. The solar cookers, the cookware and the testing instrumentation, however, are the same at both locations. This pilot project is testing sets of three types of solar cookers: reflective-panel cookers, box ovens and parabolic reflectors.

The PEP results provide cooking power measured in Watts, which is only one of many ways to evaluate solar cooker performance.

In June, weather conditions at SCI's pilot testing centers are well suited for testing solar cookers according to the ASABE S580.1 protocol for Testing and Reporting Solar Cooker Performance. This protocol requires that outdoor ambient temperature must be between 20 and 35 degrees Celsius (68 and 95 degrees Fahrenheit). This temperature range is generally available at both SCI pilot testing centers between the vernal (spring) equinox and the autumnal (fall) equinox. Testing days within the required temperature range should also be clear days with consistent solar energy.

SCI welcomes others to join this pilot solar cooker testing project to validate the reproducibility of the SCI PEP testing stations. By using the same instrumentation, results have a consistent format for data comparison. Potential project partners can access the assembly manual for the SCI PEP testing station, available as open-source content online at [SCI's PEP web page](#).

To join SCI's pilot solar cookers testing project, email [info@solarcookers.org](mailto:info@solarcookers.org)

## Software for the PEP: available

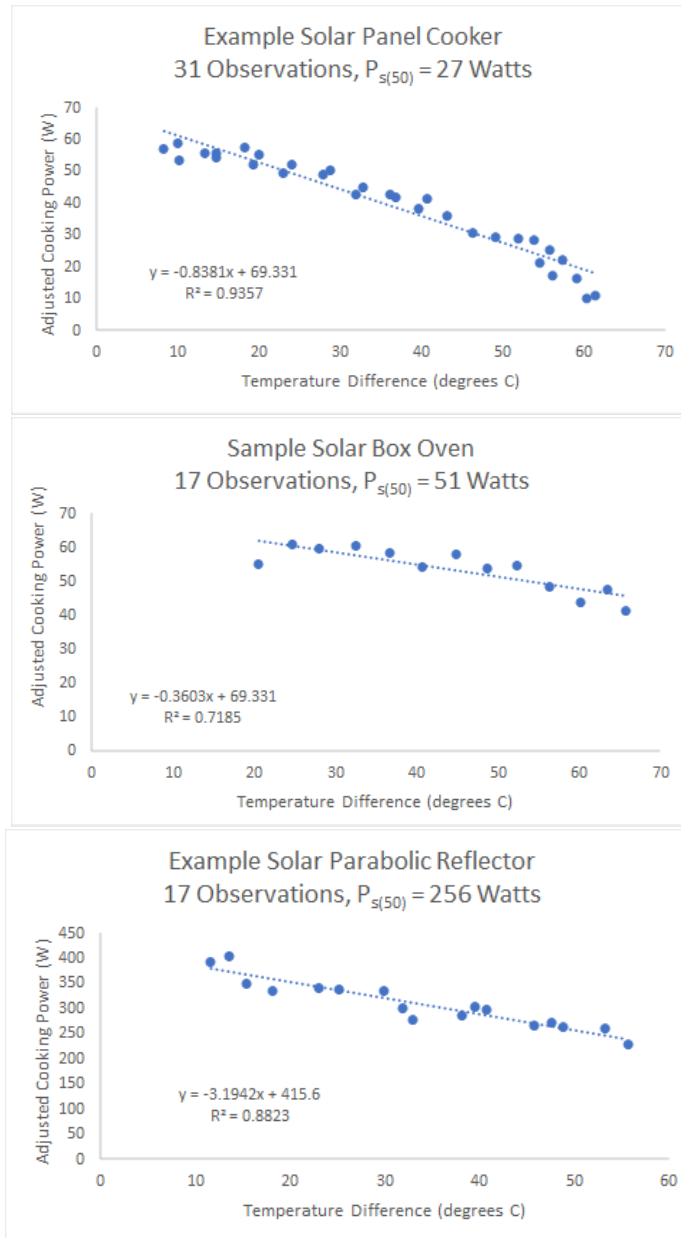
SCI invites partners to join the PEP testing process.

To participate in the solar cooker testing process, SCI continues to release content for the open-source **Performance Evaluation Process (PEP) for solar cookers**. For this 2nd phase of the launch, **SCI is providing the parts list, the control software and the associated files needed for conducting the evaluations**. This content is now available on the SCI PEP website >> Our work >> [Performance Evaluation Process](#).

The parts list is provided with pricing and the suppliers used by SCI to obtain components in the US for building a PEP testing station. While alternate parts may be used as substitutes, SCI recommends that identical parts be used as much as possible for consistency. The parts list includes numerous screen shots from online vendors with pictures of the parts.

SCI created the PEP control software in-house and has conducted extensive testing of the software. Features were added during development phases, such as incorporating a global positioning system (GPS) for recording geographic coordinates and altitude for the testing location. SCI will post revisions of the control software as modifications and upgrades are made. The current version of the SCI PEP control software is:

Datalogger\_temp\_wind\_sun\_rev10a.ino. Associated files needed for conducting the evaluations are intended for the removable SD card for user-defined input (config.txt), for output (DATALOG.TXT), and for reference (readme.txt). A manual to provide a high-level overview of the control program is also available as open-source content. SCI welcomes feedback from users, which can be submitted online on the SCI PEP website.



**Note:** results are not necessarily from solar cookers shown in photos published in this Volume.

## Focus, India: Contribute your data

With evidence of solar cooking use, we can work to include solar-thermal cooking in India's national energy and sustainability plans this summer. SCI Global Advisor and Green Hero, Dr. Mrs. Janak Palta McGilligan, will join the SCI team in New York to advocate for solar cooking technologies at the High-level Political Forum July 2017.

**To help build the case for solar cooking in India, SCI is reaching out to all solar cooking partners, especially those working in India. SCI invites your input in the form of**

data on baseline information, number and type of solar cookers, number of years of the project, location, outcomes, etc. [Please submit your data to SCI by 20 June 2017.](#)

### **Current countries of focus:**

Afghanistan | Brazil | Ethiopia | **India** | Kenya | Nepal | Nigeria | Zimbabwe

### **Make a difference in policy: Join SCI's advocacy team**

SCI is coordinating solar cooking advocacy strategies for several international events:

- High-Level Political Forum (HLPF), United Nations, New York US 10 – 19 July
- Global Alliance for Clean Cookstoves Clean Cooking Forum in New Delhi, India 24 - 28 October
- ISO/TC 285 Kathmandu, Nepal 30 October – 03 November
- UN Climate Change Conference (COP23), Bonn, Germany 6 – 17 November

Join Solar Cookers International's strategic team. [Email SCI](#) and indicate which event(s) you plan to attend.

### **Report: Science, Technology and Innovation (STI) Forum at United Nations New York**



STI Forum, United Nations New York. Photo: A. Bigelow, Ph.D SCI Science Director 2017

SCI participated in the 2nd Science, Technology and Innovation (STI) Forum in May 2017. The STI Forum is a space for the science-policy interface, bringing together multiple stakeholders, youth, and change-makers. The outcomes of the STI Forum will inform the High-Level Political Forum (HLPF) that will take place at the United Nations this summer.

Bill Gates delivered a video statement during the opening session, and emphasized that we all need reliable, affordable clean energy, which is directly in line with SCI's mission.

### **Save the Dates**

**Solar 2017, American Solar Energy Society (ASES)  
Solar Cooking Track**

Denver, Colorado USA  
9 - 12 October 2017

*Solar-thermal technologies are transforming cooking worldwide.* Highly energy-efficient, solar-thermal solutions are particularly suited for off-grid and in the world's most vulnerable regions. The ASES Solar2017 Solar Cooking Track provides an overview of the many facets of solar cooking technology adoption: design, marketing, behavior change, advocacy, and humanitarian applications.

**Social Capital Markets (SOCAP)**

San Francisco, California USA  
10 – 13 October 2017

**The Global Alliance for Clean Cookstoves - Clean Cooking Forum**

New Delhi, India  
24 - 28 October 2017

**Solar World Congress 2017, International Solar Energy Society (ISES)**

Jumeirah Hotel, Etihad Towers  
Abu Dhabi, United Arab Emirates  
29 Oct - 2 Nov 2017

**International Organization of Standards (ISO)/TC 285**

Kathmandu, Nepal  
30 October – 03 November 2017

**UN Climate Change Conference (COP23)**

Bonn, Germany  
6 – 17 November 2017

**CONSOLFOOD2018 - Advances in Solar Thermal Food Processing**

Instituto Superior de Engenharia, Universidade do Algarve, Campus da Penha Faro, Portugal  
22 - 24 January 2018

**Scholarship Opportunity**

ISO/TC 285 (Technical Committee for Clean Cookstoves and Clean Cooking Solutions)  
Plenary meeting and Working and Task Group meetings will take place 30 October – 3 November 2017 in Kathmandu, Nepal.

Please note that the Global Alliance for Clean Cookstoves will be providing travel support to a limited number of attendees as they have done for past meetings. To apply, please fill out the [application](#) by 1 August 2017.

**UN Commission on the Status of Women - Renewable energy as a tool for empowerment**

Last 13 - 24 March 2017, the sixty-first session of the Commission on the Status of Women (CSW 61) took place at the United Nations Headquarters in New York City. Despite the severe blizzard that struck the area during that time, many participants gathered from around the globe, in order to interact, discuss and share thoughts during get-togethers, debates and events.

The Commission on the Status of Women (CSW) works as part of the Economic and Social Council (ECOSOC), one of the UN's principal organs. Other well-known principal organs of the United Nations are, for example, the UN General Assembly or the UN Security Council. In this institutional framework, the CSW holds a central position for the advocacy of gender equality and women's empowerment. [Here](#) is a link to a document that describes the CSW a bit further, from the perspective of participating Non-Governmental Organizations (NGOs).

Indeed, NGOs are an important link between the UN and civil society. Therefore, it was no wonder that numerous NGOs were present again at this year's CSW 61, at a large variety of conferences and parallel events. One of these gatherings took place on Saturday, March 18th, bringing together such diverse actors as the Hunger Project, UNICEF's working group on girls, [Solar Cookers International](#) and the Swedish platform project [Flickaplattformen](#) (a cooperation partner of the [Hunger Project Sweden](#)).

The discussed topics included persisting gender inequalities in Sweden (and their meaning on a global scale), empowerment of women in rural Africa in their everyday life... and solar cooking as a valuable contribution to this type of empowerment [in many parts of the world](#). Solar cooking is not only better for the environment than traditional cooking, but it is also an easier, cheaper and healthier cooking solution for many women who take care of their families under extremely hard conditions (as [written in 2014 on this blog](#), the International Energy Agency estimates that 600,000 people die each year in Africa due to smoke intoxication caused by inappropriate cooking devices, and that in sub-Saharan Africa alone, 620 million people, meaning 2 thirds of the population, have no electricity and almost 730 million people use inefficient or dangerous cooking devices). Additionally, as also discussed by the conference's participants, introducing this new cooking technology in local communities can represent an occasion to break traditional patterns and to raise the interest of everybody, women and men, to take on household tasks such as cooking.

Overall, one of the key takeaways for the participants of this event was the strong feeling that individual efforts are not merely isolated "drops on a hot stone"...but that all these pursuits of positive change are interconnected and shared among many people across the planet. All this good energy is never lost.

*- Jannis Jakob Buerger, SCI United Nations volunteer representative, New York*

## **Part II: Data Collection for Successful Solar Cooking Projects**

*The following aggregates SCI's literature review of solar cooker project evaluations and thirty years of sector experience.*

1. With the Solar Cooking Adoption and Impact Survey, SCI highly recommends conducting the baseline survey before people start solar cooking. This is the point from which all outcomes will be measured.
2. Conduct the Solar Cooking Adoption and Impact Survey and the post-distribution questions one year after project implementation.
3. Measure fuel in local units (ex: a truff of charcoal, a bag of charcoal, a bag of crop waste, a head of wood as in Kenya). Translate these local unit measures into universal terms, such as kilograms.
4. Ensure the data gets [added to SCI's map of solar cooker distribution](#).
5. Include evaluation costs (personnel, travel, etc.) in initial project budget and grant applications.
6. Include the data sharing agreement as part of the partner selection process.



7. Include regular meeting times in the project design for problem solving, developing a positive community dynamic, and sharing data.
8. Ensure the people conducting the survey understand the questions. Cross-check by comparing the first few sets of responses to see if they are within the frame of the expected answers. Retrain surveyors as needed.
9. In addition to numbers and other data (quantitative data), gather individual success stories (qualitative data). Both are needed to describe a project well. Include photographs and/or videos and/or testimonials as an integrated part of the project design and budget. Include a specific number and type of media, plus deadlines.
10. Have a strong plan for data collection and analysis. Who is collecting the data? Where? When? Are data collection plans included in the budget? Is there a plan for data quality control to follow up with respondents as needed? Extra funding for travel for return trips if needed?
11. Select the best format for recording survey answers and other data. Excel spreadsheets are preferred to reduce costs for manual data entry, and the spreadsheet can manipulate data easily. Google forms are an alternative if internet access will be available.

For more information, read [Data Collection Part I: a necessity, not an option](#)

To include your data in the global solar cooking movement's work, [add data to SCI's map of solar cooker distribution](#).

- Julie Greene, Executive Director, Solar Cookers International

## Why dollars make sense

*SCI's connections for measurable change don't happen without **you** and donors like you. It makes sense to contribute to SCI in order to speed the global adoption of solar cooking. The world needs us. Make a **gift today**.*



Please submit articles for the *SCI Digest* to [info@solarcookers.org](mailto:info@solarcookers.org).

**Consider a special gift to SCI in 2017.**

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***Solar Cookers International is a 501 (c)(3) non-profit organization leading global advocacy for the solar cooking sector.***

***To learn more, visit [www.solarcookers.org](http://www.solarcookers.org)***

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