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www.SolarCookers.org

Because of you, *we have a voice*

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Events and Press Conferences

COP24

DATE	DAY	TIME	EVENT
Dec 3 – 7	Monday- Friday		**UK Pavilion Exhibit Booth**
Dec 10 – 14	Monday – Friday		**Booth #58** Partnered with: International Solar Energy Society & World Wind Energy Association
5 Dec.	Wednesday	16:00 – 17:00	**Open Meeting** Meeting Room:
6 Dec	Thursday	14:00 – 14:30	**Press Conference** Room 2, Area 4
6 Dec	Thursday	17:00 – 18:30	**Energies2050 Pavillion** Hosted by Brahma Kumaris **Guest speakers:** -Mr. Golo Joachim Pilz, Germany, Energy Advisor World Spiritual Trust and Brahma Kumaris, Head of India-One solar thermal power plant -Mr. Paul Allen, B. Eng (Hons) FRSA, Project Coordinator Zero Carbon Britain, the Centre for Alternative Technology - Educational Charity
7 Dec	Friday	16:00 – 17:00	**Open Meeting** Meeting Room:
10 Dec	Monday	14:00 – 14:30	**Press Conference** Room 2, Area 4 **Guest Speaker:** -Rana Adib, Executive Secretary, REN21 -Marion Verles, CEO, Gold Standard
11 Dec	Tuesday	15:00 – 16:00	**Open Meeting** Meeting Room:
12 Dec	Wednesday	14:00 – 14:30	**Press Conference** Room 2, Area 4 **Guest Speaker:** -Dr. Alice Olok Ekwu, Hon Commissioner, Ministry of Climate Change and Forestry, Cross River State, Nigeria
14 Dec	Friday	13:30 – 14:00	**Press Conference** Room 2, Area 4 Hosted by Tzu Chi

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Signup for publications and new opportunities

COP24

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Why Solar Cooking

3 in 7 people lack sustainable fuel to cook meals and make water safe to drink.

Learn more here

This is a cooking crisis, especially when people are vulnerable.

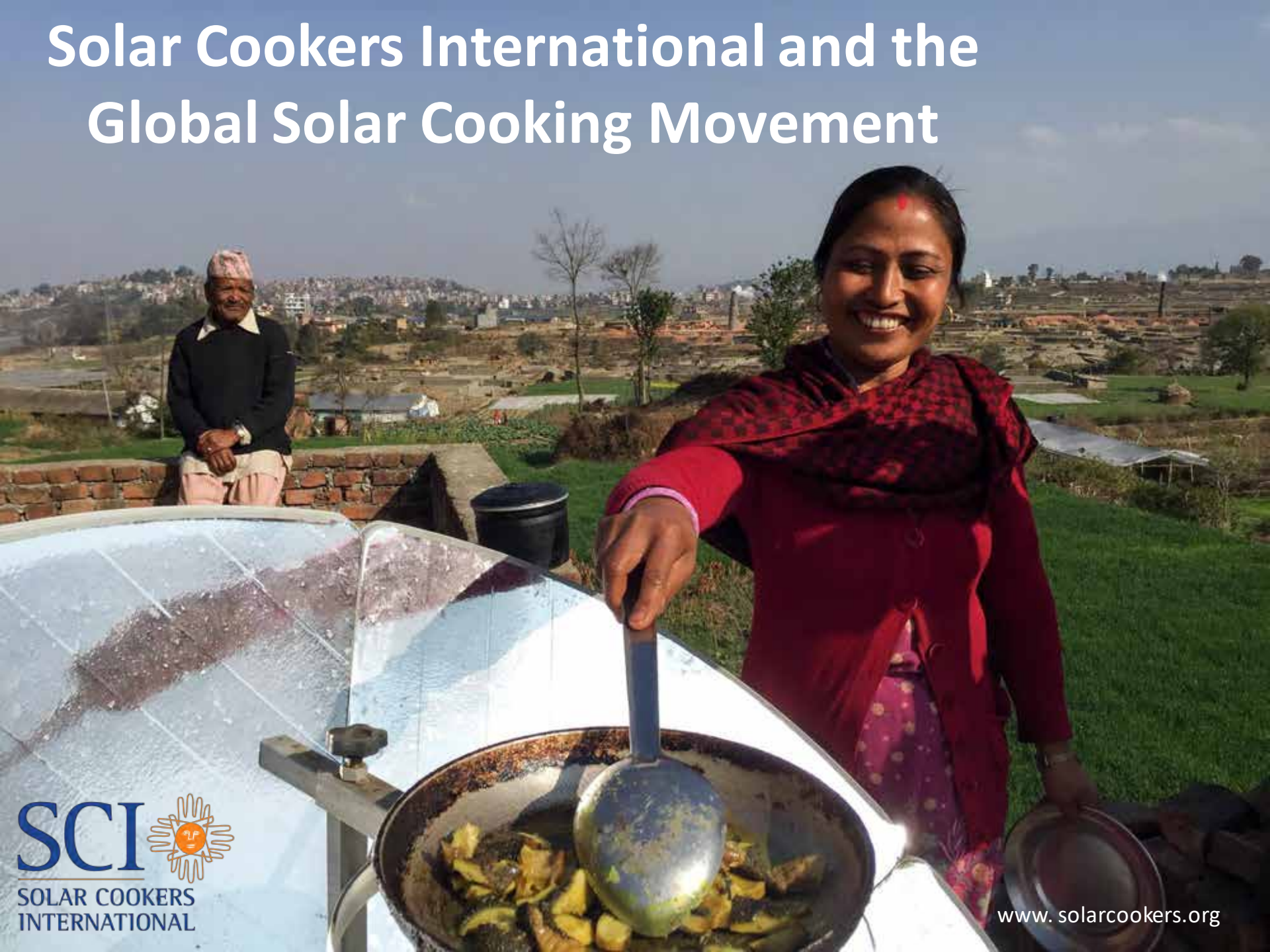
People who harness free solar energy for cooking breathe cleaner air, drink safe water, and preserve the environment.

Nearly 3 billion people cook over wood, animal waste, or charcoal fires. They breathe in smoke and soot for hours every day. And more rely on expensive, unsustainable fossil fuels.

4 billion solar-cooked meals...and counting

Using no-emission solar energy to cook and make drinking water safe improves health, builds resilient families, breaks the cycle of poverty, boosts local economies, empowers women and children, and helps achieve all 17 United Nations Sustainable Development Goals (SDGs).

Solar Cookers International and the Global Solar Cooking Movement



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Institutional solar-steam system

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Benefits:

- Zero fuel cost
- Zero time (or danger) from collecting biomass fuel
- Zero air pollution
- Zero greenhouse gas and zero black carbon emission
- Zero inhalation of smoke
- Nutritious meals
- Can be used for drying fruit
- Can pasteurize water
- Some models boil water
- Reduces deforestation

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Temperatures which kill disease microbes present in contaminated water

MICROBE	KILLED RAPIDLY AT:
Worms, Giardia, Entamoeba, Cryptosporidium	131°F (55°C)
Escherichia coli, Shigella, cholera, Typhoid, Rotaviruses, Polioviruses	140°F (60°C)
Hepatitis A virus	149°F (65°C)
WAPI wax melting point	149°F (65°C)

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Water Pasteurization Indicator (WAPI)

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APPLIED AND ENVIRONMENTAL MICROBIOLOGY, Feb. 1984, p. 223–228
0099-2240/84/020223-06$02.00/0

Vol. 47, No. 2

Pasteurization of Naturally Contaminated Water with Solar Energy

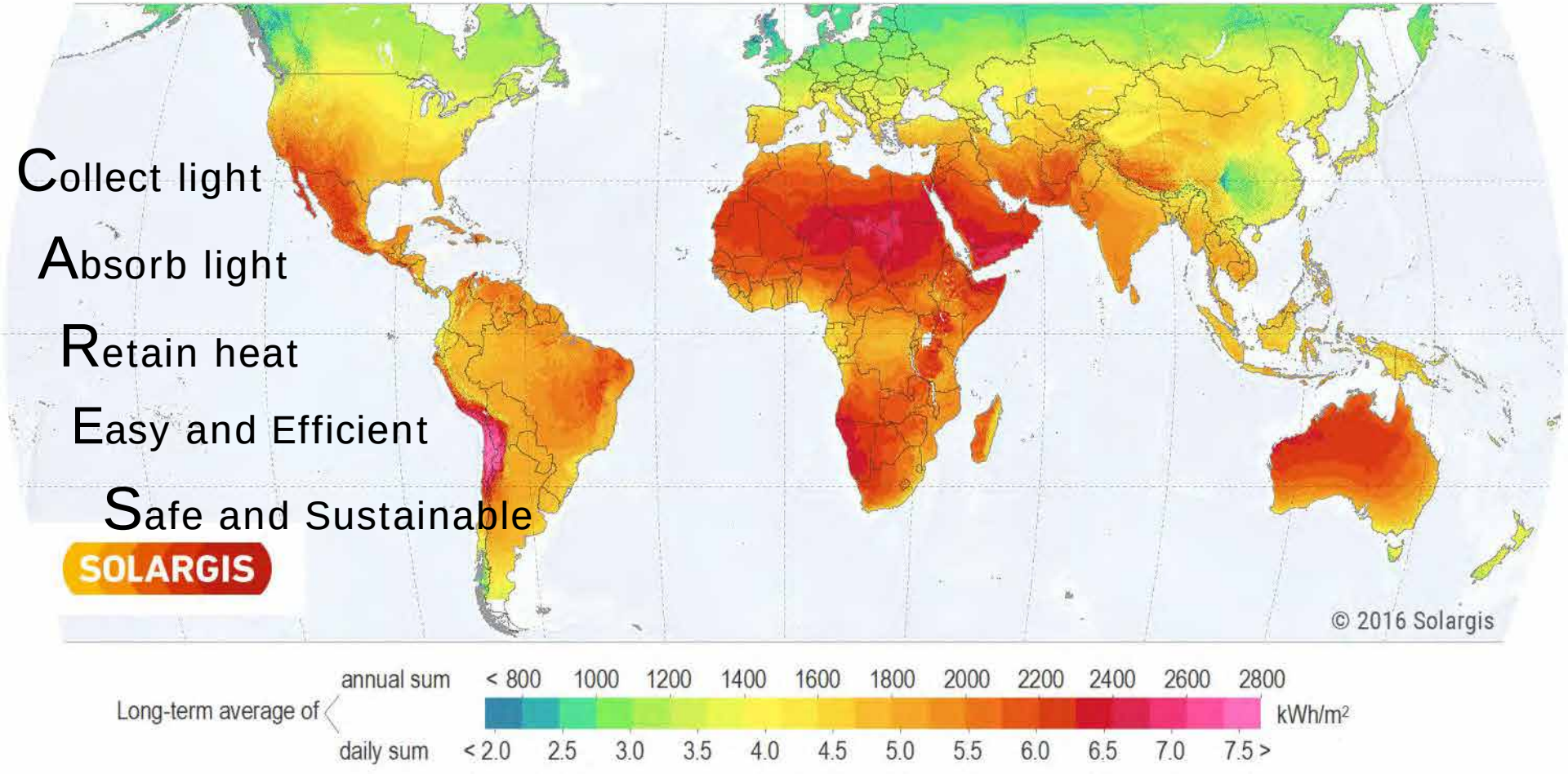
DAVID A. CIOCHETTI † AND ROBERT H. METCALF*

Department of Biological Sciences, California State University, Sacramento, Sacramento, California 95819

Received 25 July 1983/Accepted 7 November 1983

A solar box cooker (SBC) was constructed with a cooking area deep enough to hold several 3.7-liter jugs of water, and this was used to investigate the potential of using solar energy to pasteurize naturally contaminated water. When river water was heated either in the SBC or on a hot plate, coliform bacteria were inactivated at temperatures of 60°C or greater. Heating water in an SBC to at least 65°C ensures that the water will be above the milk pasteurization temperature of 62.8°C for at least an hour, which appears sufficient to pasteurize contaminated water. On clear or partly cloudy days, with the SBC facing magnetic south in Sacramento, bottom water temperatures of at least 65°C could be obtained in 11.1 liters of water during the 6 weeks on either side of the summer solstice, in 7.4 liters of water from mid-March through mid-September, and in 3.7 liters of water an additional 2 to 3 weeks at the beginning and end of the solar season. Periodic repositioning of the SBC towards the sun, adjusting the back reflective lid, and preheating water in a simple reflective device increased final water temperatures. Simultaneous cooking and heating water to pasteurizing temperatures was possible. Additional uses of the SBC to pasteurize soil and to decontaminate hospital materials before disposal in remote areas are suggested.

GLOBAL HORIZONTAL IRRADIATION



Collect light

Absorb light

Retain heat

Easy and Efficient

Safe and Sustainable

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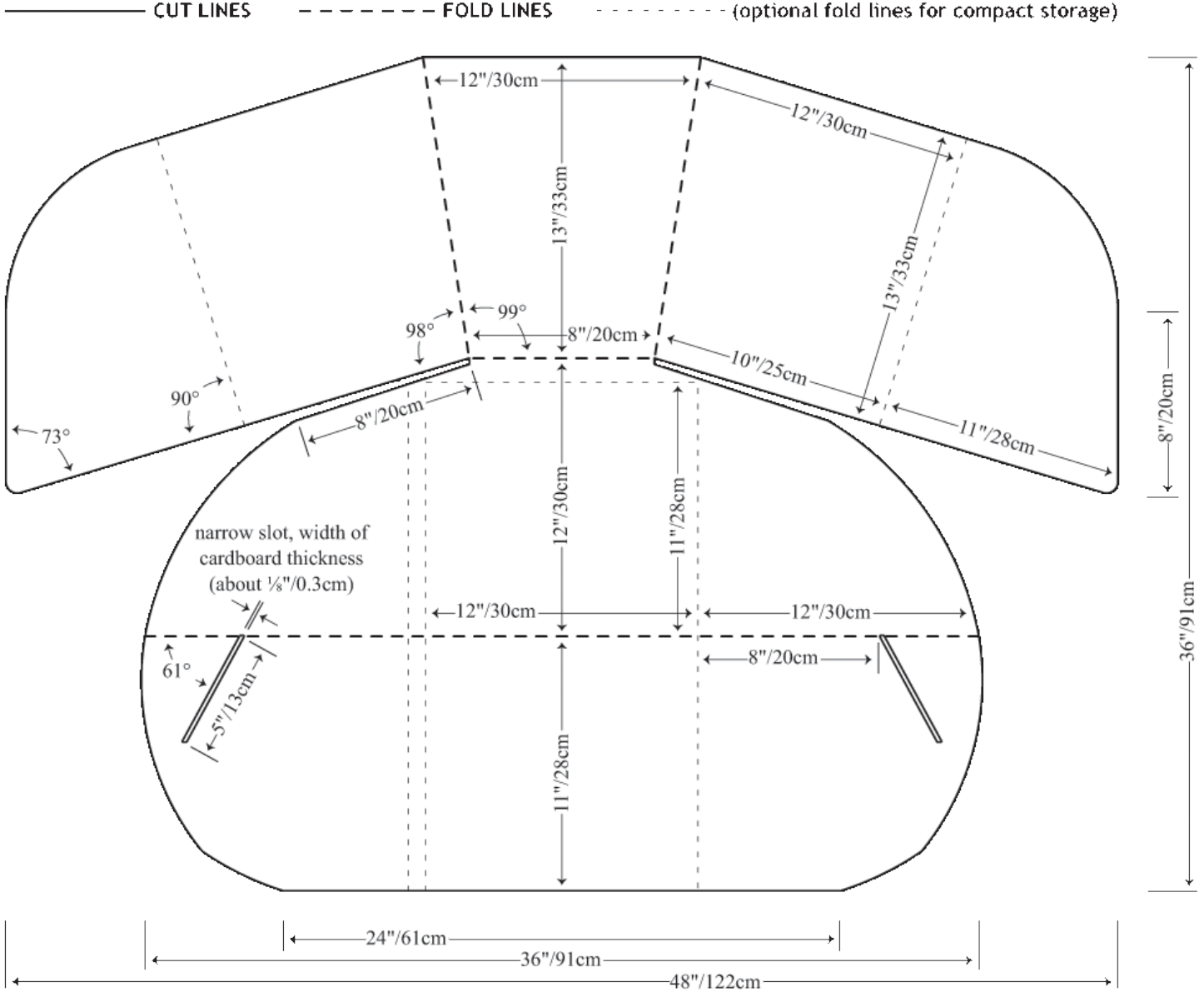

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HOW TO BUILD A SOLAR COOKER

www. solarcookers.org

Solar Cookers International supports the SDGs

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SCI SOLAR COOKERS INTERNATIONAL

SUSTAINABLE DEVELOPMENT GOALS

Energy costs proportionately more for vulnerable people. Access to free, no-emission solar thermal energy builds resilience. Solar technologies for cooking help end poverty.

With free solar thermal energy for cooking, families can cook all quantities and types of traditional and highly nutritious foods. Solar energy reduces demand for biomass and fossil fuels, improving soil and water quality.

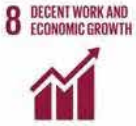
Women and their young children experience the highest exposure to household air pollution, the number one cause of disease. Solar thermal cookers do not produce flames, so burn risk is greatly reduced, particularly for women and children.

Freed from the time-intensive tasks of gathering biomass fuel for cooking fires by solar cooking, vulnerable persons, including the indigenous, those with disabilities, and children, can choose time for education and study.

Cooking with solar energy reduces women's and children's exposure to violence when gathering biomass fuels. Women and children can gain up to 5 hours/day for education, empowering them for leadership roles.

Sustainable management of drinking water supplies for all will rely on decentralized pasteurization of local water sources. Solar thermal cookers can make water safe to drink, addressing water scarcity and reducing diarrheal disease.

Solar thermal energy is clean, efficient, and sustainable. It does not need to be gathered or purchased, and is available in all regions on all continents. Enough solar energy reaches the Earth every hour to power all human activity for one year.



Cooking with free solar energy reduces household fuel costs and helps break the cycle of energy poverty.

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SUSTAINABLE DEVELOPMENT GOALS

Solar technologies reduce the need for centralized energy infrastructure and increase resilience for all. Many innovative solar cookers can be made using locally-sourced materials.

Free solar energy is accessible to all people, irrespective of age, sex, gender, disability, ethnicity, origin, religion, or economic or other status.

Solar energy can be used in urban settings where biomass fuels are less available. Solar energy use reduces competition and conflict for energy in urban settings.

Free solar-thermal energy reduces environmental costs of fuel production and delivery. Solar energy is renewable and contributes to sustainable patterns of household energy consumption and production.

No-emission solar energy reduces production of climate-change forcing agents, such as greenhouse gases and black carbon produced by combustion of fossil fuels and biomass fuels.

Healthy biomass helps soil absorb water, reducing pollutants and fertilizers in the oceans. Preserved forests sequester carbon which could lessen the burden on oceans to absorb excess carbon that warms the seas.

Cooking and pasteurizing water with solar energy preserves forests, and curbs land degradation and desertification.

Access to solar energy achieves our human right to cooked food and safe water. Solar energy reduces human conflict over scarce fuels.

Solar cooking technologies strengthen and empower community members, particularly women, to be change agents for revitalized, resilient and sustainable development.

30th Anniversary
SCI
SOLAR COOKERS INTERNATIONAL
1987 - 2017

Winter 2018 Newsletter

www.solarcookers.org info@solarcookers.org

Solar Cooking: A Sustainable Solution

In November, SCI representatives attended the 23rd Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), better known as COP23. Thanks to private donors, SCI was there to be the voice of the global solar cooking movement to 25,000 attendees in Bonn, Germany.

During the conference, SCI representatives presented at four press conferences on energy access and presented recent research findings to policy makers, government officials, and international media.

"Thanks to the data submitted by SCI and its partners, national and international energy agencies sat up and paid attention to the evidence of solar cooking's impact," reports Julie Greene, SCI's Executive Director. "Most importantly, they started conversations with SCI to explore solar cooking as a solution to urgent health and environmental challenges."

While at SCI's exhibit booth, the Honorable John Thomas Pundari, Papua New Guinea's Minister for Environment Conservation and Climate Change, noticed that there are no solar cookers listed for Papua New Guinea on SCI's Global Distribution Map. He learned about the benefits of solar cooking from SCI and now is demanding solar cooking be incorporated as a climate change solution for his people.

Dr. Alice Ekwu (center), Honorable Commissioner for the Nigerian Ministry of Climate Change and Forestry, purchases a CooKit from Program Director Caitlyn Hughes and Executive Director Julie Greene at COP23 in Bonn, Germany.

Dr. Alice Ekwu, Honourable Commissioner for the Nigerian Ministry of Climate Change and Forestry met SCI representatives at COP 23. Dr. Ekwu became so excited about solar cooking, she purchased a CooKit to take home as an example and already knows how she wants to integrate solar cookers into the government-led clean cooking programs she directs.

SCI Board Member Mike Paparian also praised SCI's presence at COP23. "This was my third U.N. climate summit, but the first one as a Solar Cookers International Board Member," Mr. Paparian wrote. "The urgency and determination to address climate change is stronger than ever and people from around the world are recognizing that clean cooking is part of the solution."

SCI representatives speak at COP23. From left: Board Member Mike Paparian, Program Director Caitlyn Hughes, and Science Director Alan Bigelow, Ph.D.

Letter from the Executive Director

Above: Solar cooks gathered at the Balcha Newari Solar Restaurant in Machhegaun, Nepal, pose with SCI Global Advisors Godfrey Kaburu and Sanu Kaji Shrestha, SCI Science Director Alan Bigelow, Ph.D., SCI Associate Kriti Shrestha, solar cooking pioneer Allart Ligtenberg, and solar cooking enthusiast Jacek Kopycinski from the Tek Chok Ling Nunnery.

Throughout three decades of experience, SCI has learned beyond a doubt that solar cooking succeeds in a community when the people are convinced it will work, and everyone is involved.

SCI staff can't be everywhere at once. Nor should we be.

We respect and rely on our partners' superior cultural and advocacy knowledge in their local context. To provide leadership opportunities and build local advocacy partnerships, SCI created its Global Advisory Council in 2014. Since then, SCI Global Advisors have had a big impact on solar cooking.

From national advocacy to participation in United Nations events, to hosting an SCI conference, SCI's Global Advisors create important leadership and energy for the global solar cooking movement in unique ways. And SCI continues to increase the number and broaden the regional diversity of its SCI Global Advisory Council.

For 30 years, SCI has involved people around the globe. Some are cooks, some village dwellers, others own restaurants, want to be entrepreneurs, teach others, provide support, are academics, inventors, or add solar cooking to their small business inventories.

Above: SCI Global Advisor Dr. Mrs. Janak Palta McGilligan speaks with the media during the 2017 Clean Cooking Forum in New Delhi, India.

SCI Global Advisors are nominated by SCI Associates, SCI staff, and SCI board members. In December 2017, SCI published a call for nominations for SCI Global Advisors. Many associates responded with nominations of colleagues whose solar cooking work is held in high regard. The SCI board of directors must approve the appointment of all advisors who represent SCI.

It takes many people to work together on the solar cooking solution. This month, we specially honor the SCI Global Advisory Council members. Read more about SCI's Global Advisors at solarcookers.org/about/people .

Right: SCI Global Advisor Deepak Gadhia presents "Solar Cooking in India" during Day 3 of the Clean Cooking Forum in New Delhi, India. Mr. Gadhia's appearance at the Clean Cooking Forum was supported by the SCI Travel Fund.

Julie Greene
Executive Director
Solar Cookers International

As a donor, YOU spread solar cooking

where the world needs it most.

Now more than ever

SCI needs your support to reach more countries, to save more forests, and to create a viable future for families determined to succeed.

Your donations improve health and make a world of difference.

Without you, SCI simply cannot fulfill its mission.

Consider your biggest gift of 2018 to SCI TODAY.

solarcookers.org/donate

A Solar Cook, A Train, and a VP: CohnReznick Capital Joins the SCI Team

Thanks to our supporters, SCI was able to bring SCI Global Advisor Dr. Mrs. Janak Palta McGilligan to the United Nations in New York to be a strong advocate for the importance of solar cooking in addressing the Sustainable Development Goals. While on the train to the United Nations events, Cohn Reznick Capital Vice President Iany Ianachkova met SCI staff, SCI board members, and Dr. Mrs. McGilligan. SCI's story so inspired Ms. Ianachkova that she now strongly promotes it within her own solar-powered spheres, committed to joining SCI's Board of Directors, and encourages others to become a part of SCI. SCI is pleased to welcome CohnReznick Capital as SCI's newest Organizational Level Associate.

Members of CohnReznick Capital met with SCI representatives in July 2017. From left: CohnReznick Capital Associate John Richardson; SCI Board Member Mike Paparian; SCI Global Advisor Dr. Mrs. Janak Palta McGilligan; SCI Board Member & CohnReznick Capital Vice President Iany Ianachkova; and SCI Science Director Alan Bigelow, Ph.D.

MIT Climate CoLab Awards "Judges' Choice" to SCI Associate Heliac Solar

SCI's Performance Evaluation Process Named as Finalist

Heliac Solar, an SCI Organizational Associate, earned the Judges' Choice Award and SCI's Performance Evaluation Process was named as a Finalist in the Massachusetts Institute for Technology (MIT) Climate CoLab "Energy Supply 2018" contest. Judges agreed that solar cooking is an "exciting new approach to tackling climate change-from reducing emissions to shifting public perception to pricing carbon."

The MIT Climate CoLab is an online crowdsourcing platform of over 100,000 global members, sourcing proposals on climate adaptation, reducing emissions from buildings and transport, behavioral change strategies, and more.

SCI Organizational Associate Sedi Byskov demonstrates the Heliac Solar Cooker during the 6th SCI World Conference in Gujarat, India. The Heliac Solar Cooker uses a Fresnel lens to concentrate solar energy for cooking.

Your Contributions at Work: SCI Travel Fund

One of our donors' greatest contributions to SCI's programs is the SCI Travel Fund. In 2017, you supported numerous travel grants to attendees of the 6th SCI World Conference in Gujarat, India.

Godfrey Mawira Kaburu, a civil engineer and current Project Manager with the World Food Programme, was a recipient of SCI travel funding in January 2017. Mr. Kaburu, who works with refugees in the Kakuma refugee camp in Kenya, called the 6th SCI World Conference "one of the most enlightening moments in my life."

SCI Global Advisor Godfrey Mawira Kaburu positions a CooKit with a staff member from the Centre for Rural Technology-Nepal while setting up a SCI Performance Evaluation Process (PEP) testing station.

Mr. Kaburu has passionately advocated the benefits of solar cooking. In April, he co-organized a solar cooking festival for 500 schoolchildren at Kakuma Refugee Camp. And in November Mr. Kaburu represented the delegation from Kenya at this year's ISO/TC285 Plenary, a meeting of the technical committee working to define standards for clean cookstoves held in Nepal. Once again, Mr. Kaburu's travel expense was funded by SCI donors.

Mr. Kaburu, who conducted research recently on factors that increase solar cooker use, provided valuable first-hand knowledge to the working group. SCI's Science Director Alan Bigelow, Ph.D., also attended as a member of the U.S. delegation. Together, their involvement drove the inclusion of solar cookers within the international stove performance standard. Including solar cookers in international stove standards will increase awareness and acceptance of solar cookers worldwide.

One of SCI's newest Global Advisors, Mr. Kaburu continues to research technology adoption in Kenya, and is working to incorporate solar cooking into a bakery at Kakuma Refugee Camp.

Meanwhile, SCI invites donors to support the SCI Travel Fund for deserving solar advocates working all around the world.

You Can Trust SCI

SCI has received the highest possible ratings from Charity Navigator as well as GuideStar, whose database includes detailed ratings, all revenue and expense data, and copies of SCI's 990 forms.

You can donate to SCI with confidence, knowing that SCI's transparency and accountability are verified by the world's largest source of nonprofit information.

30th Anniversary SCI SOLAR COOKERS INTERNATIONAL 1987 - 2017

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CHARITY NAVIGATOR

SEAL OF TRANSPARENCY 2017 PLATINUM GUIDESTAR

SCI
SOLAR COOKERS INTERNATIONAL ASSOCIATION

- An elite group working to promote solar thermal cooking worldwide
- High impact on solar cooking worldwide
- Extensive SCI Associates-only resources and networking opportunities
- Individual and Organization levels

Individual Associate Benefits

Events

-Priority consideration for SCI Convention **travel funding**

-**Reduced** registration **fees**

Knowledge

-**Webinars** featuring leading global sector innovators

-Academic article database

-Latest global news in the **SCI *Digest*** (24 digital issues)

Networking

-Inclusion in **global Associates Directory**

Publicity

-F**eature article** in the SCI *Digest* digital newsletter which reaches 4,500 partners twice a month

-**Webmaster assistance** with personal page design and content on the Solar Cooking Wiki www.solarcooking.org

-Discounted high profile SCI *Digest* **advertising space**

Recognition

-List of all current SCI Associates **published** annually

-**Designation** on the SCI Wiki SolarCooking.org which receives 2.7 million page visits/year

-SCI Associate certificate, card and website logo

Join at www.solarcookers.org

Organization Associate

(For NGOs, businesses, academic departments, government agencies and groups)

Benefits	Bronze	Silver	Gold
Networking			
-Number of named individuals with access to all the **SCIA Individual benefits**	3	7	10
-**Quarterly town hall meeting** (conference call**)** featuring solar cooking news, events and technical trend updates	✓	✓	✓
Events			
-Discounted sponsorship rates for SCI events and publications	✓	✓	✓
Knowledge			
-Webinar certification of participation (issued upon request)	✓	✓	✓
Publicity			
-Acknowledgement as an Organizational Associate at SCI conferences and events	✓	✓	✓
-Free posting for **employment opportunities** in *SCI Digest*	✓	✓	✓
Recognition			
-Sharing your posts with SCI's audience of over **27,000 Facebook followers**.		✓	✓
-Retweeting your organization's Twitter tweets **for** SCI's audience of **over 1,000 Twitter followers.**		✓	✓
-Organization profile in SCI *Digest* twice a year (space availability basis)			✓

Join at www.solarcookers.org

Solar Cooking Around the World

Find who is solar cooking in your country

Go to: SolarCooking.org

Type your country's name into the search bar at the top of

www.SolarCooking.org

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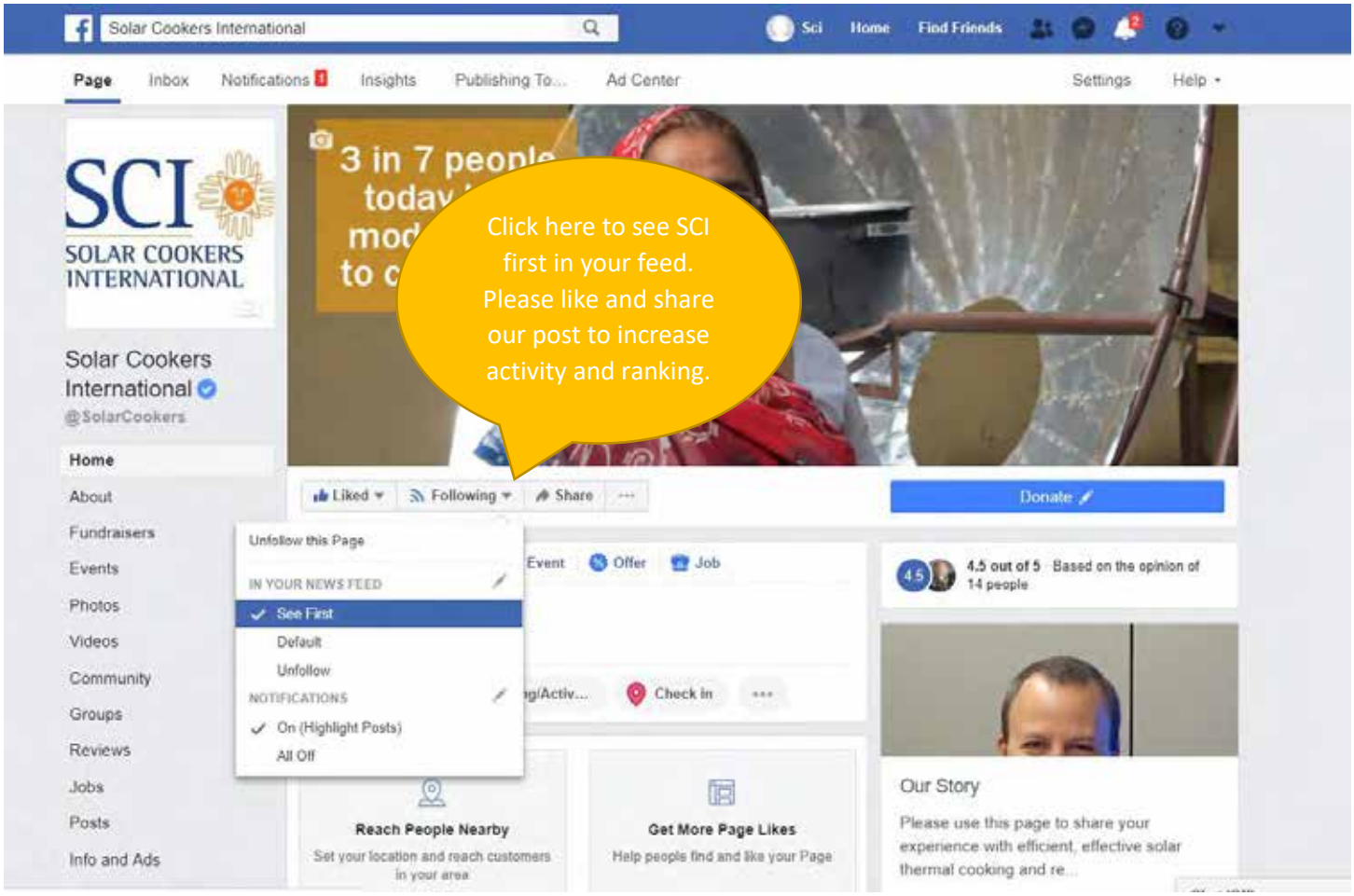
How to see SCI first in your feed



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Testing Solar Cookers

Performance Evaluation Process (PEP)

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ISO/TC 285 Standards for clean cookstoves and clean cooking solutions

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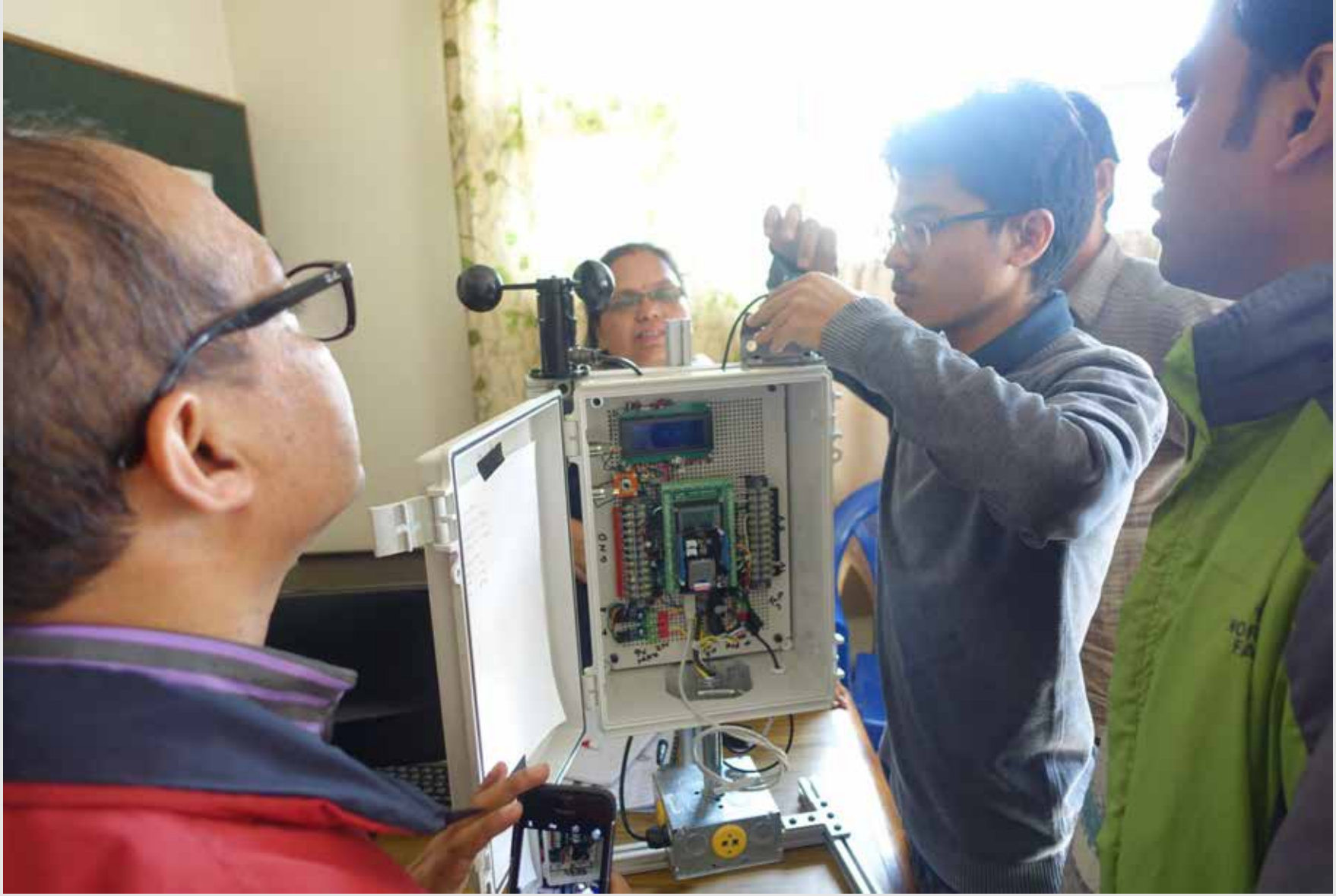

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SCI delivering PEP test station and training staff
at Center for Rural Technology / Nepal

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SCI delivering PEP test station and training staff at Center for Rural Technology / Nepal

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SCI Performance Evaluation Process (PEP) Test Station

ASAE S580.1 NOV2013
Testing and Reporting Solar Cooker Performance

ASABE

American Society of
Agricultural and Biological Engineers

- ✓ Harmonizes with the International Organization for Standardization (ISO)
- ✓ Provides a single power measure of thermal performance, in Watts

Test station designed and assembled by SCI Contractor Justin Tabatchnick

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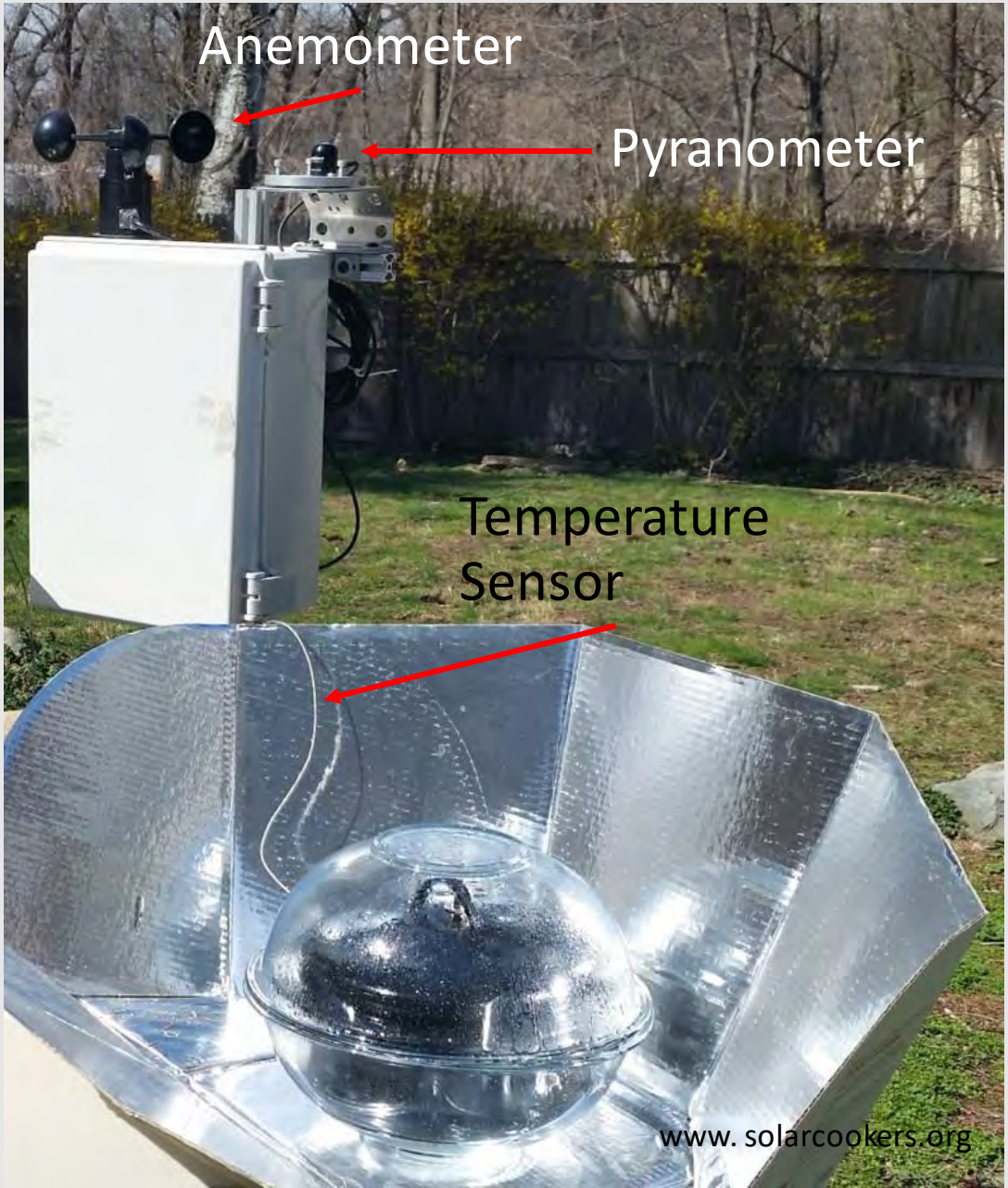
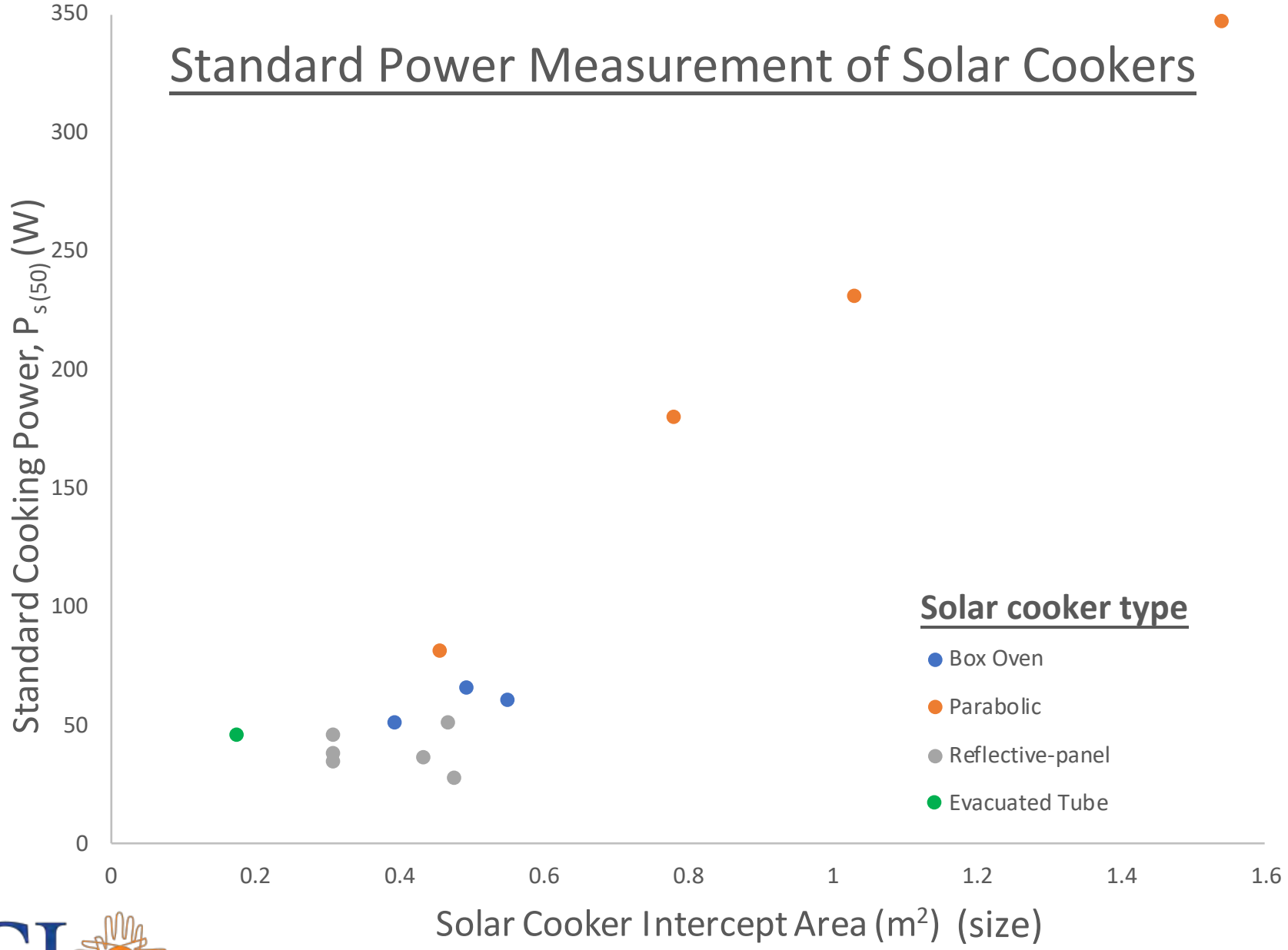


Standard Power Measurement of Solar Cookers



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Each dot represents a different solar cooker brand

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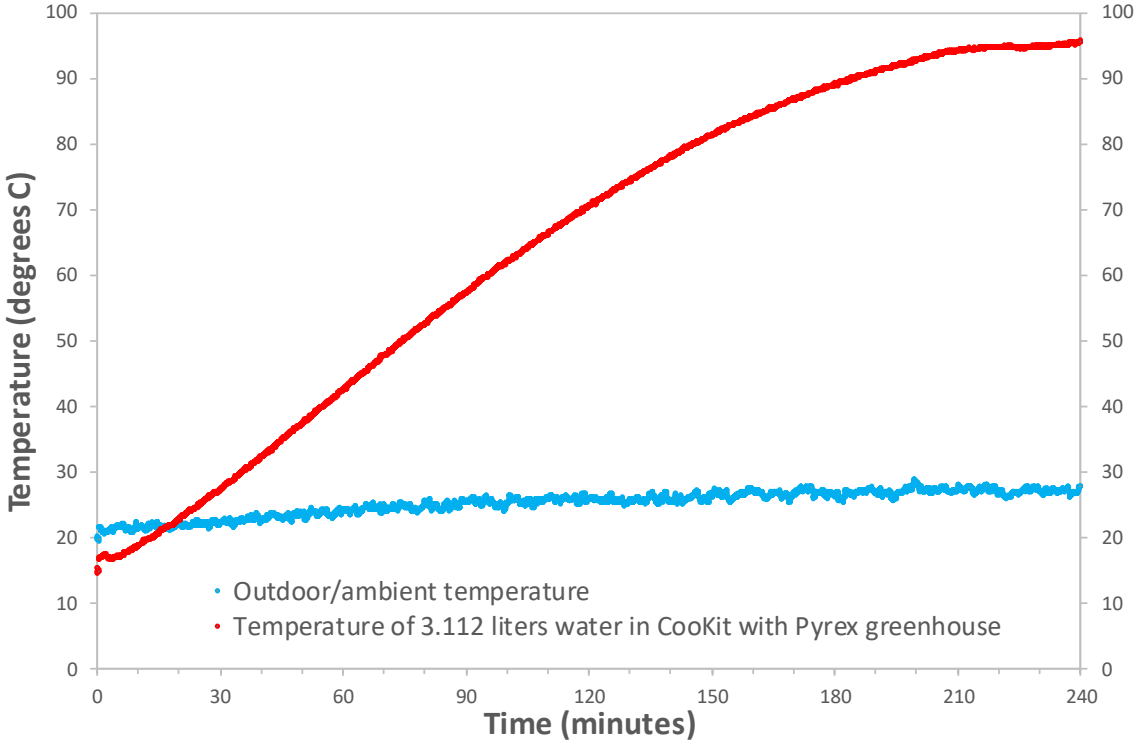
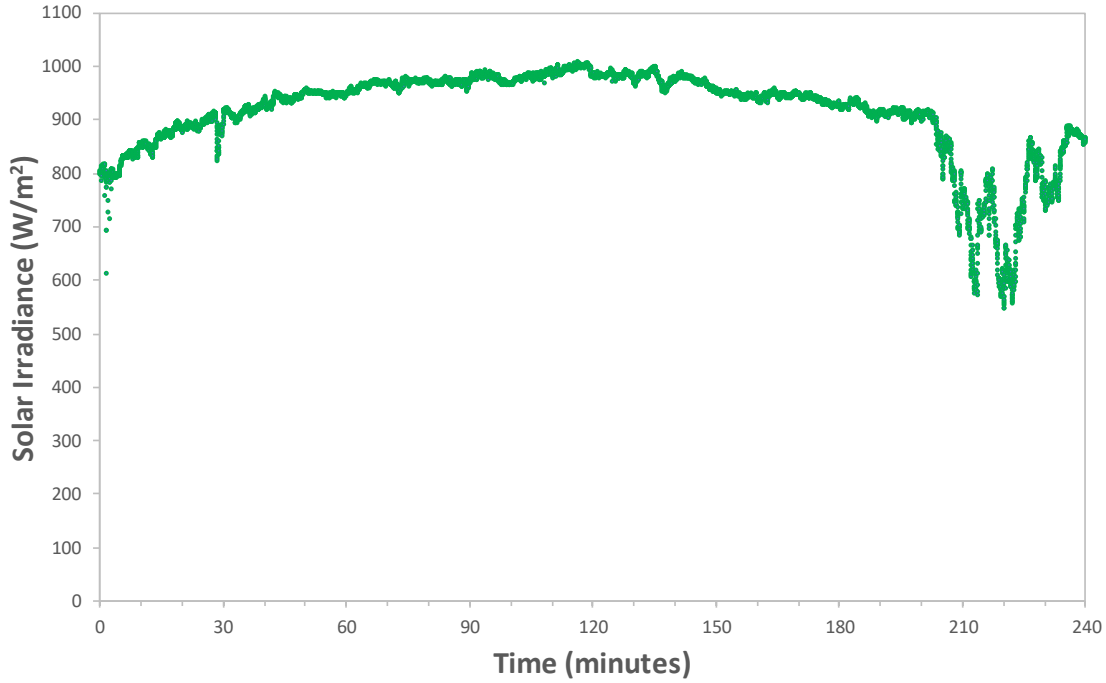
Temperature Rising in a Solar Cooker Over Time



Power of the sun hitting the earth during the above test



Variance at end shows cloud cover disruption

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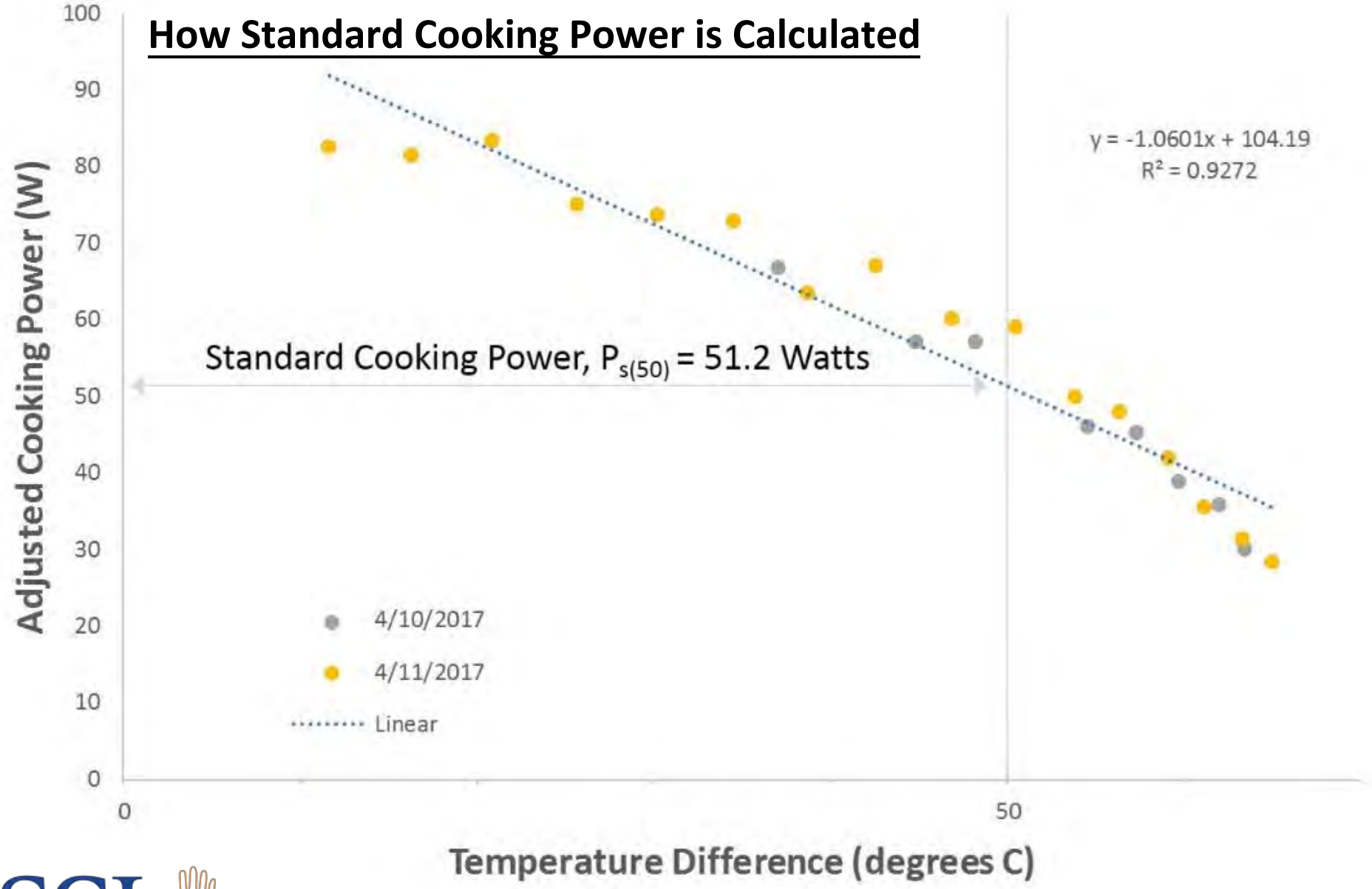
How Standard Cooking Power is Calculated



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