

## **From the Director's Desk: Unsexy, Unfunded, and Absolutely Necessary**

For those of us who make a living as researchers and consultants, life churns. Novelty sells, and projects end. Many of us chose our work lives with the hope of making a difference in the lives of individuals who might not otherwise be reached. We know that lasting impacts require understanding, trust, mentoring and follow-up. For that, we've often built relationships with organizations that engage closely with communities. The pace of change in communities is — and should be — punctuated equilibrium at best; so different from the vortex one might call a career in research.

The big wins on the ground — happy community members, steps toward independence — are private celebrations in our world. A silent "Thank God" when the email finally arrives, not listing any political or technical disasters. Half a tear of joy over a cup of coffee. I'm not asking for more. The work is its own reward. But the tide of new demands eventually carries us away. Our friends need technical advice; their equipment fails or is depleted; conflicts caused by unforeseen but retrospectively obvious events demand babysitting; a partner organization changes focus. We researchers end up with a bad choice: either doing *another* extra thing or abandoning something to which we had once committed. I don't know anyone who likes it.

Don't we have a responsibility to the people we have touched? How do we maintain interactions when change occurs on such different time scales? How can we give as much as we get? Is there a fair way to sunset a collaboration?

**These are not rhetorical questions.** I want to share your success stories or obvious failures with the CACHE community. How do you make it work? Write to Olivia Harris ([oharris2@illinois.edu](mailto:oharris2@illinois.edu)) with a

short description of an experience or moment of clarity. She'll be in touch to learn more — and will help you share your stories.

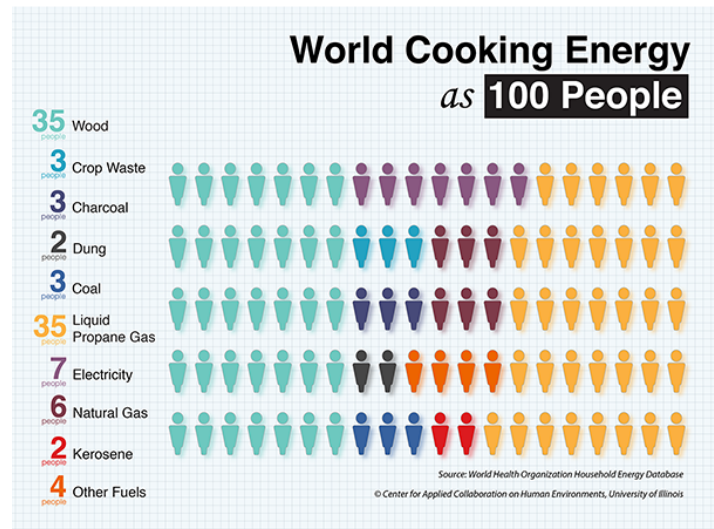
Best, *Tami*

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## NEW: Infographics on Global Cooking Energy Use

The [WHO Household energy database](#) monitors household energy use for 157 countries. The database contains nationally representative data from surveys and censuses on cooking, heating and lighting fuels.

Using the most recent and complete surveys available from this resource, CACHE has created a few visual representations of the fuel sources most used by people around the world to meet their daily needs. [Download them here >>>](#)



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## Research Spotlight: The Social Side of Energy Use in Western Nepal

Every year, nearly 3 million people die of illnesses caused by exposure to household air pollution. Every day, billions fulfill their daily energy needs for cooking family meals, heating water, processing food for livestock, and warming the house over inefficient open fires that emit health-damaging pollutants.

Solving this global health crisis has not proved easy. A [new study from CACHE](#) post-doctoral researcher Nick Lam, collaborators at the Center for Rural Technology in Nepal (CRT-N), and the Berkeley Air Monitoring Group is contributing by delving into total energy needs and the technologies and fuel sources required to meet them.

During four seasons over one year, the team visited more than 100 households. With an emphasis on human behavior and needs instead of just technology, team members also recorded the types of activities a stove was used for to understand the connection between energy needs and the ways they were met.

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## **CACHE to Embark on Pre-Ignition Emission Study**

In December 2017, the National Science Foundation awarded the Center for Applied Collaboration on Human Environments (CACHE) at the University of Illinois \$600,000 to explore the complex chemistry that happens in wood in the moments just before it bursts into flames.

The CACHE research team will develop an ignition chamber in which to light fires and measure the rate and amount of gases and particles generated from fuels during ignition. From these data, they'll build a virtual model to replicate real-scale ignition — a whole log, for example — for further exploration of the circumstances that result in either high or low emissions.

“We felt it was important to return to the fundamental science behind combustion to uncover why and how emissions are created. Cooking fires are collectively a huge emission source to consider — and yet aren't often studied at this level of detail,” said project primary investigator Tami Bond.

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