

Energy poverty creating a respiratory disease 'epidemic' for almost half the world's population

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Limited access to clean sources of energy, known as energy poverty, makes nearly half the world's population reliant on burning wood, animal waste, coal or charcoal to cook. This leads to severe respiratory diseases that kill roughly two million people worldwide each year, a problem University of British Columbia researchers are trying to solve.

"Energy poverty is one of the biggest human welfare issues of our day," says Hisham Zerriffi, an assistant professor with the Liu Institute for Global Issues at UBC who is presenting his work at the 2012 Annual Meeting of the <u>American Association for the Advancement of Science</u> (AAAS) in Vancouver on Feb. 17. "We're talking about more people who die each year from cooking than from malaria."

It is often women and children who suffer the most from <u>indoor air</u> <u>pollution</u>, and who carry the burden of collecting fuel to burn, says Zerriffi. Beyond the health and gender equity implications, burning biomass is also associated with environmental concerns such as <u>carbon</u> <u>emissions</u> and climate change.

Zerriffi and his graduate students are researching ways to switch people to cleaner cookstoves. Despite the availability of technology that can burn a variety of fuels more efficiently, governments, for-profit businesses and non-governmental organizations have made little progress in getting individuals to switch to improved cookstoves and modern



fuels.

"We need to combine new technologies with smart policies," Zerriffi says. "We need to help create viable markets, encourage households to switch to new stoves, and fix some of the gaps in funding – especially for those at the lowest end of the income scale."

"It's a complicated problem because governments can't afford to hand out improved cookstoves to a continually growing population, and the private sector needs to recover its costs so they can continue to distribute more stoves."

When the private sector got into the cookstove business a few years ago, it looked as if this could be a successful solution. Today, these businesses are having trouble, Zerriffi says.

According to him, the problem is that the majority of consumers who need this product are very poor with little disposable income for stoves. With this consumer base, businesses don't have the additional resources needed to market the product and sustain their operations.

Recent activities to use financing from carbon-offset programs to support the distribution of cleaner stoves have been offered as a potential solution.

Organizations distributing cookstoves can apply for carbon credits in the internationally regulated carbon offsets market or sell them on the voluntary market. But according to Zerriffi and his colleagues, these programs have received mixed reviews.

Zerriffi's colleague Michael Brauer, of the UBC School of Population and Public Health, is evaluating one such carbon credit-financed program in India. Brauer, who along with Zerriffi is a co-organizer of



the AAAS symposium on Feb. 17, will measure health improvements, to what extent emissions relevant to both human health and climate change are being reduced, and whether the stoves are sustainable and accepted in the community.

"There is great potential to dramatically improve people's lives and reduce a major source of emissions related to <u>climate change</u>," says Brauer, "but there is also the potential to squander lots of money and goodwill."

Provided by University of British Columbia

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