

FLETCHER D-PRIZE COMPETITION

2017-2018 Academic Year

Increase Access To Clean Cook Stoves

Clean cook stoves reduce health and safety risks and lower fuel expenses compared to traditional wood, dung and coal stoves. In three months, sell 250 clean cook stoves, generate US \$5,000 in revenue and plan to scale to 25,000 homes over two years.

The Problem: Half of the world's population burns wood, dung, and coal in traditional stoves for cooking and heating needs.¹ These stoves are ineffective and cause chronic exposure to smoke, which can lead to severe health issues. It is estimated that 4 percent of the disease burden in the developing world is caused by use of traditional cook stoves.² In Bangladesh alone, the WHO estimates that exposure to smoke from solid-fuel combustion contributes to nearly 50,000 deaths annually.³ The majority of these health impacts arise from acute respiratory infections, which are a leading cause of illness and death in children under 5 years old worldwide.⁴

The Proven Solution: Clean cook stoves cost as little as \$13, and can reduce fuel expenses and reduce cooking time when compared to traditional cook stoves.⁵ Air fan stoves can use 63 percent less fuel than a typical fire; gasifier stoves significantly save on fuel use too.⁶ These stoves also reduce smoke exposure and risk of fire.

Your Challenge: We will award up to \$20,000 to a social entrepreneur who can sell clean cook stoves to 25,000 households within two years. A pilot should sell at least 250 cook stoves within three months, and generate \$5,000 in revenue.

¹ Household Air Pollution and Health. WHO. (March 2014). <http://www.who.int/mediacentre/factsheets/fs292/en/>

² <http://www.pnas.org/content/109/27/10815.full>

³ Low demand for non-traditional cookstove technology. Ahmed Mushfiq Mobarak. (2012). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390883/>

⁴ Low demand for non-traditional cookstove technology. Ahmed Mushfiq Mobarak. (2012). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390883/>

⁵ <http://www.cleancookstoves.org/our-work/the-solutions/cookstove-technology.html>

⁶ Ibid.

Additional Information:

- The potential market is enormous. Half of the world's population cook with solid fuels in inefficient traditional cook stoves.⁷ Between 75-100 percent of families in African countries rely on traditional stoves, while up to 75 percent of South East Asian countries do the same.⁸
- The Global Alliance for Clean Cook Stoves, a United Nations Foundation program, is specifically targeting cook stove distribution in Bangladesh, Ghana, Kenya, Nigeria, Uganda, and China.⁹
- In this case, D-Prize sees a particularly strong opportunity to sell cook stoves in urban slums, which are more immediate markets for this product. We also encourage entrepreneurs to select markets that have support structures (like strong micro finance organizations), but where there is still a large market need. The Global Alliance for Clean Cook Stoves publishes country-level data.¹⁰
- One potential challenge an entrepreneur should address is consumer behavior. Price sensitivity, mismatch between local needs and stove design, and a lack of knowledge about cook stoves have led to extremely low long-term adoption rates.¹¹ For example, evidence suggests that rural women in Bangladesh do not prioritize clean cook stoves over other basic developmental needs, despite the potential long term health benefits.¹² A successful entrepreneur will need to find a strong marketing strategy that sells cook stoves, but also ensures they are used.
- Past winners of this challenge include [LivelyHood's iSmart network](#) (Kenya), [LiTeAfrica](#) (Uganda), [Novotera](#) (Vietnam), [Dazin](#) (Bhutan)

Ready To Apply?

Download a First Round Application Packet and start creating your proposal. www.fletcher.tufts.edu/D-Prize

Questions? Email Dorothy Orszulak at dorothy.orszulak@tufts.edu.

⁷ Low demand for non-traditional cookstove technology. Ahmed Mushfiq Mobarak. (2012). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390883/>

⁸ <http://www.potentialenergy.org/why-stoves/>

⁹ <http://www.cleancookstoves.org/our-work/priorities/>

¹⁰ <http://www.cleancookstoves.org/resources/data-and-statistics/>

¹¹ http://faculty.som.yale.edu/mushfiqmobarak/stove_long.pdf

¹² Low demand for non-traditional cookstove technology. Ahmed Mushfiq Mobarak. (2012). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390883/>