

# ETHOS Technology Highlight: STOVES

The World Health Organization estimates that approximately **3 billion people** cook their meals with wood or other solid fuels over open fires inside their homes. The exposure to household air pollution is higher for women and young children. Compared to electricity and natural gases, wood and other solid fuels are **much cheaper, but much less efficient** and clean. The problem of cooking meals and heating houses with open fires can be greatly reduced by utilizing more efficient burning stoves. [1]



[4]

## Why is it important? [1]

- Cooking indoors with wood burning stoves kill 1.5 million people every year
- 4.3 million people die prematurely every year from illness related to air pollution caused by inefficient use of solid fuels
- Indoor smoke can be up to 100 times higher than the acceptable levels for particulate matter
- Inefficient stove combustion leads to the emission of methane and black carbon which are known to be harmful climate pollutants
- Inefficient burning leads to deforestation

## Summer 2014 Spotlight

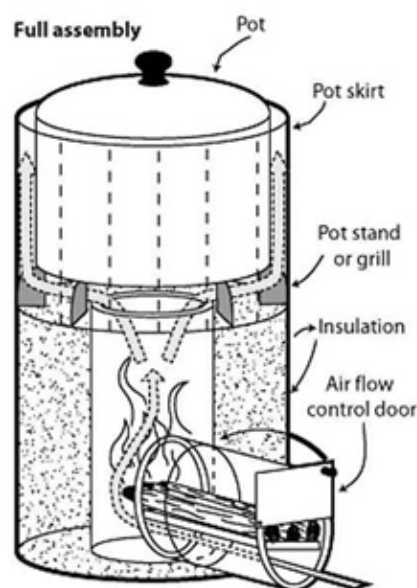
*Seattle, Washington, USA*– Stove design and testing

*Lilongwe, Malawi*– Rocket barn, stove efficiency, marketing, educational materials

*Cochabamba, Bolivia*– Rocket stoves



[2]



[2]

The figures on the left show the rocket stove, which is an example of one of the stoves currently being implemented and used all over the world. First, small pieces of wood are fed into the fuel magazine located at the bottom of the stove. The sticks burn in the combustion chamber and convection draws air in from below. The chimney also permits the updraft of air for combustion to take place. The design of the rocket stove allows for nearly complete combustion to occur prior to the fire reaching the cooking pot. [3]

[1] <http://www.who.int/mediacentre/factsheets/fs292/en/>

[2] <http://www.rocketstoves.org>

[3] <https://practicalaction.org/docs/smoke/itdg%20smoke%20report.pdf>

[4] [http://www.ariatlas.org/tools/graphics/files/photo\\_AIR.jpg](http://www.ariatlas.org/tools/graphics/files/photo_AIR.jpg)