InStove
INSTITUTIONAL STOVE SOLUTIONS

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# InStove Stove Carbon Offset, Fuel Savings, and Energy Savings


InStove users around the world have reported firewood savings of 75-90% compared to traditional, three-stone fire cooking methods. Controlled field testing has shown an average of an **88%** reduction in wood use. The following tables illustrate how our stoves save resources and the environment through reduced carbon dioxide emissions, lowered firewood demand, and smaller energy requirements for cooking.

Note that these statistics only represent part of the full benefit of InStove stoves. Since there is little reliable data on the emissions of open-fire cooking, we have considered the effects of firewood saved versus traditional cooking methods, alone. In reality, our stoves not only reduce wood consumption, but also produce less harmful emissions per gram of wood burned than an open fire (besides $CO_2$), creating additional benefits for human health and our atmosphere that these numbers do not account for.

For additional comparison statistics and a complete explanation of the methodology behind these figures, visit our technical archives at *www.instove.org/archives*.

## $CO_2$ Offset

| ***Stove Model*** | **60L** | **100L** |
|---|---|---|
| ***Annual $CO_2$ Emissions Offset per stove (vs. Three-Stone Fire Cooking Methods)*** | 87 tons | 146 tons |

**In other words, one 100L stove offsets as much $CO_2$ in a year as is produced by:**

- **26** average American cars or **313,000 miles** driven in one car (**56** round trips from L.A. to New York)
- The carbon footprint of **8** Americans
- The $CO_2$ that can be sequestered by **108** acres of forest in the United States

## Wood Savings

| *Stove Model* | 60L | 100L |
|---|---|---|
| ***Annual Wood Savings per stove (vs. Three-Stone Fire Cooking Methods)*** | 58 tons | 97 tons |

**The firewood saved each year by one 100L stove is equivalent to:**

- **20,000** 8-foot long 2x4's or **16** full logging truck loads
- **1.9** acres of American Pacific Northwest rainforest – Clear-cut
- **85** acres of American Pacific Northwest rainforest – Harvested sustainably

## Energy Savings

| *Stove Model* | 60L | 100L |
|---|---|---|
| ***Annual Energy Savings per stove (vs. Three-Stone Fire Cooking Methods)*** | 217 MWh | 362 MWh |

**The energy potential of the firewood saved each year by one 100L stove is equivalent to:**

- **213** barrels of crude oil
- Over **120,000,000** AA batteries
- The electrical consumption of **33** residential American households

## Savings from Multiple Stoves:

The table below shows the comparative benefits of multiple InStove stoves

| *Stove Placement Size* | **200 – 60L Stoves** *Largest single placement of InStove stoves (in Darfur)* | **1,000 Stoves** ***(500 of each)*** *Projected near-future total of all InStove stoves in service* |
|---|---|---|
| ***Annual $CO_2$ Savings*** | 17,500 tons | 116,600 tons |
| ***Annual Wood Savings*** | 11,700 tons | 77,800 tons |
| ***Annual Energy Savings*** | 43,400 MWh | 289,200 MWh |

**The annual savings of <u>200</u> 60L stoves is equal to:**

- The carbon footprint of **940** Americans
- The $CO_2$ that would be produced by driving one car around the globe about **1,500** times
- The wood harvested from clear-cutting **233** acres of Pacific Northwest rainforest

**A total of <u>1,000</u> stoves (500 of each model) will generate savings equivalent to:**

- The $CO_2$ produced by **1.7** offshore oil rigs
- The electrical consumption of about **69,000** Americans living in residential households

**Finally, the savings of a future total of <u>10,000</u> stoves (projected to be 9,000 – 100L and 1,000 – 60L, given the present demand for 100L stoves) would equate to:**

- The $CO_2$ that could be sequestered by over **1,000,000** acres of forest in the United States
- **156%** of the electricity used by the country of Senegal
- Enough wood to completely fill the Empire State building once every **17** days