

SaferRwanda has Partnered with atmosfair gGmbH in the implementing Improved cook stove in Rwanda

SaferRwanda with the support of atmosfair gGmbH Germany are implementing an improved cook stoves project known as the Save80 stove. The Save80 is a high quality portable stove developed and prefabricated in Germany and constructed locally to conserve the Environment, combat climate change effects and create employment. The save80 reduces the wood demand by households which leads to the reduction in the cutting of trees. This allows afforestation and reforestation to take place.

- Saves ~ 8 tonnes of Co2e per year when used by former user of an inefficient charcoal stove user (one without clay)
- Saves ~ 5 tonnes of Co2e per year when used by former user of an efficient charcoal stove (one with clay)
- Saves ~3 tonnes of CO2e per year when used by a former user of a 3-stone fire

The stove (all components) is made of stainless steel which ensures high durability and a life span of over 10 years. It can easily be cleaned with water and will not make it rust. The stove is suitable for cooking, frying, boiling and sterilizing water. It needs only 250 g of small brittle sticks of wood to bring 6 litres of water to the boil, 80% less than traditional fire places.

After reaching the boiling temperature, food – for instance rice – can be transferred to the Wonderbox, a retained heat cooking device where it will continue to simmer until it is well cooked. In the meantime, the Save80 can be used to prepare the sauce. The Wonderbox is made of expanded polypropylene, unbreakable, stackable, lightweight and keeps the boiling temperature for a long time: After 2 hours the temperature decreases from 100 ° C to about 90°C, after 12 hours it is still 65 °C. The Wonderbox allows important energy savings in addition to the savings by the Save80. Technical specs summary:

- Specified thermal efficiency: 52%
- Pot Capacity: app. 8 litre
- Stove life span: 10 years
- Stove material: Stainless steel
- Stove Models: C model (short) and B model (tall)
- Wonderbox material: Expanded polypropylene (epp)
- Pots material: Aluminium
- Cooking capacity: 5-12 eaters

Composition of the Save80 stove set

The Save80 set is composed of the following

- 1 stainless steel stove (Save80)
- 1 wondebox
- 2 aluminium pots with lids
- 1 adapter ring for handling of pots

Other benefits of the stove

Fuel wood savings

- Saves 80% of wood as compared to a traditional 3-stone fire.
- Saves additional fuel through the use of the Wonderbox.

Money savings

- A family that uses 2 sacks of charcoal per month spends ~13,000 – 14,000 RwF per month. When it starts using the Save80 set, it needs firewood for only 2,000 – 3,000 RwF a month hence saving ~11,000 – 12,000 RwF.
- The pays back within 2 to 3 months through the savings made on fuel costs.

Time saving

- The stove cooks fast hence saves time required for cooking.
- It uses little wood (small brittle sticks) hence reduces the amount of time spent by families on collecting wood (250grams bring 6litres of water to boil). The time saved can be used for income generating activities.

Health benefits for families

The save80 system has an improved combustion (burning) of fuel hence emits less smoke as compared to traditional cooking methods. This leads to an improvement of the air quality and reduction in Indoors Air Pollution which is otherwise dangerous for cooking mothers and their babies. Moreover Indoor Air Pollution is estimated to cause ~12,500 deaths annually in Rwanda (WHO).

Job creation and skills development

The project has created both direct and indirect jobs. Rwandans have accessed jobs in project management, stove construction, transportation, and stove sales. Other jobs have been created at partner Rwandan companies that manufacture the locally sourced components such as pots.

Rwandans have also been trained in project management and construction of stoves hence local skills development.

Revenue earnings for the country

The country earns customs and other tax revenue from the project.

Why an efficient cook stove programme in Rwanda?

At the moment, the supply and demand balance of firewood and charcoal is negative: the consumption of wood (firewood and charcoal) is larger than the estimated sustainable production.

„Rwanda is one of the most - if not the most - densely populated African countries. With a total of about 8 million persons and more than 350 persons per km² pressure on the land is already high and this is likely to intensify [...]

[...] the use of wood will continue to grow for two reasons: (i) population growth; and (ii) more households start using charcoal, „ BEST Study 2009

“The combination of high demand aggravated by low use efficiency has contributed to deforestation, rural poverty and the rural energy shortage in Rwanda“ RWANDA BIOMASS ENERGY & STOVES SURVEY, MININFRA 2009

„Carbonization techniques are highly inefficient with wood to charcoal conversion rates of about 11 percent, translating to the use of at least 1.3 million tonnes of wood annually „ MININFRA 2009

About the project and its implementers

It is a countrywide Programme of Activities (PoA), registered and managed under the UNFCCC Kyoto Protocol Clean Development Mechanism (CDM) rules. It received a Letter of Approval (LoA) from Rwanda Environment Management Authority (REMA) and is also registered by the Gold Standard Foundation, which is a global organisation that monitors Sustainable Development aspects of environmental protection projects.

https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/J8SI1GZNVU6FQ7KC24OA3LE50WDTRH/view

SaferRwanda is implementing the project under the atmosfair gGmbH cook stove programme for Rwanda (Improved Cook Stoves programme for Rwanda, Reg: 6207). SaferRwanda is an independent and non-for-profit organization established in 2000 and is engaged in several environmental protection projects such as solar energy, tree planting, and energy saving cook stoves. SaferRwanda is located at Remera-Kisementi, Gasabo – Kigali City (for details: <http://www.saferrwanda.org>).

atmosfair gGmbH, a German not-for-profit environmental protection organisation. It actively protects the environment by compensating greenhouse gases through the support of energy efficiency and renewable energy activities in 15 developing countries. It operates under the patronage of Prof. Dr. Klaus Töpfer former head of UNEP. (for details: <http://www.atmosfair.de/en/>)

The stoves are currently accessible in Kigali, Eastern and Northern provinces. The partners are currently training more distributors in the Southern and Western provinces. It is the project goal to support Rwandan households to have access to cleaner cooking, money saving on fuel purchase, reduced Indoor Air Pollution and at the same time saving the environment.

Our Solution is a WIN WIN WIN WIN Opportunity:

- **Cook Stove Users** in Rwanda WIN: healthier, more efficient cooking, time and cost savings for the people of Rwanda with a modern and high quality cook stove
- **The Environment** of Rwanda WINs: Reduced deforestation and Erosion due to 80% less wood necessary for cooking, active mitigation of global climate change
- **SaferRwanda:** The cook stove programme offers a sustainable funding opportunity and has resulted in job creation
- **atmosfair** WINs: By receiving high quality carbon credits to fulfill its obligations towards its donors.



Women training in the construction of the stove



During demonstration of Energy Saving stoves in Kagarama Sector in Kicukiro District



Cooking with stove