THE CARBON NEUTRAL COMPANY

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PROJECT FOCUS

Ghana: Improved Cookstoves

Health and well-being | Empowering women | Financial security | Energy access | Biodiversity protection | Economic growth | Job creation | Education and skills

This Gold Standard certified project manufactures and distributes improved cookstoves to some of Ghana's most populated regions, using carbon finance to make the stoves affordable for households. Improved cookstoves use simple design enhancements to burn biomass fuel more cleanly and 33% more efficiently, which reduces greenhouse gas emissions and harmful smoke and indoor air pollution, significantly improving the health and well-being of the communities. The efficient stove also means that families financially benefit from the reduced fuel requirement. Since 2007, more than 270,000 stoves have been produced and distributed in Ghana.

Project type: Cookstoves

Region: Africa

Standards:

The Gold Standard®
Premium quality carbon credits

Providing cleaner alternatives: Improved cookstoves use simple design enhancements to burn biomass fuel more cleanly and efficiently.

The project

Over 2.7 billion people, or one-third of the world's population, rely on burning biomass (such as wood fuels, charcoal and dung) in traditional stoves for their daily cooking needs[1]. These traditional methods are inefficient and create pollution, meaning they not only contribute to climate change and environmental degradation, but to poor health and poverty, particularly among women and children. The World Health Organisation estimates that exposure to indoor air pollution is responsible for 16,600 deaths in Ghana every year. The improved cookstove used in this project is 33% more fuel-efficient than a traditional stove which results in GHG emission reductions (CO_2, N_2O and CH_4) and also a reduction in other air pollutants.

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Carbon finance enables the project developer to provide a 10 - 12.5% discount to buyers of the cookstoves by using revenue from the sale of carbon credits as a subsidy. Households are given 20% off the retail price if they surrender their functioning inefficient stove of roughly similar capacity.

The stove distribution team uses a system of rebate cards, collecting end user personal information that enables the monitoring of stove use. The emission reductions associated with the project are calculated from the data collected during household surveys and independent third party field studies.

Contribution to sustainable development

The project contributes to sustainable development in several key areas:

Health & well-being

The stove is designed to minimise indoor air pollution and, as it is 33% more fuel-efficient, the time needed for cooking is reduced. This provides significant health benefits for women and children who are often the most exposed; health surveys show reduced incidences of eye irritation, shortage of breath and coughing in efficient cookstove households. Additionally, the stove insulation means the outside temperature is decreased which reduces burn risk by over 90%.

Empowering women

The efficiency of the cookstove reduces the time needed for cooking, allowing women to participate in other activities and spend more time with family.

The widespread use of the cookstoves means demand currently outweighs supply

The production of the stoves occurs in five facilities within Ghana and creates several new job opportunities.

Financial security
The fuel-efficient stove has a positive impact on domestic finances as families need to buy less fuel: with an average annual income of US $800, families save approximately US $27 per year. Each stove is estimated to save 2,800kg of fire wood per year and each kg is priced between US $0.01 and US $0.40. Customers can also purchase the new stove on credit and pay off the balance from these fuel savings made across the first year of using the improved stove.

Energy access
The improved cookstove in this project is 33% more fuel-efficient than a traditional stove and alleviates the pressure on households to collect biomass for fuel.

Annual production of the cookstoves has grown more than 12-fold between 2007 and 2012, with more than 270,000 stoves produced and distributed in total

Annual production of the cookstoves has grown more than 12-fold between 2007 and 2012, with more than 270,000 stoves produced and distributed in total. The widespread distribution of the stove project means that more families are able to benefit from its fuel-efficient design.

Biodiversity protection
The communities in the project areas mainly use charcoal as a cooking fuel because it is the most economical choice; however 75% of charcoal comes from unsustainable sources. The improved stoves are more efficient at generating heat, requiring less charcoal, which in turn relieves Ghana's forests from the threat of deforestation. This helps reduce the incidences of hazardous mud-slides, desertification and loss of biodiversity.

Economic growth
Stoves are produced at five facilities within Ghana and are driven out to major towns and market centres within the project area, where they are distributed via independent retailers and sales people. This has a positive impact on both regional and national economic stability and 60% of the finished product is produced on a local basis. The widespread use of the cookstoves means demand currently outweighs supply and the project developer plans new production centres in Ghana as well as nearby countries - Togo, Benin and Sierra Leone. This will create further jobs in addition to an opportunity for in-country and international export.

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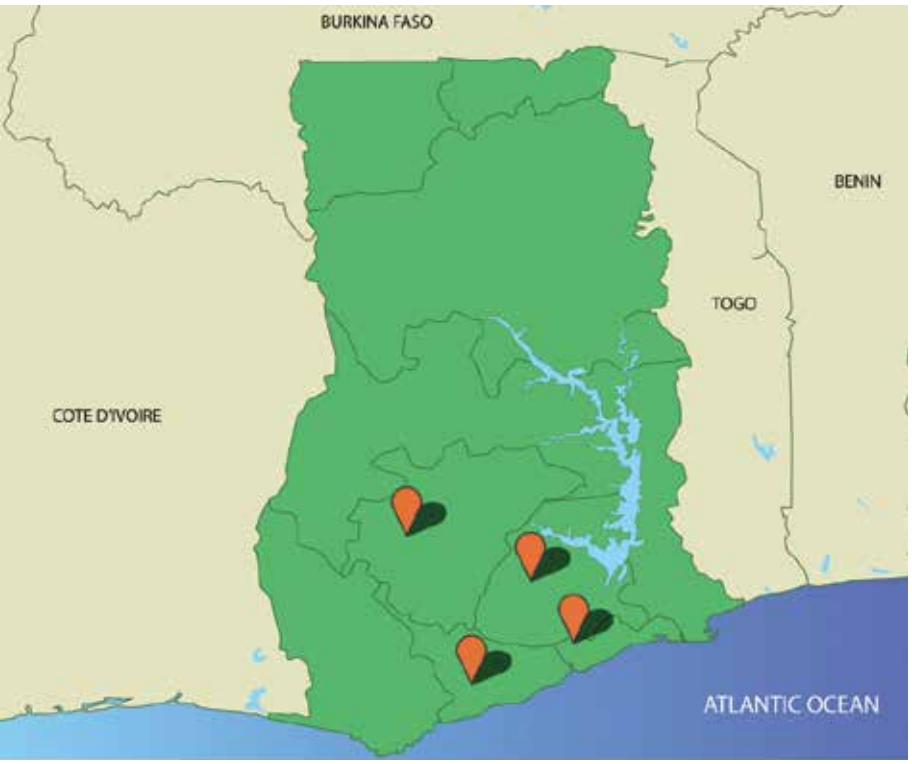
Job creation
The project has been responsible for the creation of several permanent jobs within the country. By the end of 2012, 16 stove producers, 14 ceramic liner makers and 14 key sales agents were involved in the project, with each one having several retailers and sub-contractors with whom they work.

Education & skills
Revenue from carbon credits has allowed the project developer to invest in an awareness and marketing campaign, which includes training staff and customers. In total, there are 170 independent, local artisans who have been specifically trained with the adequate knowledge and skills required to efficiently produce and market the stoves.

The project in Ghana extends across the Greater Accra Region, Ashanti Region, Central Region and the Eastern Region.



The region

The stoves are distributed to communities in some of Ghana's most populated areas: Greater Accra Region, Ashanti Region, Central Region and the Eastern Region. The people in the target areas mainly use charcoal as a cooking fuel because it is the most economical choice.

The wood for the charcoal comes from forest stands and savannah across the country, including the Afram Plains, Brong Ahafo and the Volta regions. These regions are the most fertile and green parts of Ghana and host an array of natural beauty such as the Wli Waterfalls.

The charcoal producers in Ghana use the earth mound method which is wasteful and has a carbonisation rate of eight tonnes of wood to one tonne of charcoal. The improved stoves are more efficient at generating heat, requiring less charcoal, which in turn relieves Ghana's forests from the threat of deforestation.

[1]"World Energy Outlook 2011", IEA, 2011

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