



Carbon Offset Impact Report

2008 to 2024

Refreshment Systems

This document provides details on the social and community impacts linked to Refreshment Systems carbon offsetting programme – from 2008 to 2024



About CO2balance UK Ltd

Established in 2003, CO2balance UK Ltd is a project developer of high impact, community focused, environmental projects that deliver quantifiable results data that aligns with corporate sustainable reporting indicators. Primarily African based, projects include bespoke CSR and Gold Standard carbon offset projects that provide social, health and community impacts.

Background

Since 2008, Refreshment Systems have been working with carbon management company CO2balance, to calculate and offset the carbon dioxide emissions created from the running of the company – its “corporate carbon footprint” – to achieve CarbonZero status. It has achieved this through its support of CO2balance’s Improve Cook Stove Project in Kenya and Rwanda. This report covers the carbon offsetting work carried out between 2008 and 2024 and outlines the positive impacts on the local communities thanks to this offset program.

Carbon Offset Project - African Improved Cook Stove Project

The African Improved Cook Stove Project builds energy saving cooking stoves for villages in Kenya and Rwanda. These brick stoves result in a 50% reduction in the need for firewood and thereby prevent carbon from being emitted. In addition to carbon prevention it also provides families with a cost and time effective method to cook with.

The reduced need for firewood helps to prevent deforestation, creating knock on benefits to the wildlife in terms of habitat and flood prevention. It is also a healthier method of cooking as it reduces in-door smoke by half. In-door smoke is a serious problem in Africa and the World Health Organisation dubbed it the “kitchen killer”, as it is responsible for 2 million deaths in Africa every year.

Other co-benefits of the project include:

- Reduced deforestation and degradation of surrounding forests
- Reduced soil erosion, nutrient loss and risk of flooding
- Reduced cooking and wood collection time; householders can spend more time on other household tasks, as well as schooling and supervising children
- Reduced exposure of firewood collectors (mainly women) to hazards in remote areas
- Reduced burns and injuries from exposure to an open fire



Impacts – African Improved Cook Stove Project

The offsetting commitment made by Refreshment Systems has resulted in numerous impacts to the local communities. The table below provides a summary of these impacts related to the stove project:

Impact Sector	Impact	Quantitative Data ¹
Environment	CO ₂ e prevented (through the stove project)	6,799.41 tonnes
	Wood saved	5,528 tonnes
Social	No. of stoves	2,188
	Time saved	142,343 hours
	Young people impacted	6,566
	Elderly people impacted	2,188
	Total people impacted	11,438
Economic	Working time saved	142,343 hours
	Working days equivalent	17,793 days

Health Impacts	Quantitative Data ²
Condition	Likely reduced cases from project support
Respiratory illness (Lower Chest /Lung)	1,631
Asthma	1,483

¹ The data from the Impacts are based on the field work carried out by CO2balance within the project locations in Kenya. The data that is gathered is in line with the requirements of the Gold Standard as part of the annual Monitoring Surveys. These Monitoring Reports are available on the Gold Standard Registry. Data is then cross compared against national averages in Kenya to ensure accuracy. Assumptions and extrapolations have been used where relevant.

² The Health Data is derived from the following sources R. Perez-Padilla et al, 2010. 'Respiratory health effects of indoor air pollution' in International Journal of Tuberculosis and Lung Disease, vol. 14 no. 9, pp1079-1086 . Kenya National Bureau of Statistics. (2008). Kenya Integrated Household Budget Survey. Ministry of Planning and National Development, p1-300.

Ear Nose and Throat irritation	593
Total reduced instances of serious illness attributable to indoor smoke	3,707

External Project Verification

The African Improved Cook Stove Project has been externally accredited through the Gold Standard; an internationally respected standard that assesses the social and community benefits to the region in addition to carbon saving. The Gold Standard Foundation is a Swiss based, non-profit organization providing certification of premium quality carbon credits in both the voluntary and compliance markets.



The thorough and extensive methodology and approval process of the Gold Standard is designed to certify the highest quality energy efficient and renewable energy carbon reduction projects. All Gold Standard certified projects demonstrate real and permanent emissions and sustainable development for the local communities that are measured, reported and verified.

The Gold Standard quality benchmark is derived from the actions of the Kyoto Protocol and its methodology is currently endorsed by over 70 non-governmental environmental and development organizations worldwide.

Case Study

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“We no longer face respiratory difficulties and eye irritation caused by using the traditional three-stone-fire which produces high quantities of smoke.”

“The use of the [cookstove] makes life easy as we save time to do domestic activities, join our community and be with our kids. I also used the money previously used to buy wood to buy a goat, so that I could continue to improve life of my family.”

**Uwizeyimana, Farmer
Bugesera District**

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Links to the UN's Sustainable Development Goals

In 2016 the UN launched their Sustainable Development Goals, a set of 17 measurable Sustainable Development Goals (SDGs), ranging from ending world poverty to achieving gender equality and empowering women and girls by 2030 - <https://sustainabledevelopment.un.org/>

Through their offsetting via CO2balance's African Improved Cook Stove Project, Refreshment Systems are supporting 10 of these 17 Goals:



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