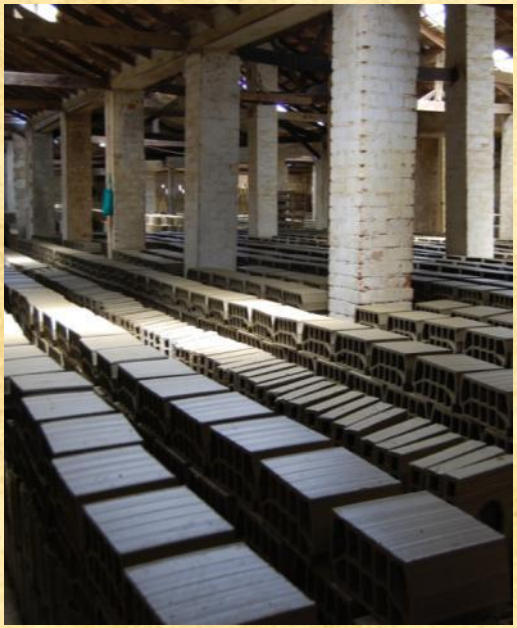

Supporting projects in Africa - Toshiba's carbon offsetting work during 2012
TOSHIBA
Leading Innovation
Working with:
co2balance.com

# Carbon Offsetting and CSR Projects in Africa

Co2balance run African Energy Efficient Stove Projects, along with CSR projects throughout Kenya as part of its clients Carbon offset and CSR programmes

The stove replaces inefficient “three stone fires” and halves the amount of firewood families need to cook with. Each stove prevents on average three tonnes of $CO_2$ emissions per year and provides families with easier, cleaner cheaper and healthier methods of cooking.

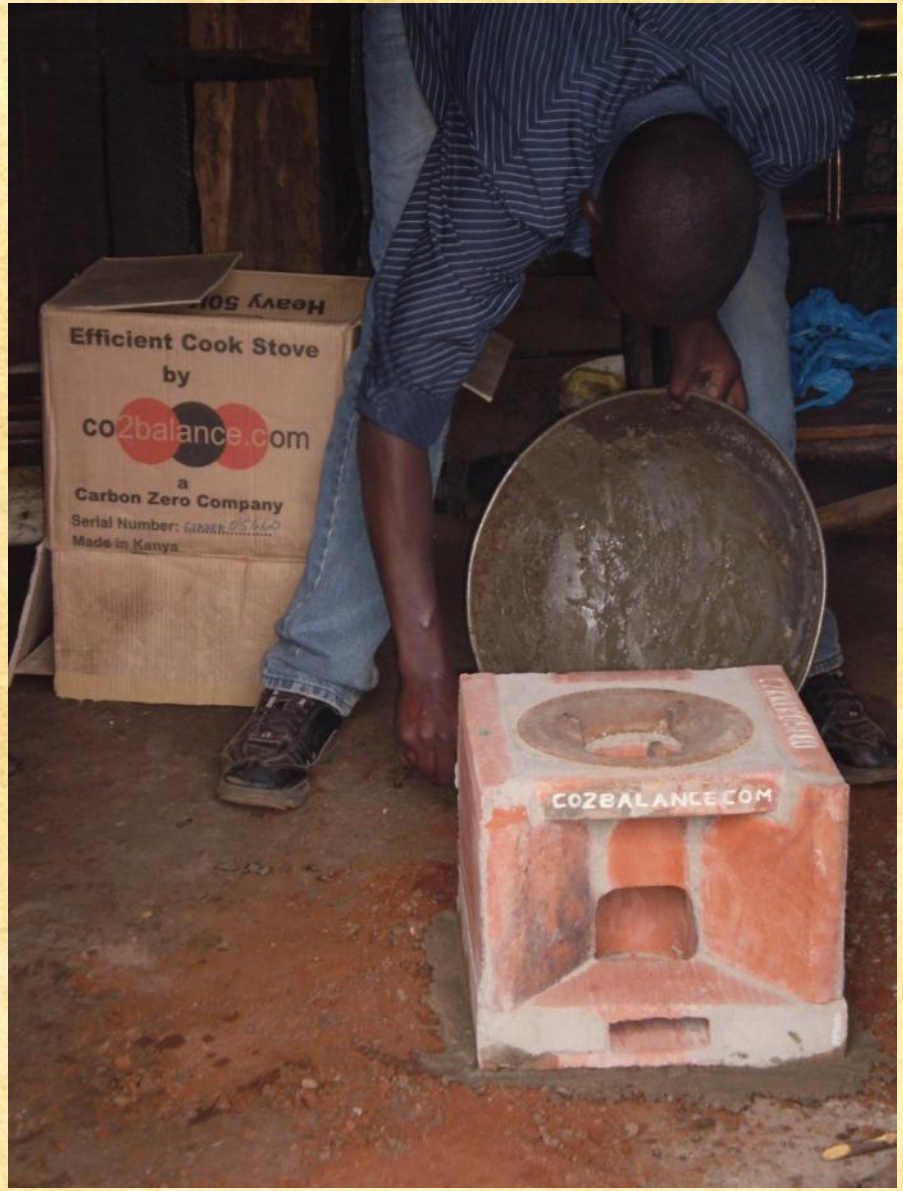
The Energy Efficient Stoves are built in a clay works in the coastal city of Mombasa Kenya.



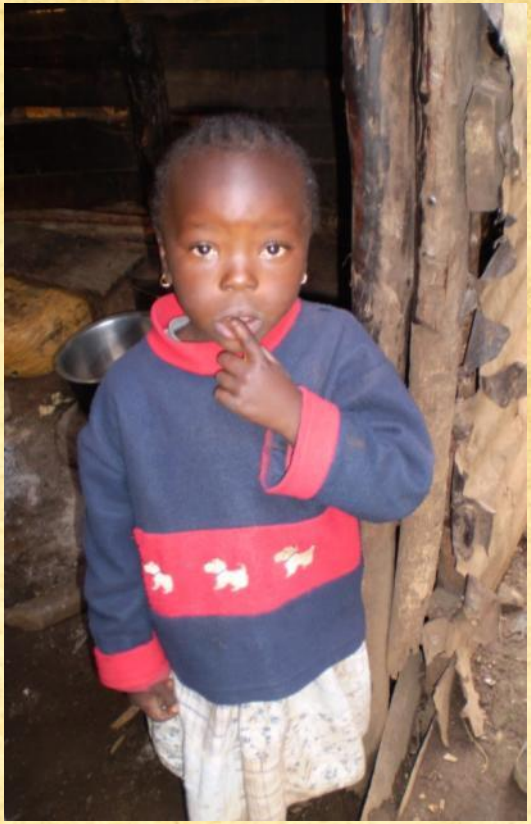
The Energy Efficient Stoves are made up of several parts. Clay is forced into moulds, and each stove is imprinted win a unique reference number, to assist with the tracking of the stoves. Each part is dried naturally prior to being placed in a kiln for firing. The kiln utilises waste materials from the port of Mombasa minimising carbon emissions from the manufacturing process.

Once fired the stoves parts are assembled at the factory. This process employs dozens of skilled masons.


The assembled stoves are given a quality check prior to being boxed up and loaded onto trucks for distribution to the project areas prior to installation.




Each stove is installed into a home and is photographed and tracked via the co2balance GPS tagging system.

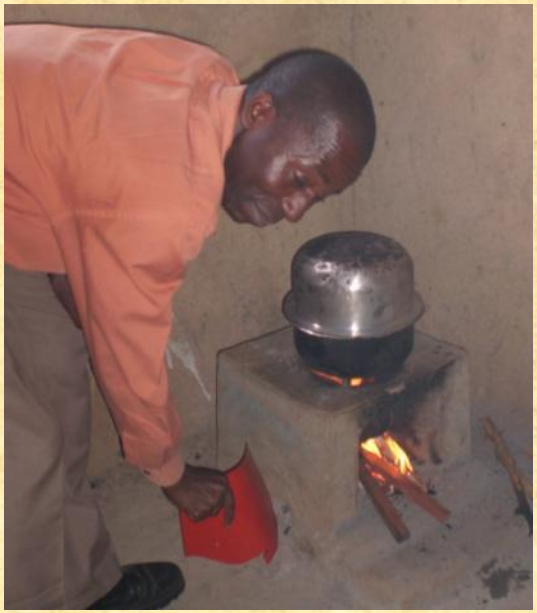


Education is a critical part of the process ensuring householders can make best use of this new technology. Our team regularly visit project areas to meet with local families

The stoves provide a healthier method of cooking compared to the traditional “three stone fire”. These have been dubbed by the World Health Organisation as the “kitchen Killer” and are responsible for more than 1.6Million deaths each year. Installation of the efficient stove reduces this risk by over 50%


Within the family it is often the responsibility of the children to collect the firewood. The new efficient stove reduces the amount of fuel wood needed by 50%. As a result children spend less time in the woods collecting timber and have more time for study and play. This also minimises the time vulnerable women and children spend alone in the woods away from home.

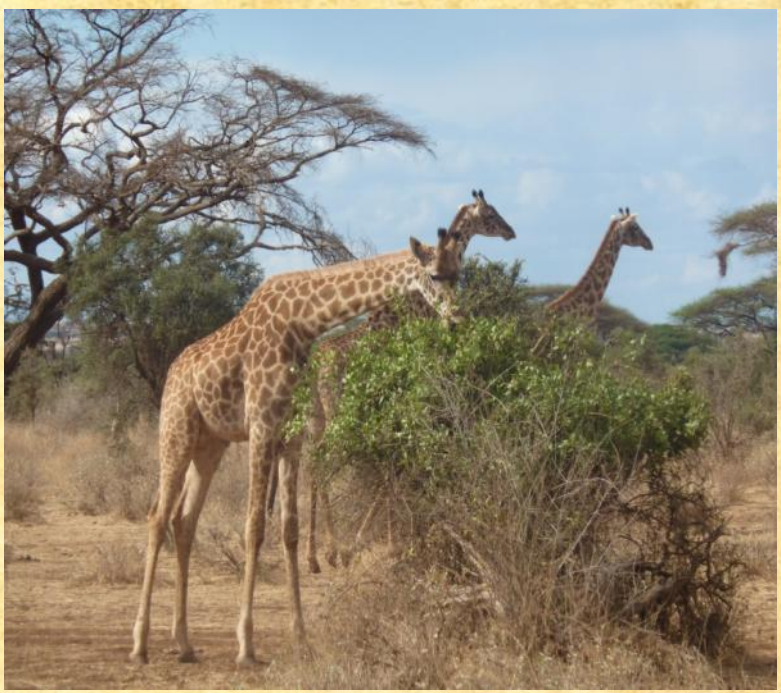
These families in Kenya that have received a free stove have also received the benefit of a cleaner, easier, cheaper to run and most importantly healthier way of cooking



The co2balance team in Kenya- co2balance have teams in each region of Kenya, offering support, maintenance checks and education to the local community.

As well as the environmental saving the stoves bring financial benefits to the families:

Mamma Fatuma Mohamed Tenga; “I must thank Carbon Zero very much because this new Jiko (Stove) has saved me many money since I began to use it. You see, I am purchasing firewood as I do not have time to collect it.



The amazing wildlife in Kenya- the requirement for wood has led to massive deforestation, significantly impacting the local ecosystem. The fuel efficient nature of the stoves reduces the demand for firewood and helps to ease the human – wild life conflict caused by deforestation.

The stoves free up a lot of time; and as a result micro industries and community groups have been formed, such as the Kasigau Basket Weavers. Shown here are Florence Awuda and Mercy Mghambi Mwazighe


Florence Awuda; “ I was spending a lot of time collecting firewood so I could only work on my baskets at night after I had prepared food and looked after the chores and family. Now I have time to even work on my baskets at the day time because I am not collecting all the time. And also to add to this it is very good because I have had time to learn new basket weaving techniques also. Now I can make bottle holders and table cloths. I have more time to learn.”

As well as domestic stoves, co2balance has run a range of dedicated CSR projects, one of which is the school stove project.

For Muhaka Secondary School in Southern Kenya providing a hot meal for the students was a real problem. Their existing facility consisted of a palm covered shelter with an open fire. This method of cooking was really inefficient with rapid wood consuming open fires and an unhealthy area for food preparation and working environment


The new school kitchen, built with funding support from Toshiba has incorporated three fuel efficient stoves. Next to the kitchen area is a secure dry store area where maize and beans can be kept (the mainstay of Kenyan school cooking). With the new stoves in place the kitchen is set to be able to provide for the needs of some 900 pupils which is the predicted attendance within the next two years.

The co2balance education team in Kisumu, headed up by Wycliffe Churchill Odumo, spend many hours in the community education the households on how to get the best from their new stoves.

Under traditional methods small sticks and twigs would not be collected for fuel in favour of larger pieces of timber, which are often to fresh or wet to be effective. The new stove utilises these small sticks and twigs very effectively so users are encouraged to collect these instead and to dry and process them for use in their new stoves.

Under the guidance of Wycliffe and his team members Christine and John, local people have been trained to store and dry the empty maize cobs as an additional valuable fuel source. Mixed with small amounts of wood in the efficient combustion chamber of the new stove, the cobs make an excellent wood fuel substitute- turning waste into a resource.

On behalf of all the families we work with, thank you for supporting our projects in Africa


www.toshibatec.nl