

Toshiba Carbon Zero Scheme

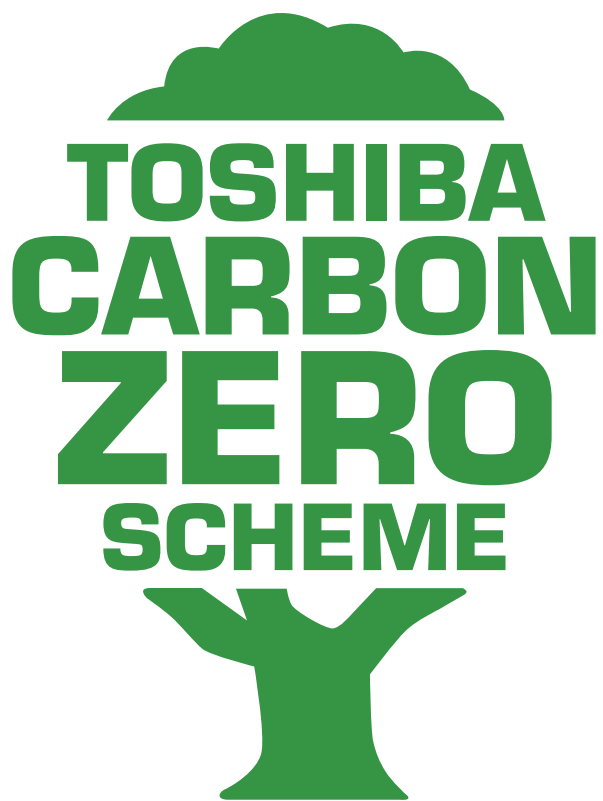
in cooperation with



Impact Report

This document provides an impact report on the carbon offset work of Toshiba Tec
June 2009 – December 2012

February 2013



Background

Since 2009, Toshiba TEC has been working with leading carbon management company co2balance, to calculate and offset the carbon dioxide emissions created from the manufacture distribution and operation of its MFP products supplied to the European market – to achieve CarbonZero status.

The total carbon offset from June 2009 to Dec 2012 was 207,312 Tonnes of CO₂e. During this period a number of verified carbon reduction projects in developing countries have been supported.

To put that into context this value has some surprising comparisons:

207,312 Tonnes is the carbon equivalent to:

- 45 flights on the Space Shuttle
- One third of all European air travel for a day
- The total annual carbon footprint of three large universities
- The total annual carbon footprint of 39,607 European cars

This first section of the impact report explains the additional community and environmental benefits over and above simple carbon saving of the investment in the co2balance African Energy Efficient Stove Project, which has received 75,890 T CO₂e or 37% of the total support to date. The funds are used to sponsor the distribution of stoves to poor households and the maintenance of those stoves for the first seven years.

Carbon Offset Projects

African Energy Efficient Stove Project

The African Energy Efficient Stove Project builds energy saving cooking stoves for villages in Kenya. 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 nearly 2 million deaths in Africa every year.



External Project Verification



The African Energy Efficient Stove Project is externally accredited through the Gold Standard. An international respected standard that assesses the social and community benefits to the region in addition to carbon saving. The Gold Standard was initiated by the World Wildlife Fund and is endorsed by over 49 non-governmental organisations worldwide.

Impacts

The offsetting commitment made by Toshiba TEC between 2009 and 2012 has resulted in numerous impacts to the local communities within the project areas of Kenya. The table below provides a summary of these impacts:

Impact Sector	Impact	Quantitative Data ¹⁾
Environment	CO ₂ e prevented	75,890 tonnes
	Wood saved	61,705 tonnes
	Area protected	189.7 hectares
Social	No. of stoves built	3,377
	Time saved	40,529 days
	Young people impacted	6,755
	Old people impacted	3,377
	Total people impacted	12,834
Economic	Working time saved	324,230 hours p.a.
	Working days equivalent	40,529 days p.a.
	Money saved per household	12 days wages p.a.
Health Impacts		Quantitative Data ²⁾
Condition		Likely reduced cases from project support
Respiratory illness (Lower Chest /Lung)		4,492
Asthma		4,728
Serious Ear Nose and Throat irritation		3,546
Total reduced instances of serious illness attributable to indoor smoke		12,767

The health impacts figure seems very high in relation to the number of households supported. However the Aberdares area has the highest incidence of respiratory illness per head in Kenya. The climate is cooler at altitude and families spend a good deal of time indoors exposed to smoke, so the opportunity for improvement from smoke reduction is very high in this area.

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 Standards 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.

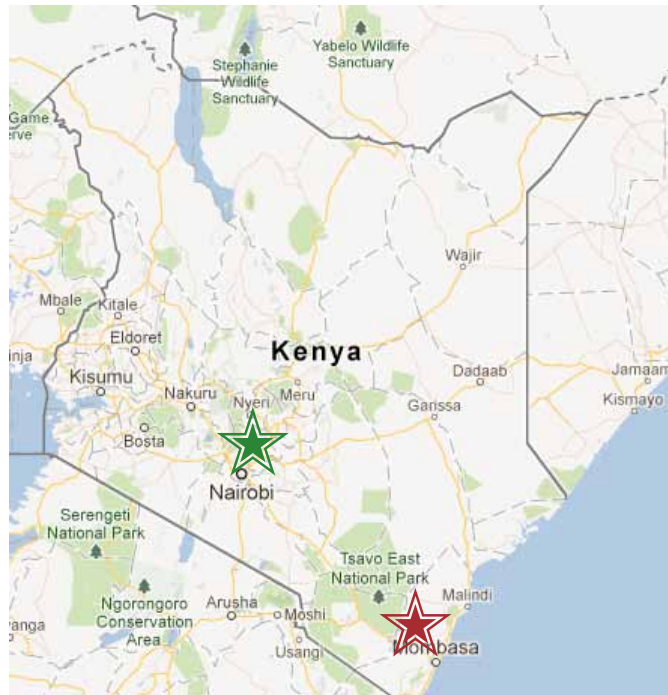
2) The data Health Data is derived from the following sources R. Perez-Padilla et al, 2010. 'Respiratory health effects of indoor air pollution' in International Journal of Tuberculosis and Lung Disease, vol. 14 no. 9, pp1079-1086 . Kenya National Bureau of Statistics. (2008). Kenya Integrated Household Budget Survey. Ministry of Planning and National Development, p. 1-300.

Project Location

There are numerous project locations within the African Energy Efficient Stove Project run by co2balance; the project locations for Toshiba offsetting work are the “Aberdares and Shimba Hills Projects”.

★ The Aberdares Range is a 160 km long mountain range of upland, north of Kenya’s capital Nairobi and just south of the Equator with an average elevation of 3,500 meters. It forms a section of the eastern rim of the Great Rift Valley. The lower slopes are lush fertile farmed, whilst higher areas are known for their wildlife. This rich habitat is home to numerous species of plants and animals including the rare Black Rhino.

★ The Shimba Hills is an area of coastal rainforest, woodland and grassland. It is an important area for plant biodiversity – over 50 % of the 159 rare plants in Kenya are found in the Shimba Hills, including some endangered species. It is also a nationally important site for birds and butterflies. The communities that live there are amongst the poorest rural people in Kenya. Surviving on less than a dollar a day they rely on the dwindling forest resources to sustain daily life. This project eases their workload and protects vital natural resources from over exploitation.



UK Forestry project Somercombe Wood



Somercombe Wood is located in the Blackdown Hills Area of Outstanding Natural Beauty (AONB) on the Somerset/Devon border in the West of England. The trees that have been planted at the woodland will naturally absorb carbon as they grow, and are a mix of broadleaf native trees, including English Oak, Ash, Silver Birch and Alder. The land is owned by co2balance, to ensure complete control over the long term future of the trees.

Impact Sector	Impact	Quantitative Data
Environment	Carbon Reduction	1,102 tonnes

Micro Hydro Generation China



This project takes place under the verified carbon standard.

Hydro Power: The electricity generated by the hydropower units displaces the electricity on the country's national Power Grid, which is primarily supplied with fossil fuel generated power ensuring that genuine greenhouse gas emissions reductions are made. Small scale projects typically consist of several 8MW hydro units; run-of-river projects are based around the diversion of water through a hydropower tunnel and then rejoining the river, reducing the need for a dam.

Impact Sector	Impact	Quantitative Data
Environment	Carbon Reduction	72,923 tonnes

Wind Farm Generation India

This project takes place under the verified carbon standard



The Project involves the supply, erection, and commissioning and operation 812 wind turbine generators of different capacities varying from 225kW to 1.65 MW, aggregating to a total installed capacity of 460.18 MW. It is located at Kanyakumari, Tirunelveli and Coimbatore districts of Tamil Nadu.

The Project generates electricity using renewable energy based on wind power which is supplied to the state grid. It hence displaces the electricity which would have otherwise been generated from fossil fuel fired power plants connected to the grid.

Impact Sector	Impact	Quantitative Data
Environment	Carbon Reduction	57,596 tonnes

More information

For more information about the Toshiba Carbon Zero Scheme please visit www.toshibacarbonzero.eu or contact your local Toshiba Dealer.

About co2balance

Established in 2003, co2balance UK Ltd is a leading, UK based, carbon management provider offering carbon calculation, management and reduction services to leading blue chip companies including, BSKyB, Toshiba Europe and Gaz De France. As a project developer co2balance UK Ltd creates African Gold Standard and CDM projects that focus on social, health and community benefits to the families within the project area, in addition to carbon savings.

For more information about co2balance please visit www.co2balance.com

About Toshiba TEC

Toshiba TEC Germany Imaging Systems GmbH is part of the globally operating Toshiba TEC Corporation, which was formed in 1999 as a result of the merger of TEC Corporation, founded in 1950, and the copier/MFP Division of Toshiba Corporation. Toshiba Corporation is majority shareholder of Toshiba TEC Corporation and active in various high-tech industrial sectors. Toshiba looks back on a long and successful history of over 135 years.

Toshiba TEC Germany Imaging Systems GmbH is a leading supplier of information technology and office equipment products ranging from printers and multifunctional systems to fax machines and digital document management products. The range is completed by barcode/label printers for various capabilities in industry, logistics and trade as well as in the public health and service sectors.

Toshiba TEC Germany Imaging Systems GmbH is headquartered in Neuss, Germany, where all European business activities are managed and coordinated.

For more information about Toshiba TEC please visit www.toshiba-europe.com/tec