



# TOSHIBA CARBON ZERO SCHEME

## UN Sustainable Development Goals

- > The UN has 17 measurable Sustainable Development Goals (SDGs), several of which are supported by the Toshiba CarbonZero scheme. This report focuses on **SDG 13: Climate Action**, explaining the impact of the Toshiba Carbon Zero Scheme and its link to this goal.
- > SDG 13 is aiming to support all countries to implement measures to reduce their CO<sub>2</sub> emissions, whilst improving public knowledge of the issue and help countries cope with or avoid climate-related shocks. These measures are essential to help countries adhere to their 'nationally determined contributions', according to the Paris Agreement.
- > The Toshiba CarbonZero Scheme supports the Kenya Cook Stove Project. The efficient nature of the stove halves the amount of firewood needed, saving time and money on collecting firewood. In some areas people have to purchase permits to access local forests. The time saved means that that can focus on agriculture activities, thereby improving household food security.

### FACTS

- > 2016 was hottest year on record, with average global temperatures 1.1 degrees higher than pre-industrial levels. In combination with El Niño weather conditions, these high temperatures contributed to major droughts, causing disastrous food shortages throughout sub-Saharan Africa and around the world.
- > 2016 also saw atmospheric CO<sub>2</sub> levels reach their highest level on record of 400 parts per million, whilst global sea ice fell to its second lowest level of record of 4.14 million km<sup>2</sup>.
- > Following the Paris Agreement, Kenya has pledged a 30% reduction in its national-level CO<sub>2</sub> emissions compared to the business-as-usual projection by 2030.

### Kenyan Cook Stove Case Study

75 year old Wangare Okello has lived for her entire life in the same village in Mathira East in Kenya's Central Region. She recounts that she has seen staggering changes in her community over her lifetime, with the dense forest that surrounded the village in her childhood having given way to sparse, arid scrubland in recent years, as the community's population grew and demand for firewood increased exponentially.

Wangare has a very large household, with 12 people typically being home when all of her children and grandchildren are present. She notes that prior to receiving the CarbonZero stove, the household was using the 3-stone fire, a highly inefficient cookery method which is commonly used in rural areas throughout sub-Saharan Africa. When using this technology, the family could use up to 15kg of firewood per day. According to a recent UN study, this is equivalent to burning an entire 3 year old fast-growing tree every day. The family saw the ever diminishing forest stocks around the village and felt bad for the impact that they knew they were having on it, but had no choice because the family needed to eat and no other cooking technology was available.

All of this changed when Wangare's household was amongst the 5,000 households in Mathira East to receive a CarbonZero efficient cookstove. This stove retains heat extremely effectively, enabling users to reduce their firewood use to less



than half of what it would be on a 3-stone fire whilst cooking for the same period of time. This has caused firewood consumption to fall dramatically in Mathira East, decreasing pressure on forest stocks and allowing trees to regenerate naturally.

Additionally, households using the CZ stove have received guidance on the importance of tree-planting in

order to support the quality of the soil around their homesteads. Many users have established tree nurseries around their homesteads, which has a very positive impact on the water retention of the soil, thus increasing agricultural yields, and of course contributes to combating climate change as the trees sequester CO<sub>2</sub>.

Wangare says: "Thanks Toshiba and CO2balance for this great contribution to my family and community. I have seen so many changes here in my life but now I feel confident for the next generation, knowing that the forest can be protected and that we can beautify the place again and create clean air by planting trees."

### Toshiba's contribution to the UN Sustainable Development Goals

This case study shows how the project activities in Kenya contribute to SDG 13 in the following ways:

- > The project reduces households' consumption of firewood by more than half, thereby making a proportionate reduction in household CO<sub>2</sub> emissions.
- > Planting trees to improve water quality additionally sequesters CO<sub>2</sub> from the air and allows the community to contribute to global climate change mitigation whilst preserving its own water supply.

For more information about the Toshiba Carbon Zero Scheme please visit our website:  
[www.toshibatec.eu/about/sustainability/carbon-zero/](http://www.toshibatec.eu/about/sustainability/carbon-zero/)

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