



CARBON CREDIT FINANCE CAN BRING CLEAN COOKING TO EVERY HOME IN AFRICA

Over 900 million people in Sub-Saharan Africa lack access to clean cooking. The reliance on inefficient stoves and open fires bankrupt families, destroy forests, and increase indoor air pollution, leading to the death of 600,000 people, mostly women and children, every year.

The outlook is equally grim. In Africa, unlike every other region of the world, the number of people relying on traditional biomass stoves is projected to *grow*, reaching 1.67 billion by 2050.

I've been working in the clean cooking sector for the last 28 years - the last 14 as CEO/Founder of BURN – and up until a few years ago it seemed that this crisis couldn't be solved, at least not at scale. Then suddenly, everything changed.

With carbon credits - and carbon credit pre-financing - we could finally bring a clean cooking appliance to every household on the continent, by discounting the cost of a stove to a customer by 60-100%. In the last 18 months, BURN has provided ~\$60 million of such discounts, allowing families to access lifesaving technology that would otherwise have been unattainable. In the next 18 months, we expect to provide an additional \$110 Million in discounts. (In fact, more is possible as we have built the manufacturing and home delivery infrastructure across the continent to utilize \$250 Million of carbon finance each year).

Today, BURN leverages carbon finance to bring a range of clean cooking appliances including electric, LPG, and biomass stoves to 10 countries in Africa and growing.

We use it to bring induction cooking to the 600 million people who currently have access to electricity, helping them make the leap from charcoal to electric cooking on Africa's mostly renewable-powered grid. At the same time, we use it to bring our best-in-class wood stove to the ~700 million rural people in Africa who rely on firewood and can't afford purchased fuels such as LPG, electricity, ethanol, or pellets.

Carbon credits are not a 'nice-to-have'. They are a matter of life or death, quite literally for the 600,000 women and children who might still die this year because they could not access a clean cooking appliance.

No one disputes that clean cooking appliances reduce CO₂ and black carbon emissions into the atmosphere. The challenge for clean cooking appliances, as with every climate-positive technology, is to ascertain exactly how *many* tons per year. Quantifying this relies on hundreds of inputs and formulas but comes down to 2 critical questions: how much non-renewable biomass (fNRB) is used in the baseline? and how much fuel does the new technology save?

First, while there is heated debate on what the exact fNRB should be in every m² of Africa, there is at least an established *floor* for the fNRB, with many country-specific fNRBs landing higher. Fortunately, for investors with concerns about fNRB, even with the floor we can generate enough carbon credits to provide meaningful discounts to end-users and a viable return to our public and private capital investors for some of our projects.

Second, our consumption and usage rates are established. In addition to audits put in place by the registries, we have independent third-party findings, for example, Wharton and University of



Chicago Economists Berkouwer and Dean recently conducted an independent Randomized Control Trial of 1000 of our users in Kenya and found a match to our usage and consumption measurements, finding a fuel savings of 39% against the baseline (their recent update to the study found these savings to be robust for 3 years and counting, with 98% of the stoves still in use). This study was peer-reviewed and published in the world's leading economics journal, The American Economic Review (AER).

Of course, monitoring through surveys and home visits has its limitations as it's not feasible to have an auditor live in someone's house for 7 years. Fortunately, we now have the ability, through recent technological advances in thermal sensors and IoT connectivity, to digitally monitor every single cooking appliance at a nominal cost. Digitally monitored credits (dMRV), such as those generated by our IoT/SIM-enabled induction cooker using Gold's Standard's new metered methodology, have a higher value, recently fetching \$25 per ton on [CYNK](#).

Work is ongoing to factor these new technologies and inputs into updated methodologies. We are actively engaging and applauding these efforts, but there is no need for us to wait for the registries to develop the perfect methodology. At BURN, we are executing carbon credit projects that utilize the most conservative methodologies such as TPDDTEC (Technologies and Practices to Displace Decentralized Thermal Energy Consumption) and MMECD (Methodology for Metered and Measured Cooking Devices).

*The key to creating a cookstove sector that generates high-quality credits is to make **commitments to buy** high-quality credits today. There are many players, BURN included, that offer 'forward sales' contracts on future MMECD and dMRV credits. Commitments to buy these credits will cause billions of dollars of new investment to flow, with the knowledge that there is a committed off-taker on the other side.*

Today, carbon finance alone can generate the capital needed to lead the clean cooking transition. The amount needed is less than people might imagine, for example, a \$1 billion investment can deliver ~30 million stoves. These stoves can then generate enough carbon credit revenue over a 7-year crediting period to repay the principal investment and still subsidize an additional 50 million stoves, or about the number of stoves that Africa needs each year.

Byline *Peter Scott is the CEO of BURN, a company that exists to save lives and forests. BURN's 3000 employees (50% of whom are women) have built a modern manufacturing infrastructure in Kenya and Nigeria that can produce 500,000 stoves per month. BURN also operates facilities in Tanzania, Zambia, and Ghana, with new facilities coming online this year in Malawi and DRC.*