



NATIONAL CLEAN COOKSTOVES AND FUELS CONFERENCE  
**SUMMARY REPORT:**  
KENYAN AND GLOBAL UPDATES AND ANNOUNCEMENTS

Safari Park Hotel  
Nairobi, Kenya  
4-7 February 2014

“ Kenya is a catalytic force in the global clean cooking sector’s efforts to ensure that cooking does not kill. From supporting new cookstove standards to participating in groundbreaking research to hosting entrepreneurs who are meeting market needs and improving livelihoods, the public and private sectors in Kenya are critical to the achievement of the Global Alliance for Clean Cookstoves’ mission and goals. This week’s series of announcements mark an important turning point in Kenyan, East African and global efforts to save lives and the planet through the creation of a market for clean cooking solutions.”

**– RADHA MUTHIAH**

*Executive Director, Global Alliance for Clean Cookstoves*



Credit: Rodney Rascona

## KENYA UPDATES & ANNOUNCEMENTS

*The mission of the Global Alliance for Clean Cookstoves is to catalyze the uptake of clean and efficient cookstoves through a market-based approach to save lives, improve livelihoods, empower women, and protect the environment. Kenya is among six Alliance focus countries that have demonstrated considerable potential to foster a robust market for clean cooking solutions, a determination informed in part by market assessments, a strong Alliance partner base, serious health and environmental impacts, vast consumer potential, and more.*

*The Alliance's activities in Kenya are guided by a Country Action Plan (CAP) that was developed through locally-led consultations with national stakeholders and adopted in April 2012. The CAP serves Kenyan stakeholders as a blueprint to monitor progress toward the 7 million household goal.*

*Since launching in 2010, the Alliance and its partners have driven approximately US\$ 20 million in research, investments, and testing in Kenya.*

## Health and Adoption Research

The Centers for Disease Control and Prevention (CDC) and the Kenya Medical Research Institute (KEMRI) in partnership with the Global Alliance for Clean Cookstoves (Alliance), the World Health Organization (WHO), the US Environmental Protection Agency (EPA), the California Public Health Institute (PHI), and the Safe Water and AIDS Project (SWAP) conducted a one year field evaluation of six biomass cookstoves, with the traditional three-stone fire used as a baseline. The project was conducted in two rural villages in Nyando Province, Kenya, and 45 homes in each village were selected to participate. These communities have some of the highest rates of childhood respiratory illness in Kenya and 99% of homes use a three-stone fire for cooking. The study was designed so that all homes would use each stove for three weeks resulting in six rounds of data collection. The evaluation included community focus groups to assist in selection of the stoves, laboratory evaluation of selected stoves, monitoring on all cooking devices and the kitchen wall, pre- and post-round home interviews with the primary cook, community health worker visits, a kitchen performance test conducted in each home, emission and exposure monitoring, ambient air monitoring in the community, and pre- and post- round collection of specimens to test for exposure.

Initial analysis of women's preferences point to a high degree of interest and aspiration to have greater access to clean and safe cookstoves. Each stove tested brought down emissions from cooking in the home but not to the point that could maximize the public health benefit to the community. Many reasons may contribute to this result including: documented stove stacking in homes, household variation in stove use and performance, and the use of kerosene lamps for lighting. Analysis of all data sets is scheduled for completion in February 2014 with publications planned for summer of 2014.

## Customer Research

In 2013, the Alliance completed Phase I of its consumer segmentation and preference study of the Kenyan clean cookstoves and fuels market, which examined the existing broad consumer segments in the country in order to identify those with greatest potential to reach scale of clean cookstove and fuel adoption. Phase II will more closely examine the segments identified in Phase I to better understand the needs,



Credit: Corinne Hart/Global Alliance for Clean Cookstoves

preferences and behaviors of these consumers and ascertain factors that influence the purchase and sustained use of clean cooking technologies.

### **Gender Research**

The Alliance is supporting a collaborative effort led by the multi-disciplinary team at the Center for Global Clean Air at the Johns Hopkins Bloomberg School of Public Health in partnership with Envirofit International, a large cookstove developer and manufacturer, and ESVAK, a community development and training institution working throughout Kenya. This research addresses three fundamental areas related to cookstove adoption: (1) examination of the impact that women entrepreneurs employed in the cookstove value chain can have on adoption and sustained use; (2) analysis of whether targeted empowerment training of ICS entrepreneurs can enhance overall adoption rates, and; (3) exploration of specific benefits and challenges that clean cooking solutions have on women users and their families.

### **Non-Renewable Fuel Harvesting Research**

A Multiscale Geospatial Mapping of Non-Renewable Fuel Harvesting study by Universidad Nacional Autónoma de México (UNAM), Yale University, and the Food and Agriculture Organization includes updated estimates for Kenya at finer spatial resolution than previously available. Given that deforestation is a concern in Kenya and that collection of firewood contributes to environmental degradation, this information can be used to identify areas where scaling clean cookstoves and fuels could provide the greatest environmental benefits.

### **Kenya Market Update**

To date, the Alliance has facilitated other specific initiatives in the country to further grow the clean cookstoves and fuels market:

- Bolstered the work of partners with established track-records of success in Kenya through Spark Grants, such as the Global Village Energy Partnership (GVEP), BURN Manufacturing, and EzyLife;
- Conducted enterprise capacity building workshops to support the growth of smaller enterprises so that they can strengthen their businesses and become more investment ready;
- Facilitated the Kenya Industrial Research and Development Institute (KIRDI) in establishing a regional testing and knowledge center for cookstoves;
- Worked with the Kenya Bureau of Standards and other global partners to develop the first-ever cookstoves standards to define cleanliness, safety, emissions, and performance;
- Convened national stakeholders in setting up the Clean Cookstoves Association of Kenya that aims to bring the highly fragmented sector together; and
- In partnership with USAID/Winrock, supported the Kenya Union of Saving and Credit Cooperative Organisation (KUSCCO) in establishing a credit facility to lend to cookstoves businesses and consumers through its network of over 5,000 savings and credit cooperative organizations throughout the country. This is expected to spur growth as well as make clean and efficient cookstoves more accessible to consumers.





Credit: Global Alliance for Clean Cookstoves

## GLOBAL UPDATES & ANNOUNCEMENTS

*On the occasion of the National Clean Cookstoves and Fuels Conference in Nairobi, the Alliance is pleased to announce more than US\$ 3 million in grants and loans for entrepreneurs and significant progress in the processes to advance new WHO indoor air quality guidelines and the first-ever global cookstove standards.*

*As the Alliance works in 2014 to transition from Phase I to Phase II of its strategic operating plan, it will place a strong emphasis on expanding support for entrepreneurs to reach customers and improve lives; raising awareness among targeted consumer segments; conducting new research to underscore the magnitude of the health, environmental, livelihood and gender impacts of inefficient and dangerous cooking practices; and establishing global standards for air quality and clean cookstoves that bolster the market and make products that people aspire to own.*

## Spark Fund

This year marked the second round of the Alliance Spark Fund, introduced in 2012 to help venture and growth stage enterprises reach commercial viability and scale by funding business capacity development and growth. More than 70 Spark Fund applications were received, and 17 of those businesses underwent due diligence site visits. This year's pool of applicants was exceptional and our investor panel had a difficult time selecting the winners.

We are pleased to announce the following enterprises will share Spark grant funding of US\$ 2 million:

- **SimGas** is a biodigester design and manufacturing company focused on distribution in the East African market. The company is structured as a joint venture between the parent design company based in the Netherlands (SimGas BV), and in-country manufacturing company (Sumaria Group Ltd).
- **Eco-Fuel Africa (EFA)** produces green charcoal from locally sourced biomass waste as an alternative to traditional wood fuel. Based in Uganda, EFA employs local farmers, leverages local technology and involves 260 women retailers in its value chain to create a sustainable impact.
- **Greenway Grameen Infra** designs & distributes efficient biomass cookstoves for rural families. The company's flagship product – Greenway Smart Stove – is an improved biomass cookstove sold in 24 districts (5 states) in India and one district in Bangladesh.
- **EcoZoom** has sold 83,000 improved cookstoves in 18 countries through distributors and 5,000 stoves in the U.S., targeting the camping industry. With its launch in Kenya, EcoZoom plans to expand its operations to include design, manufacturing, and direct distribution of wood and charcoal clean cookstoves.
- **Sustainable Green Fuel Enterprises** produces and sells clean burning, sustainable charcoal briquettes to lower income households in Phnom Penh, Cambodia. The company's briquettes are made from compressed recycled char-ash and charred coconut husks.
- **SMEFunds** is an ethanol gel manufacturing and distribution company focused on distribution in Nigeria. The business has developed a ground-breaking method of producing cellulosic ethanol and converting the liquid into gel that can then be used in their cookstove, which is manufactured in China. SMEFunds has a distribution structure similar to that used by Avon Products by empowering individuals to sell the products at a margin throughout Nigeria.

*We thank our Spark Fund donors: Royal Dutch Shell, the Climate and Clean Air Coalition (CCAC), and the German Ministry for Economic Cooperation and Development (BMZ).*

## Pilot Innovation Fund

This year also marked the second round of the Pilot Innovation Fund (PIF), which finances innovative approaches for enterprises across all stages of development. Two Alliance first round PIF grantees have gone on to become Spark grantees – Greenway Grameen Infra and Sustainable Green Fuel Enterprise. This supports our hypothesis that the PIF is an important mechanism to support early stage enterprises and create a pipeline to the Spark Fund.

Areas of support for this year's PIF include product design and performance, business models that create local livelihoods, and marketing and distribution. We also received more than 70 PIF applications this year, and after significant deliberation we are pleased to announce the following enterprises will share a US\$ 400,000 grant:

- **Applied Sunshine LLC** is a startup company that has developed an innovative vacuum tube solar cooker to be marketed in Guatemala. This tube structure has the capability of cooking various types of foods that other solar cooking models cannot, including local foods such as tortillas.
- **Prakti Design** will complete a two-burner, multi-fuel stove design for Bangladesh, India, and Nepal. This stove is being developed in response to the increasing demand from consumers for multiple burner stoves and hopes to quickly achieve economies of scale through sales to more markets due to the stove's fuel versatility.
- **Emerging Cooking Solutions (ECS)** manufactures and distributes pellets in Zambia. ECS currently sells the Phillips stove at US\$ 100 as the preferred option to burn their fuel. ECS will test the Prime stove (US\$ 35) with their pellets and work with employers to provide financing.
- **Rahimafrooz Renewable Energy Ltd** is a solar home product distributor in Bangladesh. Rahimafrooz will expand into the clean cooking market by building on the WASHplus study recently conducted in Bangladesh and begin marketing and distributing the stove most likely to be accepted in the market.
- **CleanStar Ventures** will use Pilot funds and lessons learned from their work in Mozambique to develop an ethanol stove with a refillable fuel cartridge, complementary household appliances that can use ethanol, and a fuel distribution process that leverages partnerships with multinational corporations. The goal of the overall project is to create a global distribution network for ethanol that layers on the oil and gas distribution network.
- **C-Quest Capital (CQC)** is a private equity and carbon finance firm providing clean and efficient household energy technologies and sustainable sources of household fuels. Through TLC Green (TLGC), a Joint Venture between CQC and the Malawian NGO Total Land Care (TLC), CQC proposes to test a new business model to couple the marketing and sale of sustainable firewood with improved cookstoves.

*We thank our PIF donors: UK Department for International Development (DFID); Johnson & Johnson; and the Norwegian Ministry of Foreign Affairs (NORAD).*

## **Women's Empowerment Fund**

In conjunction with the Pilot Innovation Fund (PIF), the Women's Empowerment Fund (WEF) was launched in November 2013 with a focus on financing gender and empowerment interventions within clean cooking business models. Using the Alliance's recently released resource guide, *Scaling Adoption of Clean Cooking Solutions through Women's Empowerment* as a foundation, funding will allow organizations to test and implement the best practices highlighted in the guide at each stage of the value chain. The Alliance received over 50 applications this year and is pleased to announce the following winners will share a US\$ 375,000 grant:

- **Envirofit** will examine how targeted empowerment and leadership training for women entrepreneurs can impact their capacity to educate and support customers and scale adoption.



- **Fuego del Sol** will provide female school cooks with improved institutional stoves and train them in clean cooking techniques and maintenance, as well as support them in becoming clean cooking entrepreneurs. Fuego del Sol will also work with the cooks to create central distribution hubs for household cookstoves and briquettes.
- **Mercy Corps** will analyze affordability and financing barriers for women cookstove consumers in purchasing improved cookstoves in Uganda. They will design and test a portfolio of consumer financing mechanisms to help women consumers afford the products and determine which combinations have the greatest potential to scale cookstove adoption.
- **The Paradigm Project** will enhance its gender-sensitive approach to the innovative EzyAgent program in Kenya, with a focus on creating refinements that will facilitate the recruitment and success of women as cookstove entrepreneurs. Within this, Paradigm will seek to identify the primary characteristics, traits and skills that successful female EzyAgents share, as well as understand the conditions of success for female entrepreneurs in the cookstove value chain.
- **Grassroots Trading Network for Women** will develop a toolkit for a handheld electronic device that can be used to collect data to better understand consumer willingness to pay. The toolkit will measure the amount of money saved through use of an improved cookstove and compare it with monthly installments that consumers will pay for the purchase of improved cookstoves.
- **Soluciones Apropriadas** has designed an improved cookstove used for tortilla-making by small-scale commercial ventures in Guatemala. The group will engage women end-users in the research and development process in order to create a product for women entrepreneurs involved in the production and sale of tortillas.

*We thank our WEF donors: UK Department for International Development (DFID) and Caterpillar.*

## Carbon Finance for Clean Cooking Loan Fund

The Alliance supports the use of carbon markets as a way to finance adoption of clean cooking solutions at scale. Carbon finance provides a commercial pathway to generate revenues to scale clean cookstove and fuel deployment while incentivizing monitoring and increased usage and adoption, as well as fostering improvements in fuel efficiency and durability.

Although the sale of carbon offsets provides a valuable revenue stream, clean cookstove projects often find it challenging to fund certification processes due to the one to two year time lag between registration and first revenues from carbon credits. To help overcome this challenge, the Alliance



Credit: Global Alliance for Clean Cookstoves

is partnering with Nexus Carbon for Development and the Gold Standard Foundation to develop a Carbon Finance for Clean Cooking Loan Fund to provide loans to clean cookstove and fuel enterprises to finance carbon certification costs. Nexus Carbon for Development and the Gold Standard Foundation are committed to working with the Alliance to address the issue of household air pollution by increasing the availability of low-cost financing for carbon finance certification costs for clean cookstoves and fuels projects.



Credit: Jen Tweedell/Global Alliance for Clean Cookstoves

The Alliance has provided US\$ 290,000 to capitalize the fund and is currently looking to raise additional capital from interested donors and investors. To learn more about the loan fund, visit [carbonfinanceforcookstoves.org](http://carbonfinanceforcookstoves.org).

## Global Cookstove Standards

Global standards will strengthen the clean cooking sector's ability to evaluate, communicate, and improve performance and quality of cookstoves and fuels and thus improve adoption. The Alliance has partnered with the international and national standards community to develop standards with an inclusive process for all types of stakeholders and multiple countries. The Alliance is excited to be in Kenya for the first meeting of the International Organization of Standardization (ISO) Technical Committee (TC) 285 on Clean Cookstoves and Clean Cooking Solutions. The Kenya Bureau of Standards (KEBS) is hosting the first plenary meeting of TC 285, which includes participation from 14 countries, 16 observer countries, and 6 international non-profit organizations. During this meeting, delegates will develop the scope and roadmap for standards activities and provide clear direction for the establishment of working groups on specific technical areas, such as safety, efficiency, and cleanliness.

## WHO Indoor Air Quality Guidelines

The Global Alliance for Clean Cookstoves has been a driving force behind the effort to update the WHO's Indoor Air Quality Guidelines for household fuel combustion. Experts involved in updating the guidelines reviewed and assessed evidence across a range of key topics, covering emissions of health-damaging pollutants from stoves and fuels, health risks from exposure, burns and other safety issues, impacts of interventions on air pollution and exposure, factors influencing adoption, and the costs and financing of interventions.

From 11-12 February, 2014, in Nairobi, WHO and the Alliance will convene a workshop on *"Reducing the health burden from household air pollution: towards the development of a national strategy for Kenya,"* to present the results of their review and assessment of the current guidelines, as well as their provisional recommendations for new guidelines around emissions, air quality, safety, fuel type, and climate – all toward the purpose of impacting and informing policymaking in Kenya. The workshop will also raise awareness about the new Global Burden of Disease estimates related to household fuel combustion – 4 million deaths annually. Similar workshops will be held in other WHO regions in 2014.







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