



DUTCH SPARK
FOR CLEAN COOKING SOLUTIONS

When cooking kills - the time to act is NOW!

Despite the fact that a staggering 3 billion people are still cooking on open fires, thermal energy (for cooking and heating) is often overlooked in the broader energy debate, and clean cooking is critically underfunded in comparison to for example, access to solar energy. It is imperative that this imbalance in funding is addressed to put an end to the current levels of avoidable deaths and help alleviate poverty.

Through the medium of the Spark Coalition, Dutch public and private actors come together to promote and implement clean cooking, strive for access to clean energy, healthy living conditions (especially for women), and less environmental damage due to deforestation. In addition, they bring with them some of the most technological advanced cooking solutions in the industry.

The urgency of clean cooking

40% of the world's population still use traditional methods of cooking, which has numerous negative impacts on all levels – from health impacts for those who prepare the meals to the environmental damage caused at a global level:

It is detrimental to health:

- Open fire produces Black Carbon smoke that is damaging to users' health, and continuous exposure is proven to lead to pulmonary illnesses.
- Over 4.3 million people die every year from diseases associated with indoor air pollution, more than AIDS and Malaria combined.

It is extremely time consuming and costly:

- Poor consumers spend between 10-20% of their monthly household budget on cooking and heating energy and basic electricity/lighting, trapping them in a poverty cycle.
- Gathering cooking fuel is heavy and time consuming, limiting the potential for income generating activities, education and/or leisure.

It is a huge burden on women and children:

- Apart from significant exposure to smoke, women and children are also traditionally responsible for buying or gathering cooking fuel.
- This task is not only heavy and arduous (1-2 hours/day), but can also be dangerous, putting women and girls at risk of violence and sexual assault.

It has a devastating impact on the environment:

- It is estimated that 3 billion people currently rely on solid fuels for cooking and heating, of which 2.5 billion use traditional biomass (eg. wood, charcoal), leading to massive deforestation and damage to ecosystems.
- Residential solid fuel burning accounts for 25% of global black carbon emissions, about 84% of which is from households in developing countries.

Energy in a displaced setting

- Many displaced people do not have access to enough fuel to cover their basic cooking needs, resulting in some being forced to skip meals because of it.
- An estimated 64,700 acres of forest (49,000 football pitches) are burned as fuel each year by forcibly displaced families
- The widespread adoption of improved cookstoves could save \$323 million a year in fuel costs and reduce emissions by an estimated 6.85 million tCO₂ a year
- An estimated 20,000 forcibly displaced people die prematurely every year as a result of pollution from indoor fires.



MIMI MOTO

Life is difficult because of lack of basic necessities, particularly the lack of firewood. A 27 years old mother of six children, Emerance Gikundiro says that the use of firewood in the refugee camp has a strong impact on the environment, health, and also in relation to the local community.

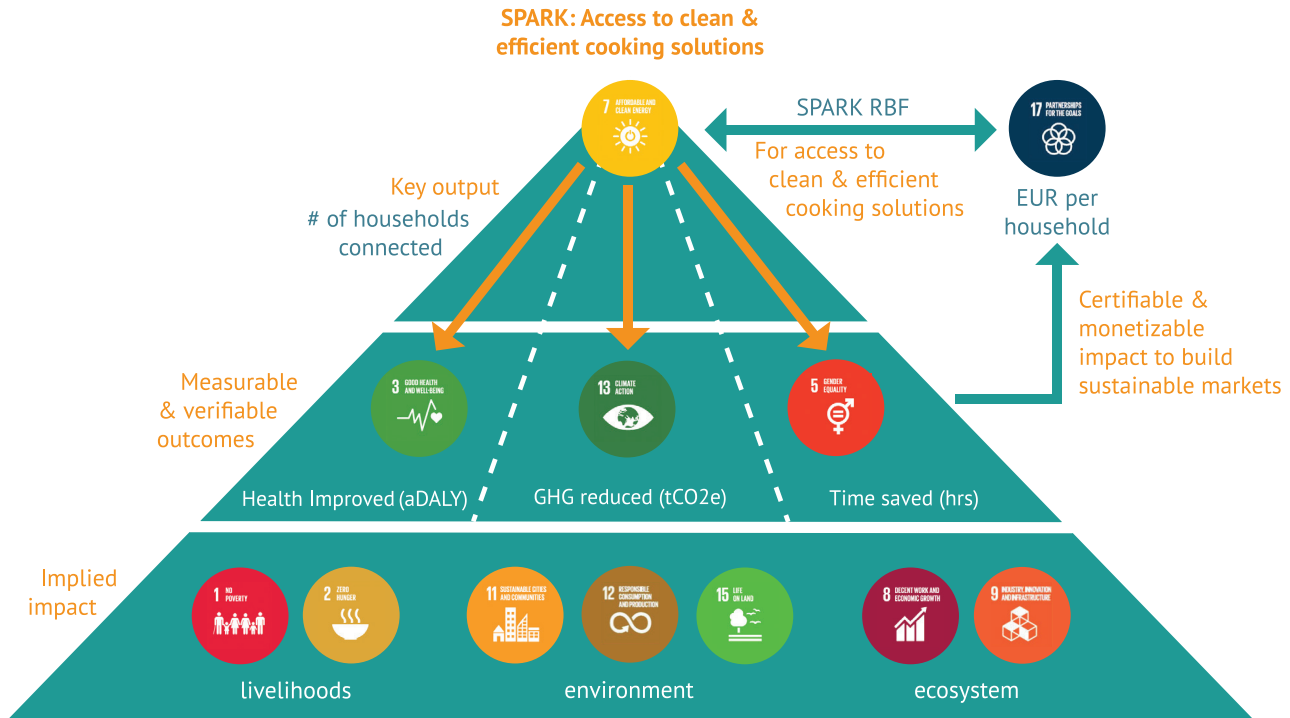
"Excessive usage of firewood in this camp has damaged our beautiful environment. It also has caused disputes and sometimes fights with local people when fetching firewood...", she said. *"With the new Inyenyeri pellet-fuel and Mimi Moto cook stoves, we are living in paradise."*

- Emerance Gikundiro, Kimgene Refugee camp Rwanda

Dutch Spark for Clean Cooking Solutions

Dutch public and private actors join hands to promote and implement Clean Cooking Solutions to contribute to at least 4 SDGs. Together, we strive for access to clean energy, healthy living conditions, especially for women and less environmental damage due to deforestation. This

approach offers great opportunities for carbon market development and innovations geared towards finding and funding the best solutions to combat climate change.



Challenges facing the clean cooking sector

There are four key challenges that the SPARK members face in this market:

Lack of funding

In 2014 there was a \$4.4 billion estimated annual investment needed for cooking projects, but only \$32 million committed (0,72%). By comparison, in the same year, the average annual commitment for electricity projects was \$19.4 billion while the sector needed \$45 billion in total (43.11%).

Market based approach does not go fast enough for the BoP

Thermal energy is used for cooking and heating, and essential for an individual's immediate well-being. The poorest - bottom of the pyramid (BoP)- customers have no access to markets for clean cooking solutions, because of lack of cash. The cost for last-mile distribution to remote rural areas is high and the purchasing power of the BoP low, which makes the business case challenging.

High financial risk

Micro-financing services are not available in all Least Developed Countries. This makes it imperative for clean cooking businesses to extend their own lines of credit to customers, which undermines their appeal for investors, and ultimately jeopardizes their expansion. Mitigating this risk would unlock new possibilities for investment and accelerate business growth.

Lack of global leadership

The GACC was founded by former Secretary of State Hillary Clinton in 2010, who gave prominence to this issue at the time. The role of the alliance, especially after 2020, is uncertain, and there is no clear vision of what the future of the clean cooking sector will look like, despite the urgent need for a consolidated approach.

SIMGAS

This is Ann, a young mother of 25. She has 3 cows. Ann completely switched from cooking on wood to biogas 3 months ago. Before she had biogas, she only cooked on wood and spent 4 hours every day collecting that fuel. Now she never wants anything other than biogas. Ann is an incredibly proud and a happy farmer! The cows are her business: from grooming to milking to selling. She finds it easy to operate the biogas digester and cooker. The income from the milk comes at a far lower expense, so she is planning to grow her herd to 20 cows. Ann has a 24-month payment plan for the biogas system at SimGas.



AFRICAN CLEAN ENERGY

In his own household, Mohebi uses the ACE 1 energy system so he can cook faster and with less fuel, leaving him more time and energy to care for his elderly mother.

But outside his own home, Mohebi also takes the ACE 1 with him to his local church, where he is a pastor. With the energy system's LED accessory he can provide full light during the church's night services, and it is a faster way to cook meals for local gatherings. Additionally, Mohebi invites church-goers to charge their phones for free on the ACE 1's built-in USB.

The Spark Approach

Our conviction is that clean cooking is at the heart of energy access (SDG7). We focus on clean cooking energy, as a priority need for every household. We believe that addressing the clean cooking sector will act as a catalyst for increased access to electricity and poverty alleviation.

Technology

SPARK's members and partners are employing smart clean cooking technologies to reach and empower the BoP customer. Some of the most industry-renowned technological solutions come from the Netherlands, from Advanced Cookstoves to high quality Biogas systems and Tool&Fuel concepts.

Business Models

SPARK members operate in very challenging markets requiring them to build innovative distribution solutions and pioneering business models to reach the last-mile customers. Through research, innovative thinking and in-house data collection, SPARK members take a lean and fast-moving approach to propel their growth and navigate risks in their markets.

Financial Services

SPARK members also provide tailor made financial services in their specific markets. FMO and BIX Capital finance ambitious social entrepreneurs in the clean cooking sector. Mimi-Moto implements a lease concept with Tool & Fuel, African Clean Energy and SimGas extend their own line of credit to customers to make their products accessible for everyone to buy. FairClimateFund invest in BoP cookstove projects with repayments through climate impact results (carbon credits), as does the Climate Neutral Group jointly with Hivos. Hivos, Energia and SNV facilitate and

manage clean cooking sector programmes. There is an indispensable financial component to our success in the clean cooking sector, and SPARK members have identified, tested and developed the right models to make these revenue models work for their specific target areas.

Results based financing

Results Based Financing (RBF) is a dynamic and powerful tool which lowers barriers to enter new markets and incentivises private sector players to speed up market penetration. The financier only disburses when the results have been achieved, reducing the risk for investors. RBF can speed up the transformation from traditional grant funding to a market based approach RBF prevents market distortion (by incentivising the sales of products at the recommended retail price), ensuring the healthy, sustainable development of a marketplace. Having a smart incentive structure encourages the best energy solutions to be most successful. Spark members such as SNV and African Ace Energy are among the first organizations world-wide to successfully implement RBF in the cooking sector.

About the SPARK

Rooted in the Dutch tradition of mutual cooperation between public and private stakeholders, SPARK is a network of Netherlands-based public, business, finance, carbon, and development partners collaborating together to achieve the ambitious goals of the Global Alliance for Clean Cookstoves (GACC).

Dutch SPARK members have championed the Netherlands as a leader in the global clean cooking energy sector. Their activities have measurable impact beyond clean cooking, simultaneously addressing electricity access, gender equality, poverty alleviation and financial inclusion.



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