

Market Assessment Context

This document summarizes the Rwandan Cookstove and Fuels Market Assessment conducted by Accenture Development Partnerships (ADP) on behalf of the Global Alliance for Clean Cookstoves. Sixteen assessments were conducted across the world as part of a broader effort by the Alliance to enhance sector market intelligence and knowledge. They are intended to provide a high level snapshot of the sector (based on mid 2012). Further detail on these assessments can be found at the end of this document.

The Rwandan Cookstove Market

Small and landlocked Rwanda is the most densely populated country in Africa and contains ~2.5 million households, of which more than 80% are situated in rural areasⁱ. In both urban and rural areas, the vast majority of households cooks on woodfuels (wood/charcoal), leading to major health issues and deforestation.

The Rwandan government first initiated an Improved Cook Stove (ICS) program in the late eighties to combat deforestation. Various programs have been implemented since, leading to a penetration of 'improved' stoves of over 50% by 2009ⁱⁱ. However, the quality of these stoves varies greatly; often the improvement versus traditional methods is limited. In the last two years, the government has implemented new improved stoves programs for both rural and urban areas. In addition, many private cookstove programs are currently starting up, with the aim of utilizing carbon finance.

The driver for the government's involvement in cookstoves is the country's energy problem. Approximately 85% of Rwanda's energy comes from biomass, which has led to rapid deforestation over the last 20 years and is not sustainableⁱⁱⁱ. A large part of this biomass is used for cooking; in rural areas, most families collect wood while those in urban areas typically buy charcoal. Electricity access is limited and clean fuels are expensive.

To combat this issue, the government drafted the Biomass Energy Strategy in 2009. All major players within the cookstove market are aware of the strategy and ensure alignment with it. In general, President Paul Kagame's government has progressive policies and a focus on economic growth. Governance is well organized throughout, from the central government to the grassroots level: There are clear lines of communication down to representatives for every 10 households. Finally, it is significant to note that corruption is practically absent and that gender equality is a high priority at all levels of the government.

A key challenge for any cookstove program in Rwanda will be affordability of stoves and fuels: Although GDP has been growing rapidly in recent years, with \$1,300 per capita GDP PPP Rwanda still ranks amongst the poorest countries in the world^{iv}.

The main conclusions of the Market Assessment are illustrated in the table below.

		Situation	Hypothesis
Foster an enabling Environment	Regulation & Testing	Currently there are no formal, legally recognized standards for stoves yet in Rwanda, making it difficult to control quality and thus motivate consumers to pay more for better products.	Stove standards, testing and certification will ensure that consumers receive the performance, efficiency and durability they expect, thereby boosting demand for improved stoves and fuels.
	Awareness	Awareness of the use of ICS to reduce fuel use is relatively high; however, many people in Rwanda are unaware of the possibilities to save fuel and reduce health problems by using improved cookstoves.	National campaigns, also involving the Ministry of Health, will improve the awareness of the benefits of improved stoves.
	Support & Funding	There is broad support for ICS projects. In order to get the essential government support it is critical that the project aligns with the vision of the Ministry of Infrastructure.	Aligning with the government vision will allow projects to capitalize on the strong performance-based governance across all tiers.
	Knowledge Capital & Transfer	A recent national survey on energy and stove use and various environmental studies are encouraging, but the availability of more knowledge on health and gender implications could be beneficial.	More research on health and gender implications helps to further raise the urgency for cookstove issue, and will increase the impact of projects.
	Monitoring & Evaluation	Many past and present cookstove projects struggle with detailed M&E, reducing effectiveness of projects and acting as a deterrent to the use of carbon financing.	Setting up partnerships with local NGOs will result in detailed yet cost-effective monitoring and evaluation.
Cookstoves Value Chain	Design	Governments, private sector and NGOs are designing both fixed and portable stoves with significant improvements versus traditional methods. There are appealing designs for all main segments.	Further monitoring and evaluation will further increase the appreciation of improved stove designs by consumers.
	Materials / Fuel	Many key materials for ICS and modern fuels are expensive in Rwanda, and improved biomass fuels are currently unable to scale to the level required to make a considerable impact.	Improvements in charcoal production provide the greatest opportunity to increase the efficiency and cleanliness of the fuel landscape in the short term.
	Production	Production of stoves is taking place on small scale, with inconsistent levels of efficiency.	Creating more cooperatives/factories and sharing best practices will improve the quality and consistency of production while decreasing costs.

	Sales & Distribution	The fact that many Rwandan households have little to no disposable income and the struggle to reach last mile distribution are important factors preventing widespread adoption of improved cookstoves.	Collective finance programs and government incentives will improve availability and affordability of cookstoves for the poor rural population.
	Repair & Replacement	Traditional stoves break down quickly and are usually not repaired but replaced. Consumers do not know how soon improved stoves will break, making them unwilling to pay more.	Better quality assurance will increase willingness to pay for improved stoves. Increased repair capabilities help to raise the lifespan of stoves.

Summary of Intervention Options

The main challenges to growing a successful commercial ICS market in Rwanda appear to be the limited consistency in the quality of improved stoves and the low disposable incomes of a large part of the population. On the other hand, there are opportunities to build on the strong governance and Rwanda's energy problem creates significant momentum for interventions in the cookstove sector. Based on the findings, the recommended intervention options can be summarized as:

- Enable the country's independent testing center to test for emissions and support the creation of standards and certifications for stoves and indoor air pollution and the monitoring of these standards in order to improve the quality of stoves and the confidence of consumers.
- Raise the awareness of consumers on ICS in general, on the certifications that will be created and on ways to reduce the use of fuel by means of behavioral changes, in addition to raising awareness across the sector on the health implications of indoor air pollution.
- Create monitoring & evaluation partnerships with local NGOs and share cookstove project experiences across the sector to increase the ability of projects to convince consumers to buy and use ICS.
- Improve the distribution and production (possibly from agricultural waste) of charcoal to address the limited availability of clean fuels.
- Promote the creation of large stove production cooperatives and factories and share best practices on production to decrease production costs while increasing quality assurance.
- Set up savings and micro finance programs, work to remove relevant taxation and cooperate with local governments and private sector partners on last mile distribution to improve the availability and affordability of ICS.

Market Assessment Approach

- This is one of sixteen such assessments completed by the Alliance to:
 - Enhance sector market intelligence and knowledge; and
 - Contribute to a process leading to the Alliance deciding which regions/countries it will prioritize.
- Full slate of market assessments include studies in: Bangladesh, Brazil, Colombia, East Timor, Ethiopia, Ghana, Indonesia, Kenya, Mexico, Nigeria, Peru, Rwanda, South Africa, Tanzania, Uganda and Vietnam.

- Each assessment has two parts:
 - Sector Mapping – an objective mapping of the sector; and
 - Intervention Options – suggestions for removing the many barriers that currently prevent the creation of a thriving market for clean cooking solutions.
- In each Alliance study a combination of ADP and local consultants spent 4-6 weeks in country conducting a combination of primary (in-depth interviews) and secondary research. They used the same Market Assessment ‘Toolkit’ for each country so that comparisons can be made. The Toolkit is available free of charge to all organizations wishing to use it in other countries.

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References

ⁱ World Bank 2010

ⁱⁱ Rwanda Biomass Energy Strategy 2009

ⁱⁱⁱ Rwanda Biomass Energy Strategy 2009

^{iv} World Bank 2011