MARKET DÝNAMICS, DESIGN, AND STANDARDS



Rural electrification | Energy efficiency | Energy for productive use | Household energy | Energy entrepreneurship | Energy testing

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Introduction

Global interest in clean cooking is and has been rising not only because of climate change but also for user convenience

While the choice of clean cooking alternatives is left open for users, most attractive acquisition incentives are **somewhat** guided by policy, which also prescribes protocols to design financing mechanisms.

In the past, most financing mechanisms in clean cooking focused on Fuel saving and Emission reduction as a measure for product reliability, *however*, upon realization that most appliances fail before the end of the funding project life, priorities have shifted from previous consideration of technical attributes to a more holistic triangular approach comprising **Market dynamics**, **Standards**, and **Design concerns**.



Introduction

Although market dynamics is a complex subject affected by multiple factors, clean cooking alternatives are only as good as the testing technology, therefore effective financing should create linkage Different financing mechanisms
present varying priorities that govern
beneficiary selection, yet factors that
influence technology acceptance may
not follow soot but remain key for
uptake.

This calls for a broader and integrated approach that looks beyond the confines for product technical integrity but also forces of demand and supply.



A Case Study of Ghana (CSIR & KNUST)

Standards

Clean cooking issues have transitioned from being a household-level concern to becoming a prominent subject of national interest, garnering significant attention from the government, which acknowledges the advantages of clean and efficient cooking solutions. As such to have positive control of the market dynamics, National standards play a crucial role in **clustering**, **filtering**, and **ranking** the various cleaning cooking alternatives



Standards. Ctd

- The most immediate global response has been the development of a harmonised laboratory test protocol ISO 19867-1:2018.
- This standard being new and more demanding compared to the previously utilized water boiling test, there is a wide capacity gap among laboratory operators and needs for equipment update and upgrade.
- While efforts are in place to bridge the capacity gap, the standard improvement is also work in progress motivated by user feedback.
- Standards alone is adequate for guiding technology selection, but one of the three proposed attributes that financers should consider when designing clean cooking projects.



The Energy Commission of Ghana financed the capacitybuilding training: Stove producers and testing team at CSIR



To redress the challenges of stove construction materials selection through matching stove performance to materials properties.







To decipher the fundamentals of production development and stove design.





Capacity building for existing manufacturers



- 1. To educate trainees on relevant stove testing protocols.
- 2. Using testing skills in the lab to inform design with manufacturers



Needs assessment for upgrade and ISO Accreditation of stove testing laboratory at KNUST Technology Consultancy Centre (TCC) Kumasi, Ghana







Market Dynamics: Existing manufacturers

Overview of the current market landscape for clean cookstove manufacturers, focusing on three key aspects

- **1. Production Capabilities**: Examines the existing manufacturing capacities, including production scales and technological proficiencies.
- 2. Existing design: Analyzes the range of cookstove designs currently offered by manufacturers and their alignment with market demands
- **3.** Currently selling cookstoves: Highlights the types of cookstoves actively being sold in the market, addressing pricing, performance, and consumer preferences.



Conclusion

In the past design and standards were prescribed to influence markets but the existent complexities in the market have dictate the hierarchy of operation where market demand shape the design and standards iterations

Clean cooking is accompanied by emmence financial opportunities yet selection of beneficiaries is often based technical performance metrics that often hold a small contribution on user acceptance Most often standards and design are treated independently of market dynamics yet the latter forms the tail end of stove usage

So it is important to think of three as a conglomerate with intersections





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