



# BEHAVIOR CHANGE APPROACHES FOR CLEAN COOKING

## BRIEF 3: FINANCIAL METHODS FOR STIMULATING PURCHASE OF CLEAN COOKING TECHNOLOGY IN RESOURCE POOR SETTINGS

### DEFINING THE PROBLEM

- ▶ Liquidity constraints (lack of available cash for making purchases) are a significant barrier to the uptake of clean cooking technology in the poorest populations.<sup>1,2</sup> Although there has been a steady increase in microfinance institutions making credit available to the poor, access continues to be restricted and inconsistent, particularly in rural areas. Deposit services that facilitate saving are even more undeveloped in these communities.
- ▶ The end user must have the ability to purchase the product offered; without this, clean cooking programs cannot be sustainable.
- ▶ Men are most frequently the financial decision makers in the household, but are also the ones who are least likely to appreciate the benefits afforded by clean cooking technology. This diminishes their motivation to buy and reduces their willingness to pay.



Cooking demonstration of Envirofit stove in rural Uganda.

Photo credit: Impact Carbon

### POTENTIAL SOLUTIONS

Three USAID|TRAction-funded research projects tested a range of behavior change approaches, with the ultimate goal of increasing the acquisition and correct use of clean cookstoves and fuels [see Introductory Brief in this series]. By testing these mechanisms, the projects demonstrated several lessons for addressing financial barriers to the uptake of clean cooking technology. The studies explored the ability of several financial mechanisms to remove barriers to stove uptake related to liquidity constraints [see Table 1].

*“The [Duke University] pilots also provide evidence that liquidity constraints are a significant barrier to adoption, and that installment payment schemes may help overcome it. This finding is consistent with recent evidence from [the Impact Carbon study in] Uganda that showed offering a lower risk, rent-to-own experience leads to higher initial adoption rates.”<sup>3</sup>*

Table 1. Mechanisms to Remove Financial Barriers to Stove Uptake

MECHANISMS	DESCRIPTION
Installment Payment scheme	Households can pay for the stove over time in a series of payments, rather than paying the full price upfront before receiving the stove. This is beneficial to consumers who have difficulty making large one-time purchases due to a limited capacity to save income.
Rebates conditional on use	Households that show evidence of using the stove receive a rebate for a portion of the stove cost. This provides an incentive for consumers to use the stove, while also making it accessible to poorer communities.
Free trial and stove return policy	Consumers can use the stove for a short period of time before starting payments, and have the right to stop payments and return the product at any point. In communities where fuel is purchased, this can allow any money saved on fuel when using a more efficient stove to contribute to the cost of the stove.

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## 1. Liquidity Constraints

OVERVIEW	RECOMMENDATIONS	PROJECT EXAMPLES
<ul style="list-style-type: none"><li>▶ Low income households with several competing priorities will be reluctant to invest a significant proportion of their income on a new unproven product.</li><li>▶ Innovative and effective financing mechanisms need to simultaneously address issues related to confidence and trust in new technology.</li><li>▶ Strategies for addressing liquidity constraints need to be culturally appropriate and adaptable to the needs of the consumers. Not all credit initiatives will be applicable and successful in every situation.</li><li>▶ The research projects identified several strategies for enabling liquidity-constrained consumers to purchase clean cookstoves. The studies demonstrated ways to successfully address aversion to risky investments, overcome people's tendencies to focus on the present instead of potential future returns, and increase the amount people were willing to pay.</li></ul>	<p>Offer the option to pay in installments to increase ability to purchase and willingness to pay.</p> <p>Provide rebates based on households' use of the stove.</p> <p>Consider using a combination of financial mechanisms to simultaneously address several barriers to adoption.</p> <p>Carefully consider and test financing mechanisms in the field to determine what is locally acceptable and effective in each community.</p>	<p>The price of clean cookstoves often represents too large of an upfront cost for many households. The Impact Carbon team found that allowing four payments in weekly intervals raised the willingness to pay for a nontraditional cookstove by 40% compared to asking for a one-time payment.</p> <p>The Duke University team found that reducing the price of stoves by offering a rebate (or delayed subsidy) conditional on stove use led to substantial increases in stove sales. Sales increased from 25%-70% across rebate levels. These incentives also translated into greater use. This approach encouraged experimentation with unknown technologies, since the rebate was only delivered if the consumer was still using the stove at the time of the final installment payment.</p> <p>When Impact Carbon offered a free trial, installment payments, and the right to return the stove at any time before completing payments, the uptake of the new stove was 11 times higher than when consumers were asked for full payment within one week of purchase with no chance to trial or return the stove.</p> <p>The Duke University team extensively field tested information messaging and incentive designs (rebates, trial periods, financing) during pilot stove programs. They found that rebates and free trials were only attractive when combined with installment payment options.</p>

## 2. Promoting Stoves to People with Purchasing Power

OVERVIEW	RECOMMENDATIONS	PROJECT EXAMPLES
<ul style="list-style-type: none"><li>▶ It is important that clean cooking programs target those with purchasing power (often men) with messages that help them recognize the need for the new technology. However, it is also important to enhance the purchasing power of those who already recognize the need for improved cooking devices (often women).</li><li>▶ The TRAction-funded projects found that lack of sufficient attention to the needs of both groups was a key barrier to achieving clean cookstove adoption.</li></ul>	<p>Consider promoting stoves with features valued more highly by men.</p>	<p>Impact Carbon found that women in their study often lacked purchasing power. Though the promotion efforts were primarily targeted to women, men were usually responsible for purchasing decisions.</p>

## FUTURE STUDY PRIORITIES

Further study is required to explore the following questions across different market segments:

- ▶ Can using innovative, regulated microfinance/credit solutions for both rural entrepreneurs and consumers increase the adoption of clean cooking technology on a sustainable wide scale?
- ▶ What factors must microfinance schemes include to facilitate purchase of new technology?
- ▶ What are the key determinants of willingness to pay and willingness to accept? How can they be accurately assessed on wide scale?
- ▶ How can clean cooking programs be designed to target both men and women? How can the purchasing power of women for clean cooking technologies be improved?

### TRACTION PROJECT OVERVIEW

The Translating Research Into Action (TRAction) Project, funded by the U.S. Agency for International Development, focuses on implementation science—which seeks to develop, test, and compare approaches to more effectively deliver health interventions, increase utilization, achieve coverage, and scale-up evidence-based interventions. TRAction supports implementation research to provide critically-needed evidence to program implementers and policy-makers addressing maternal and child health issues.

For more information on the TRAction Project:  
[www.tractionproject.org](http://www.tractionproject.org) ▶ [tracinfo@urc-chs.com](mailto:tracinfo@urc-chs.com)

1 Rehfuess EA, Puzzolo E, Stanistreet D, Pope D, & Bruce NG. Enablers and barriers to large-scale uptake of improved solid fuel stoves: a systematic review. *Environ Health Perspectives*. 2014; 122:120-130.

2 Lewis JJ & Pattanayak SK. Who adopts improved fuels and cookstoves? A systematic review. *Environ Health Perspectives*. 2012; 120(5): 637-645.

3 Lewis JJ, Bhojvaid V, Brooks N, et al. Piloting improved cookstoves in India. *Journal of Health Communication*. 2015; 20(S1): 28-42.