ADVANCED BIOMASS COOKSTOVE DISTRIBUTION

SEPTEMBER 2017

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ACRONYMS

B2C	Business to consumer
BOP	Bottom of the pyramid
CSR	Corporate social responsibility
FI	Financial institution
IWA	International Workshop Agreement
KUSCCO	Kenyan Union of Savings and Credit Cooperatives
MFI	Microfinance institution
SACCO	Savings and credit cooperative

ACKNOWLEDGMENTS

This study was conducted under the Developing a Sustainable Cookstove Sector project, a 5-year (2012–2017) project funded by the United States Agency for International Development and implemented by Winrock International. The goal of the project is to develop sustainable cookstove markets that will lead to widespread adoption of clean, efficient cooking solutions by strengthening private commercial distribution of high-quality biomass stoves, encouraging innovative partnerships, increasing availability of local financing for enterprises and consumers, and expanding consumer access to quality stoves and fuels.

This study was written by Katie Gross, Genia Sokolova and Javier Lascurain on behalf of Winrock International. Other Winrock International staff and partners who provided valuable inputs include Elisa Derby, Jechoniah Kitala, Bernard Ngetich and Bikash Pandey. Winrock is grateful to all the organizations that provided interview and survey information for this study. The study greatly benefits from your willingness to share your experience working to find the most effective ways of getting high quality stoves out to consumers.

Cover: Greenway Appliances

BEST PRACTICES, CHALLENGES, AND TRENDS IN ADVANCED BIOMASS COOKSTOVE DISTRIBUTION

EXECUTIVE SUMMARY

The cookstove sector has evolved significantly in the past few years, with a strong commitment to higher quality technologies (including efforts to develop international voluntary standards) and market-based approaches. The sector has benefited from macro-level trends that facilitate distribution. Our research identified the following trends that have improved cookstove distribution. This report elaborates on the interplay between changes on the supply side (improvement in technology, emergence of local manufacturing facilities) and the demand side (increased marketing and awareness), and relates how that has impacted finance for and, finally, distribution of stoves.

1. Significant recent investment in technology means higher quality and aesthetically pleasing biomass stove models that address key consumer needs and wants are now available in many markets, leading to higher demand. These stoves are made with more precision, greater quality control, and higher quality materials. They come with warranties, which means consumers can make more confident, higher-priced purchases. Advances in materials and design make stoves lighter and easier to deliver, further enhancing distribution. Total annual sales of advanced biomass stoves are now in the hundreds of thousands for each of multiple manufacturers. Leading manufacturers we interviewed are selling 1,000 to more than 10,000 stoves a month.

2. Higher quality stoves also mean bigger benefits to the consumer, improving demand. Benefits include significant cost savings that can be as much as 10% of a user's monthly household income, according to Faruk Karim, CEO of Sola Yetu (a Kenyan distributor recently acquired by Pamoja Life). This has attracted new distributors, like Sola Yetu, who see the potential for larger sales volumes, with the cost savings both increasing demand and facilitating a customer's ability to purchase these higher priced products. The demand side has also been helped by an increase in marketing and awareness-raising activities by private companies and others, such as the Global Alliance for Clean Cookstoves' awareness campaigns in key markets. Manufacturers that have invested heavily in mass marketing for their products have brought greater awareness of the benefits of these stoves, which in turn attracts additional distributors and supports their sales.

3. In-country manufacturing or assembly has brought a more consistent supply of these higher quality stove models closer to the end user (e.g., in Kenya). This has greatly improved availability of stoves in the market and reduced the supply uncertainty that had plagued the sector when all products were fully imported from China. This seems to have injected new confidence in the sector's ability to maintain consistent supply at higher volumes and attracted the interest of key distribution partners, such as financiers and corporate partners. Local manufacturing and assembly facilities reduce transportation costs and shorten working capital cycles. It's important to note, however, that these factories have required substantial private investment in addition to traditional donor support. Local manufacturing and assembly requires high volumes of stove sales for profitability, which is much easier in advanced markets, either countrywide or regional, where purchasing power and consumer demand and awareness are strong.

4. Technologies and systems are emerging that enable easier installment payment collection. For example, in Kenya vast swaths of the population already use mobile money through the M-Pesa platform. When paired with a user-friendly payment tracking platform (such as LivelyHoods' partnership with Angaza – see text box), distributors can collect and monitor customer payments. In 2017, Equity Bank launched a digital loan, available on both feature and smartphones, through its fintech platform, Equitel, that allows qualified Equity Bank customers to get instant approval and take an EcoMoto loan for a stove or solar light on the spot in their local retail shop. Stoves are also being sold as top-up loans through pay-as-you-go solar arrangements, paid in installments through existing mobile payment plans, giving the distributor additional leverage to ensure payments are

received on time. Kenya is unique in its proliferation of mobile payment options, but other markets are seeing a rise in the level of interest in or use of mobile payments, and mobile phone ownership rates are high in many markets.

LIVELYHOODS INSTALLMENT PAYMENT ARRANGEMENT (LIPA)

LivelyHoods partnered with pay-as-you-go service provider Angaza to develop an installment payment system to collect M-Pesa payments for stoves in Kenya. When customers do not have cash on hand for the stove, a LivelyHoods agent takes a down payment of 500 Kenyan shillings (~$5USD) through M-Pesa transfer, which is then registered on the Angaza platform using an Android app. This automatically sends a registration message to the customer with a unique account number. The system sends reminder and payment acknowledgement messages to the customer's phone. Branch managers can view customer payment status through the platform and alert sales agents during ongoing training sessions. When the stove payment is complete the customer receives a confirmation message to arrange for pick-up or delivery of the stove. More than 700 customers have registered stove sales through this program as of May 2017. The average payment period for customers is just 25 days, with stoves paid off - on average - in 11 separate micro-payments. These mini installments are akin to the amount they would usually spend on charcoal, e.g., KES 100 per day. LivelyHoods has found that giving people flexibility to pay any amount they want within a set amount of time, rather than fixing payments, helps with the speed and rates of repayment.

5. Building on this, many stove companies we spoke with are partnering with third-party financial institutions, such as microfinance institutions (MFIs), savings and credit cooperatives (SACCOs), financial services associations, and commercial banks to provide credit for stove purchases and expand the stove market by tapping into networks of aggregated clients (potential customers) who already borrow from these institutions. These partnerships bring a degree of trust and credibility to stove companies. Their growth in recent years can be attributed, at least in part, to a more reliable supply of higher-quality products on the market. Financial institutions would not otherwise risk their reputation if stock outs or poor quality products were common. Financial institutions (FIs) themselves are coming up with creative ways to reach more bottom of the pyramid (BOP) consumers. They are offering financing options for lower-priced, life-improving products (such as stoves) by streamlining lending through technology (Equity Bank), reducing barriers to entry (Kenyan Union of Savings and Credit Cooperatives, or KUSCCO), and assessing ability to repay using psychometric testing (Juhudi Kilimo) or other out-of-the-box, innovative appraisal tools.

6. Other information and communications technologies are enabling stove companies to make use of robust market analytics and customer relationship management systems to service customers. This includes platforms such as EchoMobile (see text box) and sales force-based systems that can 1) collect and track customer data to evaluate effectiveness of sales channels or sales agents, 2) register warranties, and 3) deliver customer-facing surveys that can provide valuable (existing or potential) consumer information for marketing and after-sales services.

ECOMOTO LOAN PROGRAM—ECHO MOBILE SURVEY:

Through BURN Manufacturing's Echo Mobile Platform, the Equity Bank EcoMoto loan program was able to survey more than 400 customers on their mobile phones (who had purchased either a BURN Jikokoa stove or a solar lantern) to gather key customer feedback that helped inform future marketing and distribution efforts. Through this survey, they determined:

- Average cost savings from using the stove or solar light:
  - $10 USD per month = return on investment (ROI) of 334% in the first year per family
- What customers are using savings for:
  - school fees, repaying existing loans, expanding businesses, food, other
- What they like best about their clean energy product:
  - saves money #1 – 59% of respondents
- Impact of available financing on decision to purchase/opinion of FI
  - 66% said yes, the loan helped them decide to purchase the product
  - 96% said it improved their opinion of Equity Bank

Much of the evidence for these trends comes from larger, more advanced markets in Kenya and India. However, some are spreading to other markets. Extracting lessons from the markets that have had the highest degree of success in sales can help demonstrate the progress that can be made in stove distribution if similar circumstances and partnerships can be nurtured elsewhere. Although it was clear from interviews that different markets have their own challenges (purchasing power in Uganda or Malawi is not the same as in Kenya, for example), distribution trends that help stove companies aggregate consumers and provide flexible financing arrangements appear to be having the biggest impact on cracking the universally lamented last-mile distribution challenge.

Wisdom Innovations

INTRODUCTION

During implementation of the Developing a Sustainable Cookstove Sector project, Winrock International worked with cookstove manufacturers and distributors to find the most efficient and effective ways of getting high-quality stoves into the hands of those who need and want to use them. To understand that challenge requires a definition of what we mean by:

EFFICIENT: avoids unnecessary distribution costs that make the stove cost-prohibitive for target customers to purchase, without slicing margins to the point profitability is impossible

EFFECTIVE: products are affordable and physically reach target customers

HIGH QUALITY: products are durable, attractive, and reliable; offer fuel savings, reduce emissions, are easy to use, cook staple foods well, and save time.

NEED *AND* WANT. The key word is and. Worldwide, 3 billion people cook with biomass, the vast majority using open fires or rudimentary stoves. Finding the right technology for each, and educating consumers about the benefits so there is demand for the stoves requires effort and investment.

USE: The best, most promising stoves will make no difference if they're not used consistently and correctly. Stoves have to meet consumers' everyday cooking needs, and consumers must know how to work them properly.

Trends and challenges in distributing stoves emerged throughout the course of this work. We wanted to delve further into exactly what it takes to efficiently and effectively reach target customers at scale. This report is the result of Winrock's research in 2016–2017, based on interviews with more than twenty manufacturers and distributors around the world.

Primary distribution challenges raised in interviews and addressed in this report include:

- Product-specific challenges (stoves are heavy and bulky; they require more demonstration and behavior change than other household energy products)[1]
- Sales volatility

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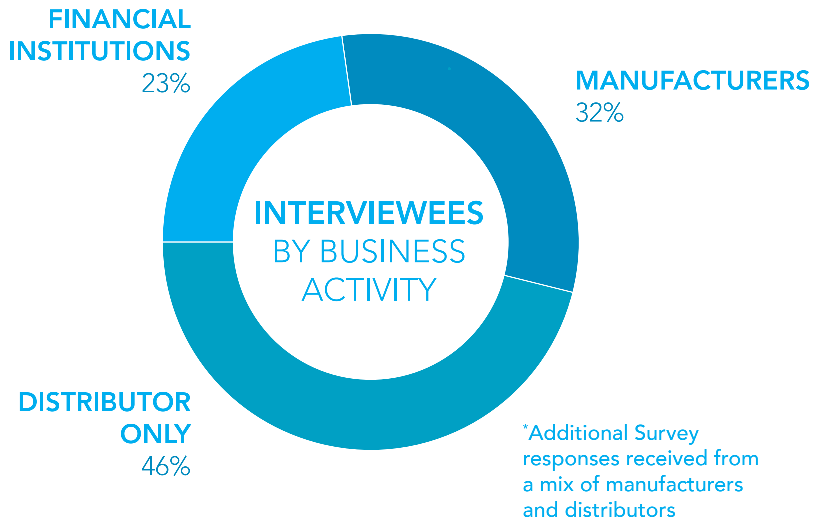
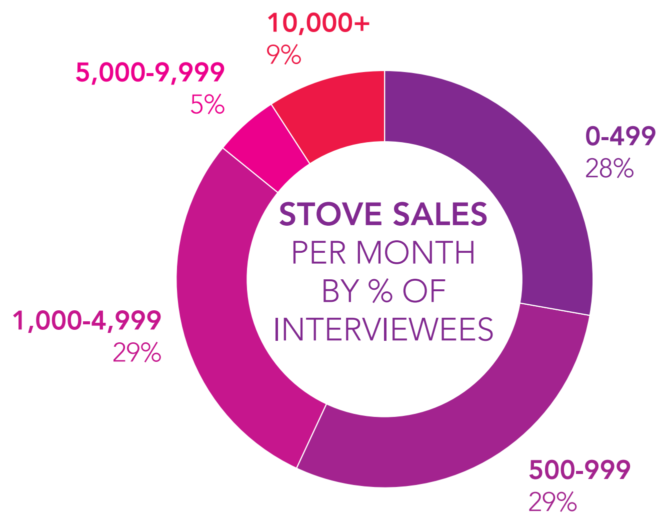
[1] A good assessment of many other product-specific challenges that plague the stove industry generally, but do not affect similar industries (like solar products) is in Hystra's 2017 report Reaching Scale in Access to Energy - see page 87 "Focus: Why has the ICS market not developed as fast as the solar lantern one?". For this study, we focus on the distribution-specific challenges for advanced biomass stoves.

- Working capital constraints
- Staff turnover
- Training needs and cost
- Low product or brand awareness
- Difficulty accessing end-user and working capital finance
- Time required to develop partnerships
- No one-size-fits-all distribution solutions
- Logistics challenges reaching the last mile in low-population density areas



The distribution channels analyzed in this report have, to varying degrees, successfully addressed these challenges. We do not promote one channel over the other. Rather, we highlight the hurdles and conditions that promote success for each. Where possible, we indicate where and to what degree sales have been successful.



FOCUS, LIMITATIONS, AND METHODS OF THIS STUDY

The distribution strategies and challenges of the artisan stove market are very different from those of the advanced stove market (price difference alone creates distinct dynamics). For this reason, Winrock chose to focus primarily on advanced biomass stoves. We define advanced stoves as those that provide 1) greater reductions in fuel use (Tier 2 according to International Workshop Agreement 11:2012 guidelines for fuel use and efficiency in the International Organization for Standardization), 2) quality control and standardization in manufacturing (through centralized manufacturing), 3) high-quality materials, and 4) warranties and after-sales service. Advanced stoves also have brand recognition. Brands provide assurance of performance and quality, and lead to more desirable products that do more than simply meet needs.

The study excludes liquid and gas fuels, because of their unique infrastructure and other challenges. New technologies are making these cleaner fuels accessible to consumers who had been excluded due to low or unstable incomes—people who could not afford large expenditures for fuel. Industry players are designing and testing new technologies and payment systems that allow access to these cleaner fuels in smaller quantities. However, what works for these categories of stoves and their distinct distribution challenges is very different. Narrowing the focus to advanced biomass cookstoves provides the most useful assessment of distribution best practices. We also see advanced biomass stoves as one of the largest growing segments of the stove market. Monthly sales now exceed 10,000 for individual manufacturers. The sheer scale warrants a closer look at how this occurred and the most successful strategies for sales in various contexts.

Volume of sales helped guide this study's geographic focus. We interviewed more than twenty manufacturers, distributors and financial institutions globally, with supporting information received via survey responses from additional manufacturers and distributors. However, the majority of our findings come from India and Kenya. These mature stove markets provide the most striking examples of advanced stove sales at scale. Both countries have been creating awareness of stoves and fuels for years and have the largest investments in local manufacturing and assembly. Not all markets will be able to apply the experience from these locations, which is a limitation of the study, but we believe there are high-level lessons useful for stove distribution globally.

Based on the interview and survey responses from manufacturers and distributors, we categorized responses into five main distribution channels for advanced fuel-efficient biomass stoves. A distribution channel is, generally, the means by which a stove gets from the factory to the customer's home. This includes organizations and individuals who manufacture, market, sell, finance, and deliver the stove from point A to point B.

The study aims to assess 1) the extent to which each channel can produce high-volume sales, 2) the type of consumer reached, 3) benefits and challenges of each, 4) the conditions under which each is most successful, and 5) trends in how channels are prioritized.

The channels are:

- direct sales to customers (business-to-consumer or B2C)
- large retailers
- microentrepreneurs
- corporate social responsibility (CSR)–employer partnerships
- finance and credit providers (banks, credit cooperatives, MFIs)

All the stove companies we spoke with use a combination of these channels. There is a high degree of fluidity in distribution approaches, with discarded channels often finding new life months or years later, because of new products or business strategies. Changes in the macro environment affect distribution strategies, such as recent tax changes in Kenya that seek to encourage greater uptake of cleaner cookstoves and fuels[2], or the Indian government's recent demonetization efforts impacting cash purchases.

However, currently there is strong momentum behind the finance and credit provider channel, because financing is seen by most of those interviewed as critical to increasing sales of advanced stoves. This channel expands networks and promotes brand reputation and trust that lead to more sales, even for cash. As mobile platforms become more accessible and offer easier payment options with greater ability to interact directly with customers, other distribution channels may be strengthened.

Other channels are used to sell stoves, but we limited the scope of this report to the most-often tried channels or those with the highest sales. These channels are not the only ones that can offer sales volume, and in some cases, high volumes have not been achieved.[3] But they are the majority of the distribution methods those we interviewed have tried to date. Online, pay-as-you-go, and remittances are all channels that have promise. These channels are either being tried by only a few companies or have had limited success in delivering a significant number of stove sales to date, although they have been more successful for other household energy products. There isn't enough momentum behind these channels yet to warrant their own section in this report.

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[2] In Kenya at the policy making level there has been a deliberate increase in government commitment to clean cooking through budgetary allocation, inclusion of clean cooking in plans and policies and support to the development of clean cooking standards. Some of the specific policies and frameworks supporting adoption of cleaner cookstoves include biomass stove standards development, reduction of import duty on biomass stoves, value added tax (VAT) exemption on LPG, excise duty waiver on denatured alcohol and increasing taxes on kerosene.

[3] One limitation of this study is that some channels only had one or two success stories, making it difficult to draw conclusions about why a particular channel worked in some instances and not others. We have tried to generalize where we had sufficient examples and to provide specific data points where generalization wasn't possible.

ANALYSIS OF PRIMARY DISTRIBUTION CHANNELS FOR ADVANCED FUEL-EFFICIENT COOKSTOVES

DIRECT BUSINESS-TO-CONSUMER (B2C) DISTRIBUTION CHANNEL

STRENGTHS	WEAKNESSES
More stable channel for the manufacturer—greater channel control and profit margin retention	Costly to build and maintain
Direct product feedback from the consumer and after-sale service	Limited reach (hard to aggregate customers)
Highly trained, motivated sales force with product knowledge and ability to sell	Investment in brand recognition required
Brand and community around the brand strengthened	Frequent staff churn

OVERVIEW. The B2C channel is composed of consumer-facing businesses that include cookstove manufacturers who sell directly to consumers and cookstove distributors with a network of shops or sales staff selling directly to consumers.

The B2C channel is one of the most desirable because, if executed successfully, it can offer greater stability than business-to-business channels, it provides direct control over messaging and product demos and training, and it offers greater access to the consumer. Consumer access, in turn, enables direct feedback on the product, which helps monitor trends in consumer tastes and preferences for cookstoves or stove features. For the manufacturer, it also means no margin sharing with third parties. However, it can be one of the costliest cookstove distribution channels—the cost of opening and operating a B2C network is high, including staff salaries and training, infrastructure and logistics, marketing, branding, and after-sale service.

Winrock International

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MOST OF OUR BRANCHES COVER THEIR OWN COSTS WITHIN A FEW MONTHS OF SETTING UP A BRANCH.

Because of the benefits, several cookstove manufacturers have tried to establish proprietary B2C channels, although in many cases with limited success. BioLite has experienced one of the best examples of the trials and tribulations a manufacturer can go through in building a B2C channel. It set up an Apple-style flagship store in India.[4] BioLite found that, for a new brand, setting up direct B2C channels was difficult because it was hard to attract and aggregate customers to a product and a brand people weren't yet familiar with. Envirofit India tried to build its own B2C channel in 2007–2008, "thinking that whatever you can display and show will sell in the market," said Ravi Kumar, senior manager at Envirofit India. The company eventually realized it was difficult to attract large numbers of customers to stores. It did better targeting an existing aggregated customer group with product demonstrations (at community or MFI group meetings).

The B2C channel requires a substantial investment in marketing to develop product recognition and promote sales. Many BOP customers cannot pay cash for a stove up front, which limits sales volume. Ultimately, BioLite and Envirofit moved on to partner with FIs in their current distribution strategies, as FIs already have aggregated customer bases and consumer finance helps reduce purchasing hurdles. BioLite now sells 80% of its stoves through FIs. For more on this channel, see the Finance and Credit Providers section.

Only Greenway Appliances among the companies we spoke with has had large-scale success setting up a B2C sales channel. Roughly 75% of its sales in 2016 were led by staff interacting directly with customers. Greenway acknowledged this channel comes with higher fixed and variable costs than others, but the company feels the costs are worth it to maintain "greater control and predictability in sales," which is especially important for manufacturers, to inform production and monitor stock levels. For Greenway, the B2C channel also works to support and complement the work of its other channel partners, such as MFIs or NGOs that provide logistics or consumer financing. The Greenway sales staff work alongside these partners and bring an increased level of knowledge, focus, motivation, and enthusiasm to the partnerships, directly engaging with customers and converting demos into sales.

Many cookstove manufacturers continue to look for ways to build their own B2C distribution channel because of this potential for greater customer engagement and predictability, despite the expense and difficulty. Envirofit recently initiated a new B2C pilot in Nairobi to learn patterns of customer behavior and gain market intelligence to share with its partners. Others see on-line sales as their chance to build a direct link with the customer.

Cookstove distributors, typically selling multiple models of stoves and other household products, have had more success with this channel, keeping a lean cost structure and creating innovative models for getting the products directly to BOP consumers. However, initial costs can be high and long lead times are typical. Lessons learned from successful stove distribution companies that have created a B2C channel are below.

VOLUME is critical in B2C distribution, as margins are often squeezed between the manufacturer and the BOP consumer. Some successful B2C distributors have targeted high-density areas to increase sales volume. Social enterprise LivelyHoods sells more than 500 stoves a month through a B2C approach (as of 2017). Its success lies in setting up branches in informal settlements (slums) that serve as hubs, a deliberate strategy that provides: a) access to a large volume of customers from densely populated areas, and b) a recruitment base for its agents— unemployed youth, who know their customers well and can sell to their communities. LivelyHoods had to close branches where the population wasn't dense enough because it was difficult for their agents to find customers.

[4] BioLite. What's In Store When There Is No Store, BioLite Blog, 7 Sept. 2016, www.bioliteenergy.com/blogs/lab/how-one-startup-developed-a-sales-model-that-works-in-emerging-markets.

Ability to deliver volume is critical to a lean cost structure. It is one way to negotiate down price with suppliers. However, the volume needed for a distributor to fully cover operating costs is substantial. “Most of our branches cover their own costs within a few months of setting up a branch,” said Tania Laden, LivelyHoods co-founder. However, it would take a tripling in size to cover all the indirect costs of headquarters, logistics, oversight, and managing and supporting the branches. To reach that level, the company thinks it must break into new markets.

PRODUCT DIVERSIFICATION. Most of the B2C distributors we surveyed achieve volume by cross-selling and offering multiple products. Customer acquisition costs run high in this channel. One way to amortize them is through repeated visits to the same customer with new products. For instance, Bidhaa Sasa in western Kenya throws a Tupperware-style party when a group completes a loan repayment, demonstrating other products, like solar and cooking gas. LivelyHoods carries a wide range of what it calls life-saving goods, from reading glasses to household appliances. India-based Pollinate Energy sells a range of solar products as well as stoves, mosquito nets, water filters, and mobile phones. This is a key advantage product distributors have over manufacturers in most cases.

Manufacturers often can’t offer diverse product lines as they are fully occupied manufacturing the best quality stove at the right price. Greenway said adding new products and stove models to serve its customers is one strategy it has been working on to increase sales agents’ productivity and reduce high fixed costs. The company also sees this strategy as a way to increase sales staff incomes and improve retention. Some manufacturers, such as BioLite, have tried to partner with existing B2C retail channels to sell their stoves with other complementary products (e.g., solar lights), but found they still needed their own agents to demonstrate the stoves, and that stoves have their own logistical challenges (difficult to transport compared to other products).

STAFFING COSTS AND INVESTMENT. One of the largest costs for a B2C distributor is its staff. Staff turnover tends to be high, as employees often seek more permanent or better paying sales opportunities than stove distributors can offer. Distributors are challenged to come up with the right mix of base salary and commission, although most interviewees had determined that some base salary is important to retain sales agents. Several

LivelyHoods

groups found a tiered structure works best—newcomers to sales start out with a minimum base salary, then as their selling acumen grows, commissions become important incentives and a larger proportion of take-home pay. Pollinate Energy's sales staff incentive system includes points for collecting installment payments for products sold through its in-house credit scheme. Tiered commission structures, where larger commissions are paid for selling above a certain threshold, better incentivize a sales force to meet internal sales targets. Groups that pay commissions only have found retention a challenge. To retain staff, it is important to offer opportunities to continually expand skillsets and advance up the corporate ladder. UpEnergy found that camaraderie is key to its long-term staff retention. Its core group of sales officers count each other as good friends, not just colleagues, and have stayed with the company for over 6 years. Even with incentives and support structures, all interviewees mentioned retention is an issue.

Training costs in the B2C channel are also substantial. "Our biggest sunk cost is people whom we have already trained but who leave before they make a sale," said Laden. An agent needs to stay with LivelyHoods at least 3 months to recoup training costs. This is why a distributor's hiring strategy is critical. Across the board, distributors found interviews and cover letters do not work well in hiring from the BOP. Distributors and B2C-focused manufacturers must be creative to hire the right people. Greenway said, "recruitment is challenging on account of the difficulty level of the job and also because often sales agents do not see a career path for such roles." Greenway is, therefore, working to increase productivity and income levels for agents by offering additional products and stove models they can sell. In recruiting agents, LivelyHoods looks for grit, and puts their agents through a week of field challenges before they get their first product. Others have found previous sales experience important. Many mentioned the importance of drive in their sales staff. Pollinate Energy said its most successful sales agents have an "ability to look at this as a great opportunity to also serve these communities with life-changing products, accepting challenges and working without supervision at times, and above all, having a very positive outlook towards life." That comes, in part, from Pollinate's deliberate and concerted effort to fully incorporate its sales team into the company's vision and mission.

MARKETING COSTS are another critical component of a B2C channel. Some manufacturers found marketing costs in this channel almost matched stove production costs, making the operation unprofitable. They found it better to support the channel indirectly with brochures and other publicity and to split marketing costs with distribution partners directly servicing the channel. Distributors using a B2C approach can benefit from these types of shared marketing arrangements with manufacturers.

Envirofit International

For distributors, the distinction between a stove brand and a distributor brand is important to marketing. "I don't think consumers have retailer loyalty, they have brand loyalty," said Laden. The distributor's pitch to the customer then is centered on delivering the best customer experience—first providing consumer education and building awareness, then adding good after-sale service. Both are important to customer loyalty, and keep the door open to sell the customer additional products. In areas where stove brands are not yet household names, distributor service, reliability, and reputation for delivering quality products are key features for customers.

FINANCING. The B2C channel requires end-user financing, as many BOP clients lack the cash to pay for advanced biomass stoves up front. This is yet another cost for the manufacturer or distributor, because it requires in-house systems and staff skilled at administering finance. With mobile payment platforms and ease of tracking systems, more and more distributors are offering in-house finance. Distributors such as Bidhaa Sasa incorporated distribution and credit as part of its business model from the onset. More than 95% of Bidhaa Sasa's sales are made on credit to groups of customers (primarily women's groups or other social networks) that guarantee each other and can get credit making monthly payments via M-Pesa. The company incorporates the interest rate into its product price and relies on the sales representative to sell stoves and offer credit. A down-payment of 15% serves as cash collateral, and group co-guarantee structure ensures write-offs are kept at <2% of revenue. Across both India and East Africa, distributors are beginning to offer layaway systems. Pollinate Energy sells most of its products on 3-, 5-, and 8-week installment plans. Sales staff collect payments using a points-based incentive system, tracked using a sales force application. Through this system, Pollinate boasts a <2% default rate. Other distributors and B2C-focused manufacturers partner with local financial institutions, such as SACCOs or MFIs to provide financing to their customers. These types of partnerships have their own challenges (see Finance and Credit Providers section).

To summarize, good customer service, quality branded products at affordable prices, and access to finance while keeping costs low and retaining high-quality staff using appropriate motivation and incentives are among the attributes required to operate this challenging channel successfully.

B2C WORKS BEST WHEN:

- Product brand awareness is strong
- Target customers are aggregated or located in high-density areas, making higher sales volumes easier
- Companies can offer multiple products to the same group of customers
- Sufficient incentives and opportunities for advancement motivate high performing sales staff, complemented by on-going training
- Good systems are in place to track customer data and deliver strong after-sales services
- Consumer financing is available (in-house layaway or credit)

LARGE NATIONWIDE RETAIL COMPANIES AND SUPERMARKETS

STRENGTHS	WEAKNESSES
Stores with nationwide presence, trusted name	Long wait time for supermarket chains to pay (2-12 months) ties up working capital
Convenient and accessible for urban, peri-urban market	No ability to demo products
Low investment in staff costs (recruitment, training)	Higher level of existing brand awareness and higher (above-the-line) marketing costs required
Reported to have more stable, consistent sales than other channels	Available primarily to middle or upper income consumers, as consumer credit is not offered

OVERVIEW. Large retail chains come with trusted brand recognition that can strengthen consumer confidence in a stove as a quality product. They also have nationwide (sometimes regional) presence and distribution infrastructure in place. This can be very attractive to stove companies that want to get their stoves on the market to a large customer base, especially in urban and peri-urban areas. They provide important economies of scale for the stove company, which partners through a single retailer but is granted access to various stores with high consumer traffic. In Kenya, for example, stoves have been sold through large retailers with upwards of 50 branches in and around the country, such as Nakumatt, Tuskys, and Uchumi. Compared to other channels, working through supermarkets can be low-cost, at least in terms of staff recruitment and training. For this reason, many stove manufacturers have at least tried this channel at some point, even if they later abandoned it.

Andrea Albini

Although most of the companies we spoke to found working through supermarkets and large retailers more challenging than it was worth, there are some notable exceptions. The key differences between those that have been able to develop successful partnerships and those that have abandoned the channel are:

1. commitment to a large-scale, nationwide brand awareness and marketing strategy
2. financial capacity to tie up working capital for months at a time
3. ability to guarantee retailers a consistent supply of warranty-backed, market-tested products

These first two factors require the stove company to make a large capital investment, which can be difficult for nascent or smaller companies. However, with a high enough injection of capital this channel has proven it can produce significant sales—upwards of several thousand stoves per month. One manufacturer that has developed successful partnerships with large retailers noted that this channel is more stable and consistent than some of the others they use.

Some of the primary lessons from working through large-scale retailers cited in interviews and data collection for this study are below.

CREDIT TERMS AND PAYMENTS. The flip side of working with large trusted retailers with a nationwide presence and huge consumer base is that they hold all the bargaining power when negotiating pricing and credit terms. Long, drawn out payables (amount owed by retailers to suppliers) that tie up working capital was by far the most cited reason for abandoning this distribution channel altogether, or minimizing the number of stoves sold through these retailers. While repayment agreements of 30–90 days can be established with retail chains, several stove companies said retailers can take 6–12 months to pay for hundreds, sometimes thousands of stoves they have provided on extended payable terms. That can mean tens or hundreds of thousands of dollars in working capital are tied up in stock at the retailer. It can also necessitate investing in a staff member who spends significant time working to collect payments due from retailers.

BRAND AND PRODUCT RECOGNITION. Another major expense, and therefore a challenge, in making this channel work is investment in marketing and brand awareness. Achieving high stove sales through this channel requires significant investment in above-the-line[5] (mass) marketing to create brand recognition. Investment in marketing materials at the points of sale is important, but brand awareness is a key factor in motivating people to purchase stoves at large retailers. Many companies interviewed found the expense of mass marketing was too high for what they could expect in returns. One company said large retailers require large-scale product publicity before they will even agree to stock the stoves, and even then, the stoves may not get the best placement in the store or enough attention from customers to warrant the investment. One upside from this increased mass marketing expenditure is that the benefits extend beyond the large retailer channel. The brand awareness generated by this level of marketing also supports other ongoing distribution efforts and attracts new distribution partners.

Several of those interviewed said the need for brand recognition isn't the only challenge. Advanced biomass stoves are not a product most households are familiar with yet, and that means they require more demonstration and training on proper use. One company said this channel works best for fast-moving consumer goods, which doesn't yet include stoves. Other products, such as solar, that require less consumer education than cookstoves, see more success through this channel. Stoves require a behavior change component that is difficult to address through the supermarket channel, since there are typically no sales agents present when the consumer is purchasing the product. Large retailers usually have extensive product lines and therefore do not invest heavily in training their own sales force to sell stoves. That means stove companies need to rely on product appeal, brand and product awareness, and shelf exposure to generate sales.

There are, however, opportunities for joint promotional campaigns between stove companies and large retailers. These include coupons, temporary discounts, in-store promotions, and better product placement, which are all potential strategies for growth through this channel.

REACHING THE TARGET CONSUMER MARKET. This channel reaches mainly urban or peri-urban, typically middle- or upper-income consumers, although in some cases these purchases are made for family members in rural areas. Companies looking to sell wood stoves or targeting more rural or lower-income customers find it difficult to reach their target market through large retailers. However, advanced charcoal stoves have sold well through this channel in Kenya particularly. Because these retailers don't typically offer credit (with the exception of credit cards, which potential stove purchasers may not have access to), consumers need to pay for the stove with cash up front, which may turn away potential buyers.

LARGE RETAIL CHANNEL WORKS BEST WHEN:

- The stove company has sufficient working capital to provide credit terms to retailers (often 3–6 months, sometimes 10–12 months)
- Products are well known, or there is some degree of brand recognition, or the company invests significant resources in high-level mass marketing and brand awareness
- Target market is primarily urban or peri-urban
- Customers have sufficient cash and don't need credit

[5] Widespread marketing to large audiences, generally through radio, TV or newspaper advertisement.

MICRO-ENTREPRENEURS AND SMALL RETAILERS

STRENGTHS	WEAKNESSES
Reaches rural or last-mile customers; can move to the market and meet demand	Difficult to vet micro-entrepreneurs who often have low levels of financial management. Manufacturer carries risk if goods are provided on credit or consignment
Creates income opportunities in rural or other underserved areas	Unpredictable and unstable sales
Entrepreneurs understand their local communities and their market	Micro-entrepreneurs have little access to working capital
Stoves can be sold bundled with complementary products	Recruitment, training and support can be expensive, especially with high rates of turnover. Difficult to make a profit.

OVERVIEW. Working through micro-entrepreneurs is one of the best ways to reach last-mile customers, as they are often already selling complementary goods to target customers, or have tight connections with the communities where they work. Organizations with a socially motivated mission can provide additional sources of income generation in often-underserved areas. However, working with micro-entrepreneurs can be costly, as they require significant training and support to be successful. Some companies seek out micro-entrepreneurs as a low-cost, low-investment way of reaching BOP markets, but that has not generally held true – at least not with any significant sales, according to those interviewed. In an experiment selling through chaiwalas (individual entrepreneur tea sellers) in India, BioLite found that even though the chaiwalas could use the stove to brew their tea, they weren't able to provide the level of demonstration and knowledge of stove benefits that customers need to make a purchase.

Because women are the primary users of household energy products, such as stoves, they also have the potential to catalyze the stove market as micro-entrepreneurs. Many companies have worked to increase their engagement of women entrepreneurs in stove distribution. Women entrepreneurs, however, require additional support in training, mentorship, and access to resources to succeed, because they often have less access to finance and more demands on their time. In addition, cultural hurdles affect agency-related factors, such as self-confidence. Mobility was mentioned as a key difference in high vs. low sellers. Women's mobility can be restricted by cultural or social norms, as well as family obligations. The investment needed to fully support micro-entrepreneurs can make it difficult for profit-motivated organizations, as the tight margins on stoves alone can't fully recover those costs in the numbers sold through this channel. However, some organizations have succeeded in nearing sustainability through this channel by also offering other products that have better profit margins or sell in larger volumes than stoves. Grant and other philanthropic funding is still critical for this channel to succeed.


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16

Some additional lessons from the micro-entrepreneur model cited in interviews and data collection for this study are below.

FINANCIAL MANAGEMENT AND BUSINESS SKILLS. One of the main challenges cited in working with last-mile entrepreneurs is a lack of business skills, specifically financial management. Several interviewees said this lack of financial management skills was a deal breaker in their exploring this sales channel, or that they had dropped this channel after the entrepreneurs they were working with showed poor financial management capacity.

Companies that have tried to provide only short, product-specific training (i.e., how to demo and market cookstoves), rather than more comprehensive business training and mentorship support, found this channel particularly challenging. In its 2016 review of current evidence on the impact of business training on poor women entrepreneurs, the Center for Global Development found that "training programs must be high quality (in terms of training materials, trainers, and duration) and address the constraints (time and other costs) that women microentrepreneurs face to attend and complete the training" in order to affect business practices and sales.[6] Because of the high costs of such training, the decision to invest in training micro-entrepreneurs is not easy. Some recent evidence points to success in advancing micro-entrepreneurs' sales and increasing their retention by providing business training coupled with agency-based empowerment and leadership training specifically for last-mile energy entrepreneurs.[7] However, even with the promise of additional sales and improved retention, many smaller or newly established companies find the cost of this comprehensive, holistic training prohibitive, as many priorities compete for limited resources.

Companies with success in selling stoves through this channel said the key is working with micro-entrepreneurs who have established successful businesses selling complementary products, and therefore some previous business training and skills. Even then, additional training and mentorship is needed.

PROVIDING CREDIT TO LAST-MILE ENTREPRENEURS was the number one challenge cited in our interviews with manufacturers and distribution companies. Micro-entrepreneurs' access to traditional or formal sources of credit for working capital to buy stock is generally low, since they often live in rural or underserved areas and have little or no credit history. However, providing in-house credit or products on consignment is risky. Payment delinquencies and defaults are common among this group. More than one interviewee had provided loans to last-mile entrepreneurs through a partnership with the microfinance company, Kiva, and ended up losing money when entrepreneurs couldn't repay.

For others, such as Solar Sister, providing stoves and other products on consignment changed the nature of its relationship with its entrepreneurs – from sales support and training provider to debts collector. Solar Sister also found that offering credit for a set of products up front changed the type of entrepreneur they attracted. Once it switched to a cash-up-front payment model, only serious entrepreneurs signed up. Although initial sales were slower, the entrepreneurs it worked with became more dedicated longer-term. Solar Sister acknowledges that this amounts to very small purchases per entrepreneur initially, but the company also invests in training entrepreneurs in reinvesting their sales money in larger amounts of stock in future purchases to grow their business.

Some women micro-entrepreneurs have financed their business stock purchases through loans from table-banking style women's groups. Partnering with local, smaller financiers or savings groups can require significant time investment and other challenges of its own (see section below), but it removes the risk from the stove company. Alpha Renewable Energy has a partnership with Self-Employed Women's Association (SEWA) to provide financing to its members to purchase stoves to sell in their communities. About 90% of SEWA stove

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[6] Buvinic and O'Donnell. Revisiting What Works: Women, Economic Empowerment and Smart Design. November 2016. https://www.cgdev.org/sites/default/files/CGD-Roadmap-Update-2016.pdf

[7] Shankar, A. Onyura, M and Alderman, A. Agency-based empowerment training enhances sales capacity of female cookstove entrepreneurs in Kenya. Journal of Health Communications 2015;20 Suppl 1:67-75. http://www.tandfonline.com/doi/abs/10.1080/10810730.2014.1002959

entrepreneurs are financed with this credit. This works much the way table banking does, in that the woman's social reputation is at risk in case of default, promoting better repayment rates.

Another strategy stove manufacturer SCODE, (Sustainable Community Development Services) mentioned is to provide credit to micro-entrepreneurs only after requiring them to start selling through upfront cash payments. Once they have established themselves with the company through multiple cash purchases of stock and want to increase their stock, at that point SCODE offers credit. Even then, it found micro-entrepreneurs often take longer to repay than the agreed-upon schedule (e.g., 90 days instead of 30), which ties up working capital.

LOW OR UNPREDICTABLE SALES. Micro-entrepreneurs' sales can be unpredictable month to month and entrepreneur to entrepreneur. Most micro-entrepreneurs are not dedicated 100% to stove sales; they have other jobs or side businesses. There may be a wide gap in sales; 80-90% of sales may come from 10-20% of the entrepreneurs. This makes it difficult for a manufacturer to work directly with micro-entrepreneurs. However, intermediary distribution companies, such as Solar Sister or SEWA, can aggregate entrepreneurs to buy in larger orders and maintain longer-standing relationships with suppliers to get favorable pricing. They can also provide the training and mentorship needed for micro-entrepreneurs to be successful. SCODE set up a separate NGO arm to support and train micro-entrepreneurs. Deciding how best to invest those training and support resources can be tricky, however, given the range of sales from different entrepreneurs.

THE MICRO-ENTREPRENEUR CHANNEL WORKS BEST WHEN:

- The target market is rural
- Entrepreneurs are mobile
- An intermediary organization can aggregate entrepreneurs and buy in bulk from suppliers
- A local sales rep is nearby who can maintain relationships, identify appropriate retail points, and service orders to get community buy-in
- The stove company has sufficient funds for training and marketing materials to give small retailers or has donor funding for this
- Stove companies become partners with local FIs or other networks to provide working capital to micro-entrepreneurs
- Government extension services provide complementary training or awareness support

BioLite

COMPANY PARTNERSHIPS AND CORPORATE SOCIAL RESPONSIBILITY (CSR) INITIATIVES

STRENGTHS	WEAKNESSES
Cookstoves check a lot of different CSR boxes (environment, social impact, health)	Can take time to set up partnerships, difficult to get foot in the door with larger corporations
Company can provide end-user financing through subsidies or payroll deductions; for latter, employer knows the customer and assumes repayment risk	Competition with other product suppliers
Able to reach rural or other target cookstove consumers, often in large, aggregated numbers	Sales or payments can be seasonal, depending on type of partner; CSR initiatives can also be short-term, making sales difficult to predict
Lower staffing needs and costs; can tap into employer human resources and operational support	May ask for stoves on consignment or credit terms, which ties up working capital
Company is trusted by employees or community	No one-size-fits all approach

OVERVIEW. Developing partnerships with larger enterprises or cooperatives, in particular those that employ target consumers for cookstoves or companies that seek to offset their own carbon emissions or improve health or social welfare in nearby communities, can be a low-maintenance, high pay-off channel for cookstove sales. Envirofit India said corporate partnerships are currently the second largest channel for them. Companies may be motivated by employee welfare, or may be looking to meet specific environmental or health-related CSR mandates or improve community relations. For stoves in particular, the following types of companies make good partners because of 1) their employee base and/or 2) community engagement:

- tea estates, flower farms, or other employers where workers and families are housed in groups in rural areas with high biomass use
- farmer cooperatives supplying milk or other agricultural products to large processing companies
- factories in areas where biomass use (wood or charcoal) is prevalent
- labor-intensive organizations where workers do not have access to LPG

These partners can aggregate large numbers of target consumers for marketing and provide financing for stove purchases. They can subsidize the stove price in some cases (either for employees or for surrounding community members), especially for those with a CSR mandate, or provide payroll deductions so employees can pay off the stove over multiple paychecks. In the latter case, the employer assumes the repayment risk, which is a huge bonus for the stove company. From an operations standpoint, processing individual customer payments through the enterprise partner's existing payroll department takes advantage of existing resources and aggregates purchases so the stove company can make bulk sales.

One of the main differences between these types of partnerships and working with other aggregators, such as SACCOs or MFIs, is that many of these companies have CSR mandates or objectives. In India, the government requires 2% of a company's net profit over the past three years be devoted to CSR activities, making India a prime location for this type of partnership. Envirofit India found this approach didn't work as well in Sri Lanka or Nepal where there isn't the same government mandate. Another important contextual distinction is that India is home to many large companies coupled with a high number of biomass users, which makes CSR for stoves a good prospect there. CSR-driven stove sales will naturally be concentrated in more corporatized countries. In smaller countries, particularly in Sub-Saharan Africa, there aren't the same large corporation headquarters.

Cookstoves are a good candidate for employers with CSR mandates because of the environmental benefits and, depending on the stove, health benefits. They meet a number of different CSR and employee-welfare goals. According to UpEnergy, "many international tea plantations with presence in the market have some sort of sustainability mandate. They know they already have a pretty big biomass footprint through their drying process," which means they are interested in offsetting that by supporting biomass-saving stove initiatives. Other companies have found cookstoves' social benefits a compelling offer to corporate partners. With the right corporate partner, it's not challenging to find an angle where cookstoves can support the company's existing, in some cases mandated, sustainability or other social welfare goals. However, there's no one-size-fits-all approach to working with employers on CSR initiatives. Each may require a different strategy.

Some of the primary lessons from working through corporate partnership cited in interviews and data collection are below.

PARTNERSHIPS TAKE TIME; IT CAN BE DIFFICULT TO GET A FOOT IN THE DOOR. Partnerships were easiest to establish when a stove company had a direct connection with someone working in the company. Companies with identifiable champions of clean cookstoves within senior management have greater partnership potential. Without that, these partnerships can be difficult, or take a long time to establish. One of the benefits of this channel is that employees have an added level of trust in their employers, which can redound to the stove company. However, this creates a risk to the employer's reputation. Companies need to vet products and stove companies up front, and that may add to the time it takes to develop these partnerships.

We received mixed feedback about the competition for these types of partnerships. Envirofit India said CSR directors get bombarded by hundreds of requests for partnership. It is important to look for the right company, where the employees or surrounding community have a clear need for the stoves, and do some demos first to show the company there is demand for the product. Others we spoke to, such as UpEnergy, believe stove companies have a comparative advantage over other product suppliers in developing these corporate partnerships since, rather than being motivated by the profit margin on the product, many corporate partners are motivated by the product's ability to meet their CSR objectives. If the CSR mission is environment-related, there is less competition from higher-value products like motorbikes, TVs, or computers, which can be large competitors for SACCO or MFI business.

In some cases, the company may want to work with a partner that can offer a range of products, not only stoves or one brand of stove, to minimize the number of partners they work with. In this case, stove distributors that can market themselves as a one-stop shop for household energy and other products may have an easier time getting in.

DELAYED OR SEASONAL PAYMENTS. Especially for companies whose workforce is paid following an agricultural calendar, sales can be seasonal, which requires additional planning and could be difficult if it were a stove company's only or primary sales channel. This can also be challenging if, as many corporate partners do, they require credit terms that tie up the stove company's working capital. With sufficient planning and an understanding of these factors, however, this challenge can be minimized. Stove distributors operating in this channel can even out cash flows by carefully planning sales across several agricultural value chains (e.g., tea, coffee, tobacco).

COMPANY PARTNERSHIPS WORK BEST WHEN:

- The company has a CSR mission or social responsibility goals
- The company has strong operational functions and can provide regular payroll deductions and act as a guarantee against non-payment
- The company has employees in the target consumer segment (e.g., tea or flower farms, factories, agricultural cooperatives, other labor-intensive enterprises), or is working in an area of high biomass use

Winrock International

FINANCE AND CREDIT PROVIDERS

STRENGTHS	WEAKNESSES
Increased stove sales through access to finance; ability to purchase stove on the spot at demos	Lengthy process to establish a partnership with an MFI; requires a tailored approach to each finance provider
Ability to target rural clients through agent, branch, or table banking networks	Requires own sales force in parallel with loan sales reps and a lot of training
Appropriate setting to provide stove demos (branches or credit meetings in the field)	MFIs often unwilling to hold on to stock, requiring additional infrastructure (distribution and storage points) for stoves
Volume of sales possible through access to critical mass of people already organized in groups	After-sale service can be a challenge with certain MFIs reluctant to provide customer data for product follow ups
More profitable due to the opportunity to leverage existing infrastructure and favorable working capital terms	Cookstoves loans constitute a relatively small percentage of the FI's loan portfolio and often don't receive adequate management attention

OVERVIEW. Financial institutions bring several advantages to the table. They have a large, established customer base with a track record. That customer base can be tapped for stove demos and access to finance. While most groups we spoke to see a need for financing for advanced biomass stoves, in some cases it wasn't the financing that was the most attractive aspect of working with FIs. In many cases, it is access to their networks that is most valuable. In the case of Greenway Appliances, 50% of its sales come through MFI channels, even though its direct sales force is still responsible for demos to customers before handing leads over to an MFI. Rural banking networks provide an opportunity for stove demos in the field, while urban bank branches can display stoves for their walk-in customers and provide quick credit disbursement. Existing infrastructure, such as physical branches and networks, and human resources (loan sales reps) allow the distributor to share resources and thus require less cash up front on the part of the distributor to serve the FI network. FIs tend to pay back faster (10 to 40 days) with no or limited credit risk. This improves the suppliers' operating capital efficiency.

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ONE COMMON MISCONCEPTION IS THAT 800-POUND GORILLAS ARE THE BEST PARTNERS.

Despite these clear advantages, there is no one-size-fits-all solution. The process of establishing a working partnership with an MFI can be lengthy—from months to several years. For instance, it took one manufacturer three years to cement a partnership with an MFI in Kenya. However, the company's patience ultimately paid off with a high volume of sales. Ethan Kay, managing director of emerging markets for BioLite, confirmed this trend and said, "MFI performance varies heavily by partner." For instance, BioLite has partnerships with two similarly sized MFIs. One is a very effective partner that "totally gets how to do product loans for stoves," and another took a while to edit its 15-page loan approval document down to a few pages, and pushing sales through them remains a challenge.

Each finance provider requires a tailored approach, from loan documentation to training, and a clear demarcation of roles played by the distributors and the FI staff. For cookstove lending to be sustainable long-term for an FI, however, senior echelons must buy in to the cookstove loan product. Without that senior management support, the ability and efforts of even the most dedicated staff down the ladder will not be enough to secure the FI's long-term commitment to cookstove lending.

In establishing partnerships with the FIs, we found several common challenges and ways to address them among manufacturers and distributors, which are detailed below.

"TOO MANY PEOPLE KNOCKING AT THE DOOR." Several cookstove manufacturers and distributors cited the difficulty of getting through to an FI, with too many parties competing for their attention. This dynamic extends lead times in establishing partnerships and reduces their efficiency.

BIGGER IS NOT NECESSARILY BETTER. There is some debate among manufacturers and distributors over the right size of FIs to approach. In theory, bigger FIs, such as national or regional-level commercial banks, have larger branch networks across the country, which allows for volume and economies of scale. In practice, however, bigger banks can be more difficult to work with. They can be highly bureaucratic and have a lot of conflicting priorities. Competition for their channels can be high. "One common misconception is that 800-pound gorillas are the best partners. While there are exceptions, these massive organizations sometimes struggle to deliver on their potential to generate large-scale sales," said Ethan Kay of BioLite. This holds true on the demand side as well. Some consumers will use bigger banks for loans for such big-ticket items as autos or mortgages, but not smaller items like $40 cookstoves. From a profitability standpoint, Wisdom Innovations found MFIs take bigger margins, compared to smaller financing structures, such as table-banking groups. MFI field officers also tend to like groups that are close to each other to minimize logistics and servicing costs, which forced the company to go peri-urban rather than rural where most of Wisdom's stove customers live.

The CEO of Kenyan distributor Sola Yetu (recently acquired by Pamoja Life), Faruk Karim, thinks the SACCO channel is the most organized in Kenya because SACCOs must register officially with the government, provide audited financial statements, elect officials, and run annual general meetings. Much like larger banks and MFIs, the channel depends on trust. That makes it difficult to gain access. Often an introduction is required. Once in, however, the channel gives end users various financing options for their stove purchases, from savings and payroll deductions to credit. KUSCCO, a lobbying body and umbrella organization for Kenyan SACCOs, provided that introduction for Sola Yetu. Without this sort of formal partnership and assistance, it can be hard for distributors to develop a level of trust with SACCOs. Manufacturer SCODE also found SACCOs to be a more stable channel. According to CEO John Maina, "Some SACCOs face liquidity constraints of on-lending to members. However, if a SACCO has the cash available to on-lend, it is able to distribute the product to customers efficiently, reducing our logistics costs." SCODE can save on logistics by delivering to the main SACCO offices. SACCOs then take responsibility for distributing the stoves to the end users.

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SMALL LOAN SIZE. Cookstoves cost from $30–$70. Servicing a consumer loan that small is challenging. Operating costs are high compared to the interest generated. Stove loans compete with larger loans that generate higher interest for FIs for the same amount of administrative costs. Therefore, many FIs find such lending uneconomical. One way to decrease operational costs is to bundle stoves with other complementary goods to spread unit costs across a larger loan. For instance, KUSCCO bundled its stove loan with solar home systems and lanterns to increase the loan size offering to its SACCOs. Pay-as-you-go solar providers also bundle cookstove loans into on-going solar home system loans. FIs that see a CSR component in their stove loans are more willing to look for cross-selling opportunities with other products to improve their loan economics.

LIMITED ABILITY TO HOLD PHYSICAL STOCK. A stove purchase prompts a value-added tax (VAT). FIs typically cannot charge for this tax. Many cannot post physical stock on their books, either. This means there needs to be an intermediary legally registered to do so, such as a stockist, retailer, or distributor, which adds costs to developing the channel. Several FIs in India and Kenya used a coupon scheme to resolve this. The way it works is the FI gives the consumer a coupon representing a loan against a stove purchase. The consumer takes it to a stove retailer, usually near a local FI branch. The retailer exchanges the coupon for a stove and gets reimbursed by the FI. Equity Bank in Kenya, however, found this too cumbersome, and in 2017 rolled out its EcoMoto (stove/solar) loan as part of its mobile platform, Equitel. This allows customers to take a loan using their mobile phone app at the retail location, rather than using the coupon system.

SOLA YETU – KUSCCO PARTNERSHIP

Sola Yetu created an approach to the FI network that can catalyze stove sales and transform distribution. The company began as a small distributor with three sales staff in Nairobi. When it joined KUSCCO's Jiko Safi loan program in 2015, Sola Yetu sales grew to an average 1,200 cookstoves a quarter. This growth led to its purchase by Pamoja Life, a UK-based Climate Care company. Now the sales team exceeds 100. Sola Yetu's success is due, to a large extent, to its commitment to the KUSCCO network, its guarantee to deliver products anywhere in the country within 48 hours, and its assigning a dedicated sales force to work with the KUSCCO marketers, as well as its timely payment of incentives.

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THE LOAN MARKETER'S PRIORITY IS TO UNDERWRITE LOANS AND COMPLETE THE PAPERWORK; THEY OFTEN HAVE LESS THAN FIVE MINUTES TO DEMO THE PRODUCT.

PROVISION OF AFTER-SALE SERVICE. Many FIs do not give out customer details to third parties, partly because of customer acquisition privacy laws. Wisdom Innovations in Kenya found it had a very difficult time getting consumer feedback on its stoves because it couldn't follow up with the MFI's stove customers. Wisdom saw that the uptake of stoves in those markets was poor, so it decided to discontinue the MFI model and focus on table banking. Envirofit India provides customer service for its MFI partner clients, but only after the MFI makes the initial request. The after-sale service request originates with the loan officer, who specifies only the customer phone number and location. The manufacturer then has a limited time to address the issue directly with the customer. After service is provided, the loan officer confirms the issue has been resolved with the customer before marking it complete.

NEED FOR A DEDICATED SALES FORCE. An FI loan marketing sales force is not always geared to selling physical products, since loan officers are trained to hone their skills selling credit. EcoZoom learned that it is not efficient to use loan officers to market their stoves, because "the loan marketer's priority is to underwrite loans and complete the paperwork; they often have less than five minutes to demo the product." That means manufacturers or distributors often have to build a sales force in parallel to the FI's loan reps to service the FI channel. Greenway Appliances has its sales agents demo products to MFI customers before handing over leads to the MFI for financing. Both Greenway and BioLite found the FI sales force had a difficult time shifting to product sales. Loan officers' overall job responsibilities don't afford them the same sales demo ability and enthusiasm, and key performance indicators are very different for loans vs. stoves. Many FIs have loan sales targets, rewarding their staff for onboarding and managing a volume of loans instead. In certain cases, when stove distributors tried to assign one or two part-time sales staff to service MFIs or SACCOs, they found it difficult to get much traction. Most interviewees found a committed sales force in parallel to the FI is the most effective way to sell through this channel, although it can be costly to establish. The challenge for the stove manufacturer and distributor is how to best leverage FI's existing infrastructure to open the door to customers and finance. It then relies on its own distribution infrastructure.

THE RIGHT INCENTIVES. In the absence of an economic need for a stand-alone cookstove loan and reluctance to put FI staff time into marketing stoves, incentives become critical. Envirofit India provided an example of an incentive structure it uses to motivate one of its MFI partners' loan officers to market stoves successfully. The loan officers sell stoves and then bill Envirofit, based on the number sold. Envirofit then pays the MFI a marketing fee. Ravi Kumar agrees this is a "very focused marketing strategy in that the marketing money spent is directly related to sales." KUSCCO has also been successful in motivating its loan sales force to jumpstart a cookstove lending program and open doors to SACCOs with a regularly paid, properly aligned incentive structure. Its distribution partners offered a tiered incentive structure to KUSCCO loan marketers, with a higher commission per stove for monthly sales

RESULTS-BASED FINANCING

In recognition of access to finance as a key market barrier for the uptake of advanced biomass cookstoves, Endev, a program implemented in Kenya by GIZ and SNV, is providing incentives to eligible FIs who are lending for cookstoves. The incentive does not directly subsidize the loan, but can be used by the FI for loan product development, loan officer motivation or promotional activities.

above certain thresholds. KUSCCO marketers received commissions for all sales made through KUSCCO's network, not only for stoves sold on loan. This prompted higher sales, even with an initially low loan uptake. Receiving a commission per sale, financed or not, encouraged marketers to continue making introductions to SACCOs for distributors and offering the loan even if they weren't yet meeting their official loan targets.

PARTNERSHIPS WITH CREDIT OR FINANCE PROVIDERS WORKS BEST WHEN:

- The distributor (or manufacturer) is willing and able to invest in its own sales force alongside FI loan representatives and build a working partnership between the two
- The distributor is willing to pay sufficient incentives on time
- The distributor has available products, a good logistics network, and a track record of delivering stoves on time
- The FI loan sales force is trained to understand and sell the stove technology
- Top-level FI leaders buy in to the benefits of providing stove loans
- FI sees stoves as a strong contributor to its CSR mission or social responsibility goals
- FI is open to creating a nimble credit product that doesn't require much paperwork or stringent conditions for borrowers, commensurate with the small loan size for a stove
- Stoves can be bundled with complementary goods, creating larger or top-up loans
- Patience and sufficient time is spent up front selecting partners and developing partnerships with clear lines of communication and clear expectations

CONCLUSIONS / LOOKING TO THE FUTURE

After analyzing these various distribution channels, several lessons emerged. There is a high degree of fluidity in strategy and channel usage among cookstove distributors and manufacturers. However, three strategies for successful distribution stood out across various channels. They are:

1. Aggregating customers through partnerships (either with financial institutions, corporate partners, NGOs or others) allows for greater volume of sales, lowering cost (economies of scale from large volumes) and resulting in a more efficient distribution. Aggregation can be even more of a draw to partnership than financing or other services provided. These partnerships can take significant time and energy to establish, and a tailored approach is often required for each. Often, they still require a parallel sales force on the part of the stove manufacturer/distributor to provide product-specific knowledge to these aggregated consumer networks. Consensus among those interviewed, however, was that the benefits in sales volumes offset these extra costs.
2. Consumer financing is important for advanced biomass stove sales. All manufacturers and most distributors we spoke to offer financing through third party partnerships with FIs (sometimes accounting for as much as 50-80% of their total sales), employer payroll deductions, CSR subsidies, table banking or other community savings groups, or in-house layaway systems that are made easier through partnerships with technology providers and mobile banking systems.
3. Cross-selling or bundling is key. Because attracting new customers is costly, especially when selling to rural or last-mile customers, cross-selling – selling multiple products to the same customer – is a critical strategy for most of the groups we spoke to, and is seen an effective way to gain efficiencies in distribution and improve income and productivity of sales staff or micro-entrepreneurs. In some cases, this includes multiple stove models, and in others providing an array of complementary product offerings. Similarly, for the FIs, bundling stoves with other complementary goods increases the amount of the loan size offered to the consumer, and lowers the cost of servicing that loan, making the stove loan product more profitable for the FI.

In addition to these three strategies, we identified trust as a key element to effective stove distribution. At the consumer level, this includes positive word-of-mouth through product quality and excellent after-sales service. Local institutions, such as trusted retailers, financial institutions and employers/trusted companies, play a key role legitimizing products as well.

There are still important challenges that remain, including reaching unbanked populations without access to credit options, and reducing costs associated with supplying rural, dispersed areas. The interplay between technology advancements, presence of local manufacturing, more consistent product supply and higher demand have led to a rise in new entrants to the cookstove distribution space (such as financial institutions and third party distributors) who are working to overcome these challenges. Looking to the future, although in the early stages, online advertising and sales through social media or web-sales channels, such as manufacturer websites, is growing, especially for stoves aimed at middle-income biomass users. EcoZoom sells stoves through its social media channels at a higher price, with free delivery offered anywhere in Kenya, although it only accounts for a fraction of sales so far. Other manufacturers have sold stoves through third-party online providers, such as Amazon. Stove distributors will continue to innovate and develop creative ways to aggregate customers and provide financing solutions to make advanced biomass stoves affordable and accessible to all those who need and want to use them.

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WINROCK INTERNATIONAL

winrock.org
2101 Riverfront Drive | Little Rock, Arkansas 72202 | ph +1 501 280 3000 | fx +1 501 280 3090
2121 Crystal Drive, Suite 500 | Arlington, Virginia 22202 | ph +1 703 302 6500 | fx +1 703 302 6512