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CLEAN AND EFFICIENT COOKING TECHNOLOGIES AND FUELS

7. MARKET-BASED APPROACHES AND FINANCING



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7. MARKET-BASED APPROACHES AND FINANCING

Creating a market for clean stoves and fuels means getting the right logistics, incentives, financing and partnerships in place to reach even the most remote “last mile” users – a challenging task with no one-size-fits-all solutions. Innovative efforts to overcome these challenges are needed.

WHY IT MATTERS

Long-term sustainability of impacts requires development of thriving local markets for cookstoves and fuels that can continue to supply quality, consumer-focused products and services beyond donor funding timelines. Donor/project financial resources can be used to alleviate market barriers and encourage market innovation.

BEST PRACTICES

1. Reaching BOP consumers through a market-based approach is still a challenge, especially for highly spread out, rural consumers. Donors can spur innovative marketing and distribution approaches through grants aimed at trialing outside-the-box strategies.
2. Non-traditional distribution partners with large networks of potential cookstove customers, such as financial institutions, may be unwilling to risk their own funds to do projects in the cookstove sector. Funds for piloting new partnerships, coupled with technical assistance for new sector entrants can be effective at reducing the costs of market entry.
3. Retaining a trained, professional and highly motivated sales force is one of the largest challenges facing scale up. Donors can support sales agent and entrepreneur training and mentoring, and provide technical assistance to stove companies in developing innovative sales incentives.
4. Manufacturers, distributors and customers alike need sustainable, accessible sources of local financing. Determine what the most appropriate forms of financing are in your target market by investigating available financing options and identifying key gaps.

MARKET-BASED APPROACHES OVERVIEW

Getting the product right – in terms of performance and user acceptance – is important, but only one piece of the larger challenge in getting cleaner, fuel efficient stoves regularly used in homes. To make that happen you need:

- Reliable, established distribution channels to get the product from the manufacturer to the end user, which becomes increasingly difficult in ‘last mile’ areas, away from urban centers;
- Working capital for distributors to invest in stock from manufacturers to sell through their retail networks;
- A well-trained, supported, motivated, and incentivized sales force;
- Clear, pervasive, consumer-focused product marketing that informs consumers of the features, benefits and availability of the product;
- Financing options for consumers that make high quality, advanced stove and fuel products affordable through installment payments or other financing arrangements; and
- Partnerships established with local financial institutions, community savings groups, local retail kiosks, supermarkets, women’s groups, and others with long-term ties to the market, community and consumer.

And all of this needs to happen while ensuring that margins are sufficient to create and sustain profitable, local enterprises that can continue selling increasingly higher quality products as they come on the market, without increasing the retail costs of the product so much that it can no longer compete with traditional or slightly improved options.

While complex, many of these challenges can be systematically addressed through employing the classic marketing mix of the “4 P’s” – Product, Price, Place, and Promotion.

With support from USAID’s WASHplus project, the Global Alliance for Clean Cookstoves developed a [guide for conducting market research](#) that provides a starting point for those interested in learning more about designing targeted market development interventions around these 4 P’s.



CURRENT MARKET DEVELOPMENT EFFORTS

Various ongoing efforts supported through donors and impact investors are working to find context-appropriate solutions to these challenges globally. USAID's [Developing a Sustainable Cookstove Sector \(DSCS\)](#) project is one such project, working to develop sustainable cookstove markets that will lead to widespread adoption of clean, efficient cooking solutions through:

- Strengthening private commercial distribution of high-quality stoves
- Encouraging innovative partnerships locally for distribution and financing
- Increasing availability of local financing for consumers and enterprises
- Expanding consumer access through new distribution mechanisms.

Other major market-development efforts include the [EnDev-funded Results-Based Financing](#) mechanisms that have been established in multiple countries (including Kenya, Peru, Cambodia, Vietnam and others) to remove barriers to scaling up distribution of high-performing off-grid energy appliances, including cookstoves. These are done in partnership with GIZ, SNV, DFID and others. More on this is included in the "[Enterprise Finance](#)" section below. GIZ has been actively developing cookstove markets for three decades, through various country-level programs reaching sales of as many as 1.5 million stoves annually.

The Global Alliance for Clean Cookstoves has also been actively engaging in market development initiatives by funding interventions aimed both at facilitating supply, as well as demand. The Alliance has developed a suite of funding mechanisms designed to support enterprises at various stages of development, from early stage startups to mature businesses, with the goal of preparing a pipeline of opportunities for investment. To achieve this, it uses a combination of grants, patient capital and capacity building. The Alliance also works to catalyze demand and sustained use of clean and efficient cookstoves and fuels by supporting large-scale consumer facing communication campaigns aimed at raising awareness of the availability and benefits of cleaner cooking options and motivating purchase and consistent use. These campaigns employ a variety of channels, including mass media, mobile messaging, and interpersonal communication. The Alliance supported campaigns in Ghana, Uganda, Guatemala and Bangladesh in 2016, and plans to support additional interventions in Nigeria, Kenya and Bangladesh in 2017/2018. [A partnership between the Global Alliance for Clean Cookstoves and the Government of Canada \(2016 – 2021\)](#) is focusing on scaling up market development for efficient cooking solutions in Haiti.

Various governments are also currently leading large-scale market development efforts designed to increase uptake and use of cleaner, more efficient stoves and fuels. These include:

- The Indian government's [National Biomass Cookstoves Program](#), under the Ministry of New and Renewable Energy, as well as its government led programs aimed at expanding access to LPG, such as the [Pradhan Mantri Ujjwala Yojana initiative](#) providing free LPG connections to women from low income households, under the Ministry of Petroleum and Natural Gas.
- Nepal's [Clean Cooking Solutions for All by 2017 Initiative](#);
- Bangladesh's government-owned [Infrastructure Development Company Limited \(IDCOL\)](#) working with the World Bank to improve access and financing for 1 million stoves by 2018;
- The Ethiopian Ministry of Water, Irrigation and Energy's [National Improved Cookstoves Program](#);



- The Ghanaian Ministry of Energy and Petroleum's Rural LPG promotion program; and
- The Chinese government's adoption of clean cookstoves and fuels for 40 million by 2020 national program, among other ongoing large-scale government-backed efforts.

The World Bank Africa Clean Cooking Energy Solutions Initiative (ACCES), under the Energy Sector Management Assistance Program (ESMAP) is working to promote enterprise-based, large scale commercial distribution of stoves in several countries in sub-Saharan Africa, including Uganda and Senegal.

MARKET ASSESSMENTS, STUDIES AND STRATEGIES

For the past several years the Global Alliance for Clean Cookstoves has been commissioning a series of cookstoves market assessments and consumer segmentation studies in dozens of countries to determine the primary market drivers and barriers in each. These studies are all available on the Alliance Resource Page, which is searchable by country and type of assessment. Market studies generally provide an overview of the macro environment, local socio-economic profiles, types of stoves and fuels available in the market, state-of-the-sector, main stakeholders, and recommendations. Consumer studies focus more on the demand for stoves and fuels locally, pinpointing which consumer segments are best suited/ equipped to adopt clean and efficient cookstoves in each country, and identifying key insights for developing effective products and marketing strategies



Photo credit: Winrock International

CONSUMER RESEARCH

Understanding what features and benefits consumers are willing to pay for, and how different payment structures can contribute to greater uptake is also a key area of market research. To this end, Willingness-to-Pay studies have been completed for different cookstove markets globally. The USAID WASHplus project conducted two willingness-to-pay (WTP) studies in Bangladesh and Nepal. Results from those studies, which are discussed in reports that are available on the [WASHplus Resources page](#), found that consumer financing options were important in both countries, although not sufficient in and of themselves in Bangladesh. The USAID-funded TRAction project also commissioned [research in Uganda on WTP for cookstoves](#), which tested the effects of different marketing messages on WTP and studied how different payment strategies impacted a consumer's WTP. They found that it was "extremely difficult to increase poor households' WTP using marketing messages alone" and that introducing various payment strategies (i.e., installments) had a much greater impact. It is important to note that different strategies may be needed in different cultural/geographic contexts, and amongst different consumer segments. Other organizations, including the World Bank and SNV, have also [commissioned research on WTP and effective messaging](#).

MARKETING AND DISTRIBUTION STRATEGIES

Marketing strategies vary by country – the type of marketing that reaches and appeals to target consumers in Kenya may not reach or appeal to target consumers in India or Guatemala. The most effective methods for marketing also vary by consumer segments: women, men, urban, rural, low income, middle income, different age groups, users of different fuels and those cooking in different climates within the same country. Understanding the market is critical, and that includes knowing what type of marketing approaches have the most impact and reach in the areas you're working.

Hystra has been working to study and share lessons related to marketing and distribution at the BoP level, through [webinars and reports available on their website](#). Hystra's publication [Reaching Scale in Access to Energy](#) investigates barriers and solutions to scale for market-based approaches offering cleaner energy access to low-income customers in developing countries. Shell Foundation has been working on market development activities for cookstoves since 2002, and in 2014 released a [report on the main lessons from this work](#), including 6 barriers to growth and their approach to overcoming them. These include 1) the need for 'significant' early stage support; 2) understanding that early adopters aren't necessarily the BOP consumers; 3) the need for innovation across the value chain; 4) the need for financial solutions; 5) focus on talent development; and 6) the need for global networks. They also released, in 2013, [a report on their lessons learned specifically related to social marketing efforts](#) in the cookstove sector in India. SNV released [Successful Distribution models for Clean Cookstoves](#) in 2015 which draws from 10 case studies in Africa, Asia and Latin America and outlines key lessons for the establishment of last mile distribution chains for clean cookstoves.

More information on consumer-focused research to develop effective marketing efforts is included in the [Consumer Preferences and Adoption](#) section of this toolkit.

RECRUITING, TRAINING AND INCENTIVIZING SALE STAFF AND ENTREPRENEURS

Recruiting, training and incentivizing sales staff and entrepreneurs is also a key part of developing sustainable cookstove markets. There are still many gaps in our understanding of what factors best contribute to entrepreneurial success in the cookstove sector, and how to effectively train, recruit, incentivize and retain sales teams. Business models are still evolving, with many companies continuously experimenting with their strategies. Some of the most common models include:

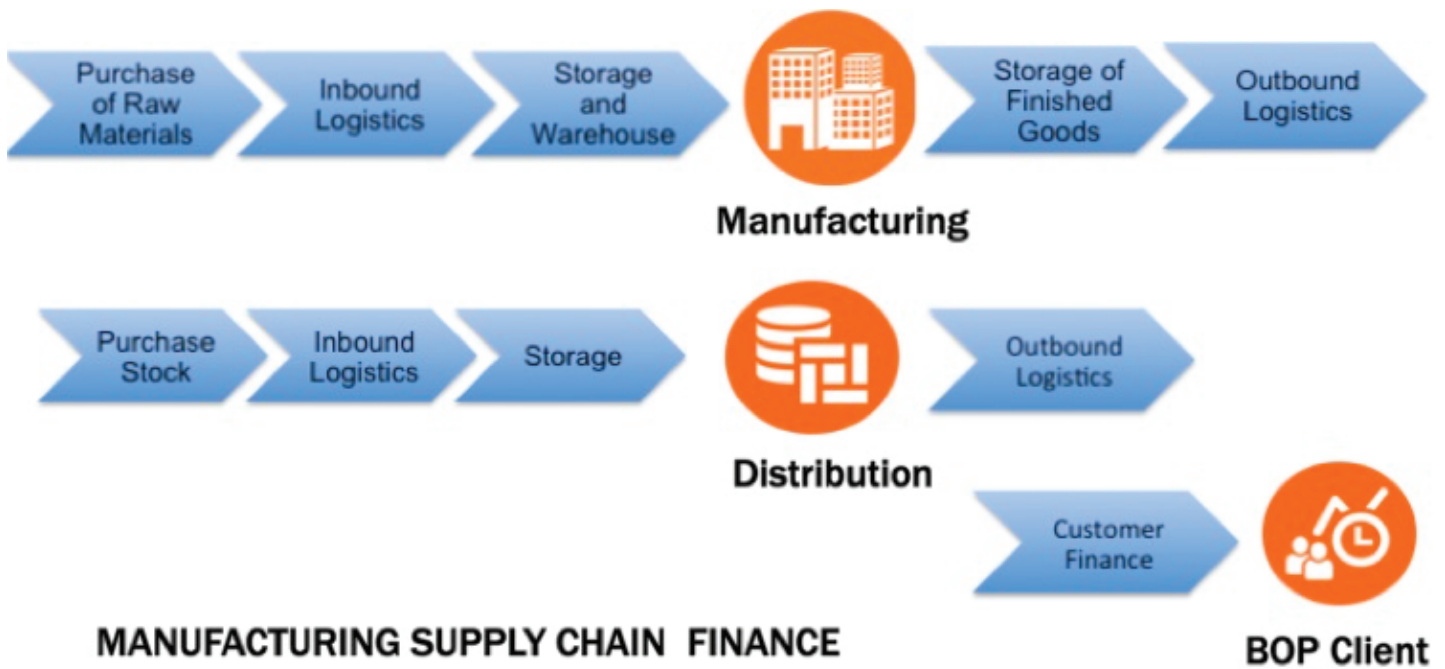
- Salaried sales staff / direct consumer sales.
- Commission payments or earned margins on stoves sold, independent agents working with or without consignment options.
- Salaried sales staff + commissions.
- Business to Business sales: salaried staff selling to supermarkets, corporations (corporate social responsibility), aggregator organizations (associations), third party distributors, or local retailers/kiosks.
- Sales through financial institutions, such as MFIs, credit cooperatives, commercial banks, savings groups and others.
- Promoters/village level entrepreneurs/women's groups working at community levels, earning margins on stove sales.

Training and incentives strategies for sales teams and promoters also vary greatly, with many organizations – given limited resources - providing only a basic introduction to the stove features and benefits, rather than comprehensive business training. Sales staff and entrepreneur training needs also vary by business model. Many companies are interested in recruiting and retaining higher numbers of women entrepreneurs and sales staff, given that the primary users of the stoves are women. A randomized controlled trial conducted by Johns Hopkins University, and implemented by ESVAK Kenya, studied the impact of agency-based empowerment¹ training on the business activity and sales of women entrepreneurs in Kenya. The study found that women entrepreneurs who received the agency-based training sold nearly 3 times as many improved cookstoves as men generally; men and women getting the enhanced training were 2.7 times more likely to be high sellers; and women and men who received the agency-based empowerment training were twice as likely to pursue sales leads and continue their business activities when faced with challenges. More on agency-based empowerment, including a fully developed curriculum for training cookstove entrepreneurs can be found at: <http://cleancookstoves.org/resources/342.html>.

Examples of strategies for recruiting, training and incentivizing sales staff were discussed during an EPA/Winrock webinar available [here](#). Other strategies for retaining women sales staff and entrepreneurs are included as part of the Alliance’s Scaling Adoption of Clean Cooking solutions through Women’s Empowerment Resource Guide.

COOKSTOVE FINANCING

Financing is needed across the supply chain, and when financing is delayed or unavailable, the entire chain can break down. Arguably there are numerous critical investment needs for cookstove manufacturers requiring capital expenditures to set up or expand their businesses, such as machinery/equipment, facilities, logistics/transport and others. However, this section focuses on specific strategies to provide working capital to cookstove distributors, as well as end-user financing for consumers. Both of these requirements have been identified as missing components in the sector – see figure below.



¹ Agency-based empowerment focuses on the internal factors that help create change; one’s ability to make and control decisions that affect one’s own life (involves self-awareness, self-confidence, etc.). This differs from traditional resource-based empowerment programs, which focus on external support.

CONSUMER FINANCE

Consumer financing can have a significant impact on willingness to pay (WTP) and uptake of advanced cookstoves and fuels, making it important to think creatively about ways to incorporate financing options into new and ongoing cookstove programs. Some common challenges around cookstove consumer financing include small loan sizes – cookstoves may be too expensive for consumers to purchase outright, but too inexpensive to warrant development of a specialized loan product for formal financial institutions, given the upfront and ongoing client due diligence and administrative costs. Because of the working capital constraints faced by manufacturers and distributors, they are often unable to provide credit terms to customers independent of financial partners. To compound the challenge, in many countries, financial partners that are willing to provide financing often lend at very high interest rates, making the products more expensive for BOP consumers. There are several initiatives and strategies being employed currently that are aimed at overcoming these challenges.

Some of the most common forms of consumer finance strategies include:

- **Installment payments:** Offering consumers the option of paying for the stove over a period of weeks or months, through upfront layaway payments or an agreed-upon schedule of post-sale payments, is a fairly common strategy. Drawbacks include that cookstove purchases can be impulsive (at market days, demonstrations etc.), and consumers are not always willing to pay through a layaway arrangement for a stove they won't receive immediately. For distributors with limited cash-on-hand, offering post-sale installment payments ties up critical working capital that is needed to purchase new stock or for other daily business operations. Without matching financing terms for the distributor to purchase stock, these arrangements can be difficult to scale.
- **Employer payroll deductions:** With larger employers, such as tea farms, flower farms, government-paid professions (e.g., teachers), payroll deductions are an important financing tool. Employers deduct a set amount from the employee's paycheck over time to pay back the stove. As deductions are taken out of paychecks before they hit the employee's account, they are seen as a very secure form of lending on behalf of the employer. Thus if employers have cash on hand to purchase bulk orders upfront, this arrangement can be very beneficial for the distributor. Some employers may still expect the distributor to provide payment terms whereby the distributor is paid back over time by the employer. In this case, the distributor still has the advantage of working with one intermediary rather than having to collect hundreds of small installment payments directly from the consumers, but similar working capital constraints emerge.
- **Community savings groups and SACCOs:** Community-level savings groups, often called merry-go-rounds or 'chamas' (East Africa) are micro-savings groups that pool savings from members for borrowing. Typically, members pool savings and the ability to borrow is rotated among members. These groups often serve as small informal lenders and cumulatively account for millions of dollars' worth of savings and loans in a range of countries around the world. The distributor benefits from working with community savings groups by receiving payment upfront. This means they are not forced to tie up working capital, or collect payments from numerous individual consumers.
- **Savings and Credit Cooperatives (SACCOs)** are larger, more formally regulated savings groups, which hold member savings and disburse loans for goods and services, such as education, housing, agricultural production and – increasingly – energy products. USAID has been working with the Kenya Union of Savings and Credit Cooperatives (KUSCCO) through the DSCS project to establish a loan facility dedicated to cookstove lending. The Jiko Safi 'Clean Stove' Fund lends money to SACCOs for on-lending to their members to purchase cookstoves.
- **Micro-Finance Institutions (MFIs):** MFIs are also formally regulated lenders that provide small loans (as well as insurance and other types of financial products). Typically, their clients are low income business people that are unable to access commercial financing. Successful MFIs often have large numbers of clients, and they are more likely to reach women borrowers than other types of institutions or distribution channels. A number of MFIs are currently developing their own distribution chains for improved stoves and other energy products. The USAID

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REMMP and PACE-D technical assistance programs have supported a number of MFIs in India to develop energy-lending programs, such as [ESAF in India](#).

- **Mobile payments:** Around the world, mobile payment options are becoming increasingly available as a means to pay for clean energy services. Kenya is a leader in establishing highly-accessible mobile payment systems, and offers M-Pesa – a pioneer in the mobile money transfer service sector, filling a void for the traditionally unbanked population. Through M-Pesa, consumers can add credit to their mobile wallet and transfer funds to buy goods and services, including cookstoves, from local retailers. M-Pesa is a branchless banking service that relies on agents, allowing it to penetrate to last mile consumers in rural areas with strong cellular networks. Other mobile payment apps include Equity Bank's Equitel platform, that provides an online energy loan called the EcoMoto loan, offering pre-approved Equity customers the ability to obtain a loan instantly from authorized Equity Agents using their smartphone app.

ENTERPRISE FINANCE

Enterprise financing is needed at both the distributor and the manufacturer links in the cookstove supply chain. However, because most companies in the sector are still start-ups, or young (growth) companies, they face constraints in securing commercial financing. Typically, this is because they are unable to meet collateral requirements, and do not have an established track record of borrowing and repayment.

- **Working capital financing:** One of the biggest barriers to scaling up successful cookstove distribution businesses is access to finance, particularly working capital finance. Margins for most cookstove distributors can be fairly small, and adding any sort of payment terms for retail partners or consumers further ties up the working capital available to purchase new stock. To alleviate these constraints, the USAID DSCS project established a revolving loan facility in Kenya through local financial institution Micro Enterprise Support Programme Trust (MESPT) to provide working capital to cookstove distributors (including MFIs acting as product distributors). Some challenges and benefits of partnering with formal financial institutions are included in the [DSCS Briefing Notes](#). The Global Alliance for Clean Cookstoves is also developing a [working capital facility](#) with Deutsche Bank's Community Development Finance Group that will provide loans and loan guarantees to enterprises in the clean cooking sector. The US Overseas Private Investment Corporation (OPIC) has provided [cookstove enterprise finance for large-scale international stove enterprises](#) in the form of debt financing, which has provided a critical injection of capital into the sector.
- **Impact Investors:** Impact investment companies have also contributed to cookstove enterprise financing efforts. The Calvert Foundation's [Women Investing in Women Initiative](#) (Win-Win) is a gender-focused investment program, which provides financing to social enterprises, including cookstove companies, that support women's empowerment and advancement. Calvert has invested in manufacturers and distributors that provide clean energy technologies to off-grid communities. Acumen is a pioneer in investing in energy and other social enterprises serving BoP consumers, as part of its social impact investing initiatives, and made its first two investments in the cookstove sector in 2015 by providing investments in [BURN Manufacturing](#) and [Biolite](#).
- **Results-based financing:** One of the newest forms of enterprise finance in the clean cooking sector is results-based financing (RBF). RBF mechanisms provide incentives for performance, usually around reaching a certain scale (e.g., of sales, products produced). RBF mechanisms can also sometimes be linked to [climate](#) and [health](#) results. DFID, through the [EnDev](#) program, has been rolling out RBF mechanisms for cookstoves (and solar) in multiple countries worldwide. In Kenya, for example, eligible financial institutions are working with EnDev to scale up distribution of high-performing cookstoves, and will receive payments for hitting certain sales targets. In Cambodia and Vietnam, EnDev is launching '[The Stove Auction](#)', which prequalifies certain stoves (purchased from manufacturers at a set price) to be auctioned to local distributors, providing financial incentives to distributors who purchase the auctioned stoves. The drawback to RBF programs is that they can't necessarily address the working capital constraints described above, but when combined with existing working capital finance, there is real potential to scale.





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