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YEAR 2 ANNUAL REPORT

HAITI IMPROVED COOKING TECHNOLOGY PORGRAM

November 22, 2013

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YEAR 2 ANNUAL REPORT

HAITI IMPROVED COOKING TECHNOLOGY PROGRAM

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ACRONYMS

AAN	Autorité aéroportuaire nationale
ACME	A microfinance institution with retail offices in Port-au-Prince
AMURT	Ananda Marga Universal Relief Team (an NGO registered in Haiti)
ANADIPP	Association nationale des distributeurs de produits pétroliers
BID	Banque Interaméricaine de Développement
BME	Bureau des mines et de l'énergie
BMP	Best management practice
BOP	Base of the pyramid (marketing)
C&K	A hardware store and importer of LPG stoves and parts
CCT	Controlled cooking test
CDIFEEH	Centre de Développement et d'Investissements en Fabrication d'Equipements Energétiques en Haïti
CDM	Clean Development Mechanism (UN)
CER	Certified emissions reduction
CFI	Centre de facilitation des investissements
CME	Coordinating or managing entity
COR	Contracting officer's representative
CPA	CDM Program Activity
CQC	C-Quest Capital
D&E	D&E Green is a Haitian company manufacturing improved charcoal stoves
DEF	Département de l'Enseignement Fondamental (MENFP)
DNA	Designated national authority
DNV	Der Norske Veritas (a designated operational entity)
DOE	Designated operational entity
DOP	Department of pompiers
EA	Environmental assessment
EdM	Entrepreneurs du monde
EFACAP	Ecole fondamentale d'application et centre d'appui pédagogique
EMMP	Environmental Mitigation and Monitoring Plan
EMPR	Environmental Mitigation Plan Report
EOI	Expressions of interest
EPA	Environmental Protection Agency (USA)
ESF	Environmental screening form
EWI	The Edge Worldwide (a media and marketing company)
FEPH	Fédération des Ecoles Protestantes en Haiti
FHAF	Fonds Haitien d'Aide à la Femme

FOB	Freight on board
GACC	Global Alliance for Clean Cookstoves
GIZ	German Agency for International Cooperation
GOH	Government of Haiti
GS	Gold Standard (a voluntary system of carbon credits)
GWh	Gigawatt hour (a unit of energy)
HDF	Haiti Development Fund
HTG	Haitian Gourde ($1 = 44 HTG)
IAP	Indoor air pollution
ICS	Improved cook stove (charcoal)
ICT	Improved Cooking Technology
ICTP	Improved Cooking Technology Program (known as Recho Pa'w in Haiti)
IDM	ID Microfinance (an MFI associated with EdM)
IDP	Internally displaced persons
IEE	Initial environmental evaluation
IFRC	International Federation of the Red Cross
ILF	International Lifeline Fund
IR	Intermediate Result
KPT	Kitchen performance test
LB	Pound weight (0.454 kg)
LoA	Letter of Approval
LPG	Liquefied Petroleum Gas (called propane in Haiti)
LS	Longitudinal study (of charcoal stove performance)
M&E	Monitoring and evaluation
MCI	Ministry of Commerce and Industry
MENFP	Ministère de l'Education Nationale et de la Formation Professionnelle
MEO	Mission Environmental Officer (USAID)
MFI	Micro finance institution
MSE	Ministry of Security for Energy
MOU	Memorandum of understanding
NAS	Narcotics Affairs Section (US Government agency)
PAP	Port-au-Prince
PEMS	Portable emissions monitoring system
PCIA	Partnership for clean indoor air
PM	Particulate matter (air pollution)
PMP	Performance Monitoring Plan
PoA	Program of activities (under the CDM)
RFA	Request for applications (usually for grants)

RFP	Request for proposals
RTNH	Radio et télévision nationale de Haiti
SAPF	Special activities and partners fund
SBD	Small business development
SFV	Street food vendor
SHG	Self Help Group
SME	Small and Medium Enterprise
SPSS	Statistical analysis software
STTA	Short-term technical assistance
SUMS	Stove use monitoring system
SONAPI	Société Nationale des Parcs Industriels
TEC	Technical Evaluation Committee
ToT	Training of Trainers
UCLBD	Unité de Construction de Logements et de Bâtiments Publics
UEH	Université d'Etat d'Haiti
UN	United Nations
UNFCCC	UN framework convention on climate change
USAID	US Agency for International Development
VC	Valerio Canez --a hardware retailer and importer of LPG stoves and parts
WBT	Water boiling test

SECTION 1: INTRODUCTION

The objective of the Improved Cooking Technology Program (ICTP), also referred to as Recho Paw, is to set Haiti on a path towards long-term sustainable cooking solutions and achieve a significant reduction in charcoal consumption by large users and households. ICTP is working to achieve this objective by expanding the market for improved biomass cookstoves and cleaner fuels, developing clean energy businesses engaged in supplying the market with cleaner fuels and improved biomass cookstoves, educating and raising awareness among consumers to increase the demand for cleaner technologies, and addressing the regulatory issues that are limiting the expansion of LPG in Haiti.

The program commenced in February 2012 and will continue until February 2015. This second annual report covers the period October 1, 2012 to September 30, 2013.

Key achievements during the reporting period include:

1. Conversion of the SONAPI food zone from charcoal to LPG. In a tripartite agreement between SONAPI, Sodigaz and ICTP, SONAPI's food zone where over 10,000 workers buy a hot meal every day was switched over to LPG. SONAPI provided an in-kind loan (the purchase of the commercial LPG stoves) to the 52 people doing the cooking (49 of them women). They will reimburse SONAPI on a monthly basis until the cost of the stoves is paid off. Sodigaz installed the LPG infrastructure, including two 100-lb gas cylinders for each cook. By switching from charcoal to LPG, approximately 800 tons of charcoal are saved each year. The SONAPI 'charcoal-free' restaurant zone is the first of its kind in Haiti and serves as a model for new 'charcoal-free' street food zones that six Port-au-Prince communes are planning to establish over the coming months.
2. In October 2012, directly as a result of advocacy from and work of ICTP, the Government of Haiti waived import duty and all taxes on the importation of LPG, gas cylinders, pressure regulators, valves, and associated tubing. This action on the part of the government was published in a special edition of 'Le Moniteur' on October 1, 2012. Exonerating LPG and gas cylinders from import duty reduces the cost of both the commercial stoves manufactured in Haiti and the cost of the LPG itself. LPG is now substantially less expensive than charcoal, and the government's action is helping to promote and expedite the transition from charcoal to LPG in Haiti.
3. The program has established a solid commercial foundation for manufactures of improved charcoal stoves in Haiti. Five, very efficient, charcoal stoves are now being manufactured (or assembled) in the country:

- The Prakti Wouj stove assembled by Prakti Haiti S.A.
- The Plop Plop stove manufactured by International Lifeline Fund
- The Eco Recho stove manufactured by D&E Green
- The Haiti Metal Recho Mwen stove
- The Rena stove, manufactured by Ticadaie S.A.

4. Two manufacturers: D&E Green and ILF have benefitted from financial support from ICTP to enable them to improve their manufacturing and production processes. Importantly, the distribution and retail network has been substantially strengthened. In collaboration with Entrepreneurs du Monde and private sector partners Micama and Ticadaie, there are now over 69 retail outlets in Port-au-Prince selling improved cookstoves. A total of 12,777

improved charcoal stoves were sold in Port-au-Prince in FY201, surpassing the target set for the program by 27.8 %.

5. The program successfully submitted a Program-of Activities under the UN's Clean Development Mechanism. Named 'Improved Cookstoves for Haiti', the PoA is now in the process of being validated and registered. Project partner C-Quest-capital is the Coordinating Managing Entity for the PoA. In support of this submission, ICTP conducted comprehensive national baseline studies of charcoal consumption in households, by street food vendors, and in schools. The reports on these baseline studies will comply with both CDM and Gold Standard methodologies thus allowing independent stove manufacturers in Haiti to apply for carbon credits under the Gold Standard scheme in the future.

SECTION 2: OVERVIEW AND SUMMARY OF RESULTS

The Improved Cooking Technology Program is managed and implemented by Chemonics International as prime contractor leading a consortium composed of Mercy Corps, C-Quest Capital (CQC), as well as many local partners, via subcontracts and grants

- Chemonics is responsible for oversight and management of all programmatic areas, local subcontractors, public-private partnership development, and project monitoring and evaluation.
- Mercy Corps provided technical assistance in the development and implementation of activities aiming at improved biomass cook stoves market growth. Mercy Corps' subcontract ended in June 2013.
- C-Quest Capital leads the carbon financing activities, which includes serving as the coordinating or managing entity (CME) for the CDM program of activities (PoA). C-Quest Capital's subcontract will end in January 2014.

The objective of the ICTP is to expand the market for sustainable improved cooking technologies. To achieve this objective, the program is structured in terms of five intermediate results, each of which has a specific program of associated activities.

Establishing a thriving local market and industry for household improved biomass cook stoves. The strategy for this component is multi-faceted. The program supports the development of a range of stoves to create a true market by targeting both supply- and demand-side constraints to long-term market growth.

1. ***Reducing charcoal consumption by large users, particularly food vendors, schools and orphanages***. The program will enable more than 5,000 street vendors, orphanages, and schools to switch from charcoal to LPG by increasing access to quality cooking equipment, fuel and financing.
2. ***Building a legal and regulatory framework for LPG***. The Improved Cooking Technology program works closely with the government of Haiti (GOH), LPG companies and distributors, and other stakeholders to provide needed expertise and to help bring stakeholders to a consensus on LPG regulations, standards, and pricing.
3. ***Devising carbon finance and financial incentives for scale-up***. The program is working to establish local carbon assets that generate long-term revenue streams contributing to the sustainability of the market for improved cookstoves
4. ***Strengthening the capacity of enterprises along the biomass cookstove supply chain to profitably scale up production and sale of improved cookstoves.*** The program is working to establish sustainable businesses at all levels of the cookstove supply chain.

ORGANIZATION

The organizational chart, presented on the following page, outlines the program's management structure for the reporting period. Program Director [redacted] is responsible for overall program implementation, working closely with USAID and the GOH to ensure their support, integration, and participation in all activities.

[redacted] is responsible for the timeliness and quality of all deliverables and for reporting under the terms of the contract and work plan. He provides direct supervision, oversight and strategic guidance to the project team; he also leads the work focused on Carbon Finance.

The technical team is responsible for designing and supervising the delivery of technical and financial assistance. Long-term team members provide technical assistance on a strategic basis, utilizing the services of local partners and individual short-term consultants who provide technical assistance as required. Ms [redacted] was responsible for implementing the biomass energy components of the program, and technical Leader [redacted] is responsible for leading the LPG program activities.

A legal specialist, [redacted], available on an as-needed basis, assists with the management of legal issues related to the certification of cookstoves and the promulgation of the law related to the management of the LPG sector. Cross-cutting components for the program include:

1. Communication and outreach, managed by [redacted]
2. Monitoring and evaluation of program activities and validation of the program's reported results are the responsibility of [redacted]
3. Gender: the development and implementation of a gender strategy is the responsibility of [redacted]

[redacted]

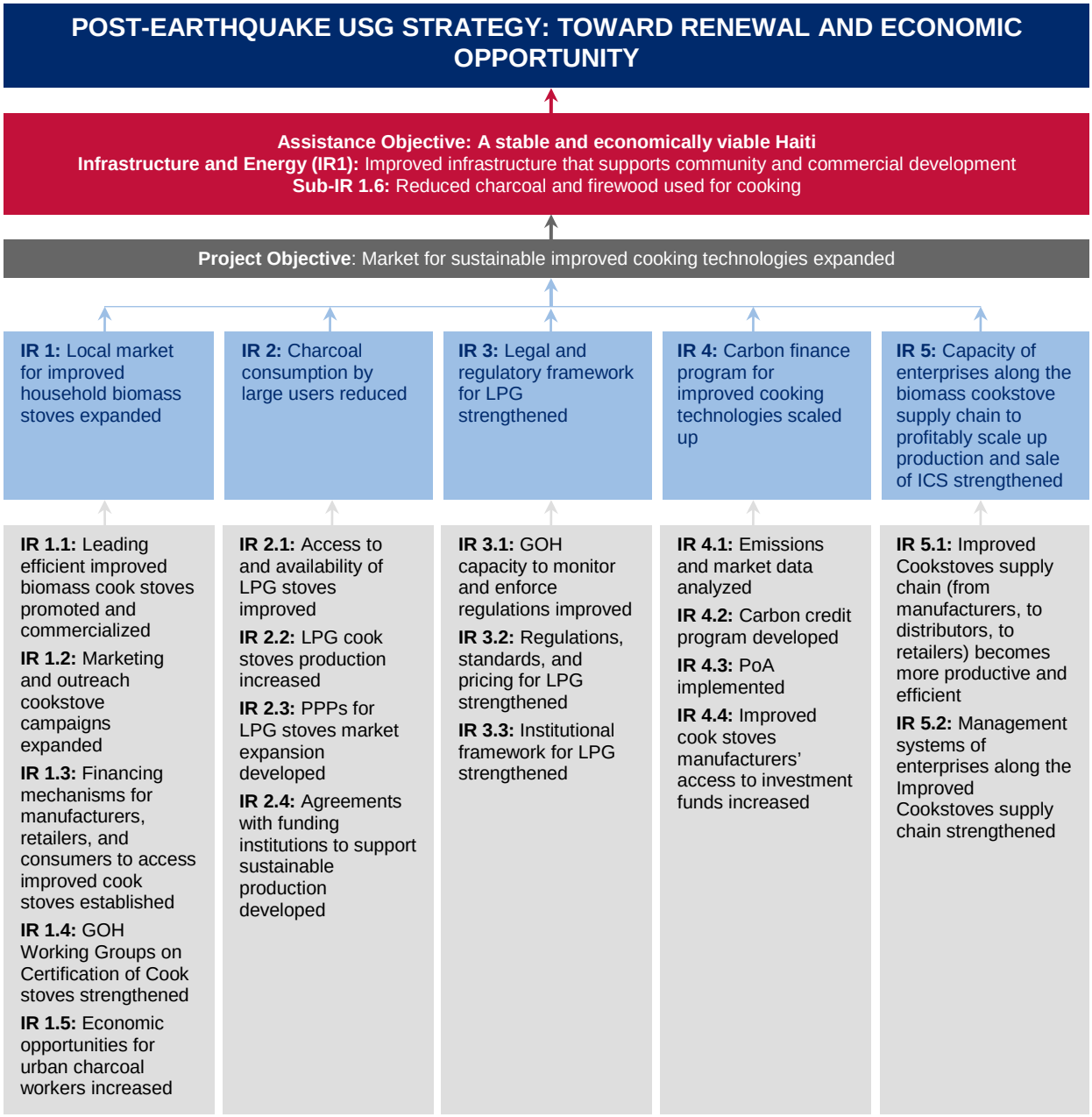
RESULTS FRAMEWORK

ICTP's results framework identifies the building blocks of the strategy to achieve the project objective of setting Haiti on a path towards long-term sustainable cooking solutions and achieving a significant reduction in charcoal consumption by large users and households. During the third quarter, the ICTP contract was modified to increase the budget by [redacted], and modify the Statement of Work to include assistance to enterprises, and build their capacity to improve the market chain for improved cookstoves. This resulted in the revision of the Results Framework (below) to include IR 5.

The ICT program uses this framework as a planning and management tool. The results framework incorporates the development hypothesis implicit in the approach to achieving contract results, as well as the cause-effect relationships between the program's five intermediate results and the project objective.

The five Intermediate Results (IRs) in the ICTP framework capture the outputs and outcomes of the tasks and deliverables outlined in the contract with USAID. The program also contributes to the Modern Energy Services program element under the Economic Growth objective within the United States Foreign Assistance Framework.

FIGURE 2. HAITI IMPROVED COOKING TECHNOLOGY PROGRAM RESULTS FRAMEWORK



For the purposes of planning and implementing the work of the program, the program's five IRs are aligned with five program components.

PRINCIPAL ACHIEVEMENTS IN YEAR 2

COMPONENT 1: LOCAL MARKET FOR IMPROVED HOUSEHOLD BIOMASS COOKSTOVES EXPANDED

Under Component 1, the program promotes and commercializes the best improved biomass cookstoves, expands the marketing of cookstoves through various outreach activities and marketing campaigns, establishes financing mechanisms to facilitate purchases of improved cookstoves, works to strengthen the

Government's capacity to develop and manage the certification of cookstoves, and identifies alternative economic opportunities for urban charcoal workers.

Component 1: Principle Year 2 Results

- ICTP identified one more charcoal stove that meets the certification requirements for an improved cookstove--meaning that the stoves have an efficiency of at least 30% compared to a traditional charcoal stove. Five charcoal stoves now meet efficiency standards
- Four of the five improved stoves are manufactured in Haiti (the Prakti Wouj, is assembled but not manufactured in Haiti). Three manufacturers have received grants from the ICTP through a competitive procedure to increase their production and improve the quality of their stoves
- 57 new sales points have been established in metropolitan Port-au-Prince in order to enable consumers to easily find an improved charcoal stove in their locality.
- Over 12,777 improved charcoal stoves have been sold up to September 2013, contributing to reducing the consumption of charcoal by about 3,000 tons a year
- The ICTP set up a stove testing facility at the Bureau of Mines and Energy (BME) and trained three BME technicians on stove testing methodologies based on international protocols
- Self Help Groups have been established for 60 charcoal workers helping them to find alternative livelihoods

COMPONENT 2: CHARCOAL CONSUMPTION BY LARGE USERS REDUCED

To achieve the results expected under IR 2, ICTP is increasing access to and ensuring the availability of LPG stoves, increasing LPG stove production, and developing public-private partnerships (PPPs) for LPG stove market expansion.

Component 2: Principle Year 2 Results

- There are now nine manufacturers of LPG stoves in the metropolitan Port-au-Prince area that manufacture stoves that comply with the technical standards set by the program
- 750 large users of charcoal (street food vendors and schools) have switched to LPG, translating into almost 21,700 tons of charcoal saved as a result of program assistance.
- A marketing and awareness-raising campaign for LPG successfully ran for six months in 2013, and the program conducted 91 public demonstration of commercial LPG stoves, thereby contributing to an increase in the use of LPG by street food vendors from 6% in September 2012 to 16% in September 2013
- The quantity of LPG sold in metropolitan Port-au-Prince during the period March 2012 to September 2013 increased by 25 percent, translating into a reduction of charcoal consumption by about 19,000 metric tons More than 10,000 household LPG stoves have been sold in the Port-au-Prince area (although not all directly attributable to the program)
- 65 technicians have been trained by the program on the repair of LPG stoves, and have started to provide their services to LPG stoves users.
- Four retailers in Port-au-Prince now regularly import LPG burners and other stove parts necessary for the manufacture of commercial LPG stoves, making it easier and faster to repair LPG stoves.
- With support from the ICTP, the SONAPI industrial converted its outdoor cooking area park (which serves 10,000 meals a day) entirely from charcoal to LPG, which will save over 800 tons of charcoal a year.

COMPONENT 3: LEGAL AND REGULATORY FRAMEWORK FOR LPG STRENGTHENED

The ICT program works to improve the Government's capacity to monitor and enforce LPG regulations; strengthen regulations, standards, and pricing for LPG stoves; and reinforce the institutional framework for the management of the LPG sector.

Component 3: Principle Year 2 Results

- The program has provided substantial technical advice and assistance to the Ministry of Commerce and Industry (MCI) in analyzing the economic environment of the LPG sector in order to lay the foundation for legislation that is correctly structured and reflects the reality of sector The ministry responsible for developing the draft LPG legislation
- An economic analysis of the LPG sector, a precursor to the formulation of the legislation, was prepared and circulated for comment by InterConsult (a consulting company under contract to the MCI) with significant technical assistance from the ICTP.

COMPONENT 4: CARBON FINANCE PROGRAM FOR IMPROVED COOKING TECHNOLOGIES SCALED UP

Results under IR 4 will be achieved through analyzing emissions and market data on household energy consumption, supporting the development of a carbon credit program, designing an effective Program of Activities, and increasing access to investment funds by improved cookstove manufacturers.

Component 4: Principle Year 2 Results

- A 12-month Longitudinal Study of the performance of improved charcoal stoves started in August 2013 and is now underway.
- A baseline survey of charcoal consumption in Port-au-Prince households was conducted by the program with a view to providing information necessary for the PoA design documents.
- Baselines for energy consumption in schools and by street food vendors were completed. Results are being used to estimate charcoal savings when these users switch to improved charcoal stoves
- The Design Documents for CDM Program of Activities were completed and submitted to the CDM authority in April 2013. The Documents are used to calculate the carbon credits generated when a traditional charcoal stove is replaced by an improved charcoal stove
- A Stakeholder Consultation meeting was conducted in Port-au-Prince on 15 October 2012, and resulted in information about the PoA being made available to the public in general and stakeholders in particular

COMPONENT 5: CAPACITY OF ENTERPRISES ALONG THE BIOMASS COOKSTOVE SUPPLY CHAIN TO PROFITABLY SCALE UP PRODUCTION AND SALE OF ICS STRENGTHENED

IR 5 focuses on the micro-level activities that will improve the operations of specific actors along the improved cookstove supply chain. Under this set of activities, the program will provide funds for multiple actors along the supply chain to pilot innovative marketing and commercial strategies. Although this Intermediate Result was only added to the program in May 2013, several results have been achieved.

Component 5: Principle Year 2 Results

- Based on grant applications, the program has selected five supply chain partners to pilot innovative strategies for marketing and commercialization of improved charcoal stoves
- Two supply chain partners have been selected to receive grants to improve their stove stock and transportation capacity

SECTION 3: COMPONENT 1 – RESULTS AND DISCUSSION

1. LOCAL MARKET FOR IMPROVED HOUSEHOLD BIOMASS COOK STOVES EXPANDED

1.1 Leading Efficient Improved Biomass Cookstoves Promoted and Commercialized

1.1.1 GUIDE THREE MANUFACTURERS TOWARDS COMMERCIALIZATION

Expected Results

- Four improved cookstoves that meet the program's proposed certification standards will be available on the market in PAP for household consumers
- 10,000 stoves sold in pre-commercial trials and sales

Actual Results

- Five improved cookstoves meet proposed certification standards and are available on the market in Port-au-Prince
- 12,777 improved charcoal stoves have been sold in pre-commercial trials

Narrative

During Year 1 of the program, the program selected four improved cookstove (ICS) models and their manufacturers to participate in the program's commercialization efforts of improved charcoal cookstoves. The stoves were identified and evaluated using Controlled Cooking Tests (CCT), and through user feedback from focus groups and studies conducted by Entrepreneur du Monde. In August 2013, a new stove manufactured in Haiti by Ticadaie S.A., came onto the market and was included in the group after tests showed it was very efficient.

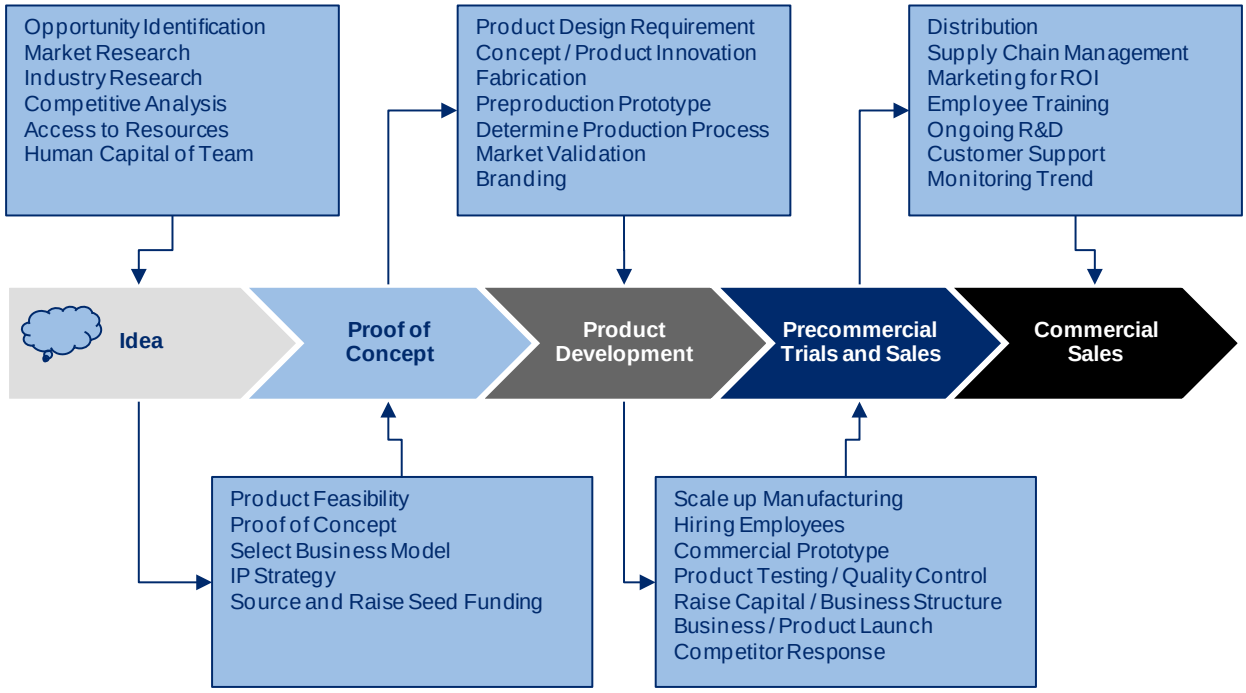
The five improved charcoal stoves now receiving commercialization support are:

1. The Prakti Wouj stove
2. The International Lifeline Fund (ILF) stove
3. The Eco Recho stove manufactured by D&E Green
4. The Mwen Recho stove manufactured by Haiti Metal
5. The Rena stove, manufactured by Ticadaie S.A.

These five stove models are being promoted by the program and guided through the commercialization process.

The program’s commercialization strategy is shown below.

Figure 3. **Commercialization Process for Improved Biomass Cookstoves**



In FY2012, ICTP completed the first two steps and commenced the third step of product development, while in FY2013, commercialization efforts focused on the last three steps of the commercialization process:

1. Continuing Product Development
2. Pre-commercial Trials and Sales
3. Commercial Sales

1. Continuing Product Development

The program focused on continuing to support the development of quality, Haitian-manufactured stoves that meet efficiency standards. In April 2013, the program competed and awarded in-kind support in the form of manufacturing equipment to two manufacturers, ILF and D&E Green, to increase their production capacity. The equipment will be delivered in December 2013. The program provided all manufacturers who meet efficiency standards with short term technical assistance (STTA) to finalize stove designs, build up the business management structure and capacity, and to increase manufacturers' access to capital. Throughout FY2013, the program continued to test the stoves to ensure quality control among the selected manufacturers, while working with government partners to establish a Haitian testing and certification body, which will take over this role beyond the life of the project.

2. Pre-commercial Trails and Sales

Towards the end of FY2012, the ICTP contacted the International Federation of the Red Cross (IFRC) and organized meetings with the program's selected manufacturers. As a result of ICTP's intervention, in FY2013, IFRC purchased 9,000 improved charcoal stoves and then sold them in 16 Internally Displaced Persons (IDP) camps. ICTP also integrated Entrepreneur du Monde (EdM) into this activity to help recruit and train stove sales agents to conduct marketing and sales campaigns within the camps. The

program and partner organizations used the lessons learned from this activity to improve sales and marketing activities for the wider Port-au-Prince market. One lesson was that improved charcoal stoves could be sold to the most disadvantaged people without subsidies. Stove sales in IDP camps also increased significantly after ICTP began directly training camp stove vendors and providing them logistical support delivering stoves to the various sales agents in the 16 target camps.

This activity was one of a number of pre-commercial trials and sales conducted in Port-au-Prince to test consumer interest in the purchase and adoption of improved cookstoves. The program also worked with manufacturers (D&E Green and ILF) to conduct pre-commercialization trials in Carrefour Feuille with American Red Cross (ARC), and in Croix des Bouquets with EdM retailers that manage individual household energy shops, selling not only stoves but also solar lanterns and other energy products. ICTP worked with partners; including IFRC, EdM and others; to sell a total of 12,777 improved cookstoves in FY2013.

3. Commercial Sales

To complete the final step in the commercialization process, Commercial Sales, in FY2013 ICTP began moving from trials to widespread commercialization. The program focused on the four P's, 1) Product, 2) Place, 3) Price, and 4) Promotion. Consumers have to be aware of the products, have easy access to sales points, accept the price, and be educated on the product and its value.

[redacted] a cookstoves expert, was consulted in mid-August 2013. He trained manufacturers to conduct a series of Controlled Cooking Tests (CCTs) and Water Boiling Tests (WBTs) in order evaluate their own stoves. CCT's strengthen the capacity of stove enterprises by ensuring the stoves meet international quality standards: which is one of the keys to customer satisfaction.

1.1.2 INCREASE NUMBER OF IMPROVED SALES POINTS

Expected Results

- 15 new sales points established across Port-au-Prince
- 2,000 improved charcoal stoves sold from new sales points across Port-au-Prince

Actual Results

- 57 new sales points established across Port-au-Prince (86% of the total of 69 sales points)
- Since 1 October 2012, 12,777 improved charcoal stoves were sold in metropolitan Port-au-Prince. Since 86% of the sales points are new sales points, it is estimated that approximately 10,555 stoves were sold from new sales points

Narrative

Following the mapping of 15 sales points in FY2012, the program provided ICS manufacturers and retailers with the training and technical assistance necessary to develop new sales points for improved charcoal stoves in FY2013. Fifty-seven new sales points were created in FY2013. These new sales points increase stove sales as they enabled customers to have easier access to improved stoves. Initially the program focused its efforts on EdM and Prakti, later establishing partnerships with ILF, TWP and D&E. Through these partnerships, these local organizations established 39 mobile sales points, and 15 fixed sales points.

To improve the ICS supply chain, the program the program held two workshops to bring together manufacturers and retailers. These workshops enabled retailers to enter into agreements with manufacturers to sell particular program-approved stove models and to produce custom-made sales books and order forms for each retailer. Four partnerships were created between manufacturers and distributors; and one partnership was established between a distributor and a finance institution.

This was essential in order to allow for the proper tracking of the 12,777 certified improved cookstoves sold in the capital.

The program worked with manufacturers, distributors and retailers to develop capacities in business and marketing skills. The program identified gaps in business and marketing skills that needed to be addressed through training, and then developed a plan to train and support retailers, distributors, and manufacturers in FY2014.

To establish more new sales points, the program produced flyers in April that were distributed at three Fonkoze branches in May: Kenscoff, Croix des Bouquet and Canapé Vert. The flyers advertise the opportunity for Fonkoze center chiefs and loan clients to become retailers of ICS and support the program to identify individuals who are both interested and capable of selling ICS.

In June, the program printed and distributed carbonized receipt books and retailer cash books for the manufacturers of improved charcoal stoves: D&E Green, ILF, Prakti, and EdM. Receipt books allow the program to track monthly sales of improved charcoal stoves and provide additional information about the buyer: where he or she lives and how the buyer heard about improved stoves in order to improve marketing. This information is used to:

- Increase sales by giving the address of ICS retailers in the vicinity of the caller
- Motivate callers to becomes retailers and to provide them with information about training activities and distributors

In July 2013, the program completed the training materials designed during the retailer Training of Trainer (ToT) sessions conducted in March. Both Creole and French versions of the training materials were published as training booklets, covering Accounting and cost calculation, Customer service, Marketing, and Logistics. ILF trained nine retailers in July and August using the program's retailer training modules, and D&E trained ten retailers in August in the four retailer modules and a module explaining their incentives and benefits program.

This approach improved not only the retailers' customer service and management skills, but also enabled ICTP and partners to track the stoves and demonstrate actual sales.

- 158 retailers were trained by EdM
- 120 persons were trained to sell ICS in the IDP camps
- Four manufacturers and two distributors were trained on preparing business plans

The program also established a telephone hotline with EdM that was designed to:

1. Help interested clients find out more information on improved cookstoves
2. Help interested clients find store locations closest to their homes
3. Provide information for interested individuals on how to become retailers/stove sales agents

4. Help ICTP and EdM track the impact of other program activities like media activities on informing the public of project activities and opportunities

The hotline telephone number was displayed on all promotional materials including flyers and billboards, and is clearly stated in every radio advertisement. Information collected from the hotline helps the program evaluate the best media outlets to reach both clients and potential sales agents. The program aims to establish its own hotline for all partners next fiscal year.

1.2 Leading Efficient Improved Biomass Cookstoves Promoted and Commercialized

1.2.1 CONDUCT WIDESPREADMEDIA CAMPAIGNS TO INCREASE CONSUMER AWARENESS OF IMPROVED COOKSTOVES AND QUALITY SEAL

Expected Results

- Four specific media campaigns conducted in and covering the metropolitan area of Port-au-Prince focusing on quality recognition, access points, payback period and stove benefits for household, and customer service (stove warranty).
- 8 culturally appropriate marketing messages produced and used in marketing, SMS advertising and visibility activities conducted
- Specific messaging for Haitian diaspora developed and shared and used by partners to increase stove sales via remittances
- Logo selected by focus groups used in public awareness campaigns and recognized by consumers
- Quality seal and associated stove recognized by consumers
- 10 % of consumers who purchase stoves have heard or been exposed to at least one of the programs marketing campaigns or messages

Actual Results

- Four media campaigns (radio advertisements, newspaper advertisements, billboards and public demonstrations) were conducted by the program in metropolitan Port-au-Prince area.
- Eight marketing messages were developed and used in the ICTP promotional media campaign
- Specific messaging for the diaspora will be developed n FY2014
- A logo was selected and is now being used in all ICS promotional activities
- The program completed the final report on the focus groups work to select the logo and quality seal for the marketing and awareness campaign and the BME certification center.
- A survey has not been conducted of consumers who have purchased improved charcoal stoves, but in a recent survey of 6,000 street food vendors in Port-au-Prince, 42% said they had heard about improved charcoal stoves.

Narrative

In FY2012 EarthMatters LLC, an international company specializing in stove marketing, was selected to help ITCP develop the improved cookstoves social marketing and commercialization strategy. Based on this strategy, the program competitively identified a local marketing company, The Edge Worldwide (TEW), to implement the ICS media campaign.

TEW conducted an assessment of ways to motivate consumers to switch from their traditional stoves to more efficient ones. This work included reviewing past marketing and awareness efforts for improved cookstoves and alternative fuels and analyzing the lessons learned. The assessment gathered information from development partners (Mercy Corps, CARE), families' currently using improved stoves, and feedback and ideas from key stakeholders such as manufacturers and retailers. The results were used to shape the specific program marketing strategy and activities, and to strategically target ICS price points.

ICTP will continue to focus on building ICS demand by continuing marketing and public awareness activities until the end of the program. This strategy will reinforce the program's market driven approach where, rather than distributing stoves for free, it has conducted comprehensive awareness and marketing campaigns. The media campaigns educated the public about the benefits of improved cookstoves, identification of the improved cookstoves selected by the program, the characteristics and efficiencies of the different stove models, as well as the health, fuel and costs issues associated with them.

The specific objectives for the marketing campaign were to:

- Build consumer confidence that these stoves work well and hold value (are worth the money spent)
- To create consumer recognition of the four models of improved cookstoves being promoted by ICTP
- Inform the consumers that the stoves should work at a certain quality and thus if they do not work will have some sort of guarantee
- Increase consumer understanding and retailers understanding of customer service

The media campaign, which included newspaper and radio advertisements, one television ad, two billboards and 20 public demonstrations, was launched in June with the first public demonstration in the public market in Fermathe.

Program messaging for the campaign has so far focused on messages that ICS stoves: 1) reduce charcoal consumption; 2) save money; 3) improve the life of the family; 4) saves time (cooks faster); and 5) last longer than the traditional stove. All of this is important for the consumer to know, but it is also equally important for the consumer to know the access points, prices, payback periods, and the warranty and guarantees. The program prepared a stove pricing and payback period document, a retail sales point map and a document listing all of the current sales points. These documents and maps are being provided by the program to all partners to share with their networks and neighborhoods, and are placed on all of the new stove sales stands that the program now is establishing.

Over the summer of 2013, the program also met with TOTAL to reinforce the link between ICTP and TOTAL, and to start pilot tests for ICS commercialization. Several of these exhibits generated significant public interest, and these stations will become new retail points in FY2014. These sales points are in addition to the existing network of retailers--which continues to sell stoves in the Port-au-Prince metropolitan area.

Calls to the EDM hotline showed continued interest in improved biomass stoves across the program's geographic area of intervention.

Table 1. **Public Awareness Impact Survey**

	June	July	August
Number of calls concerning improved stove by Month	67	88	87
Stove clients asked to purchase:			
Recho Plop Plop	10	17	10
Men Recho	5	9	9
Prakti Wouj	6	11	9
Eco Recho	6	9	7
Do not know	40	42	52
How Did You Learn About the Stove?			
Radio	22	12	14
Television	0	0	0
Newspaper	0	10	11
ACME	1	12	10
Billboard	0	10	11
Pamphlet	9	10	11
Public Demonstration	2	9	12
Neighbor or Friend	13	12	12
Total gas station	6	5	3
Internet	14	8	3
Other			
Will this be your primary stove?			
Yes	67	61	63
No		27	24
Where do you live?			
Carrefour	7	8	14
Cité Soleil	0	0	6
Croix des Bouquets	5	8	6
Delmas	11	13	13
Gressier	5	7	11
Pétion-ville	5	16	11
Port-au-Prince	2	15	9
Tabarre	5	10	8
Other	27	11	9

Radio Lumière is the radio station that most of the clients who responded to the radio station noted as where they heard about the project or stove promotion. This is interesting because it demonstrates that Haitians are listening to religious stations (Radio Lumière is a protestant station). Besides Radio Caraibe, ICTP's communication specialist has appeared on Radio Lumière several times throughout the year to promote ICS.

The program also took advantage of important Haitian holidays, such as Mother's Day and Agricultural Day, and other events such as International Women's Day to conduct public demonstrations for both improved biomass cook stoves and LPG in collaboration with key stakeholders.

1.2.2 LAUNCH RAFFLE SCHEME TO INCREASE CONSUMER AWARENESS AND ADOPTION

Expected Results

- 100 community organizers from communes within PAP recruited and trained
- 1,000 raffle rounds conducted (10 raffles per community organizer)
- 1,000 improved cookstoves sold and/ won by 1,000 users in PAP
- 2.5% increase in stove sales in areas where raffles are conducted compared to baseline figures

Actual Results:

- 41 community organizers from 23 churches were recruited and trained by ICTP and continue to participate in the raffle activities
- 56 cumulative raffle rounds (1,625 tickets sold) from December 2012 to August 2013.
- 180 improved biomass cookstoves have been sold as a result of the raffle initiative
- The raffles activity was not found to be cost-effective. The program was discontinued in September 2013.

Narrative

As part of FY2013 expanded marketing activities for ICS, ICTP piloted raffles to increase consumer awareness of stoves. A raffle system, where numerous participants purchase tickets for one prize, is a low cost way to increase consumer awareness of improved charcoal cookstoves Raffles also increase linkages between the manufacturers and communities; thus increasing access and exposure.

The activity was first piloted in five churches with ten community organizers in and around Delmas, an area with a mixed income household purchasing power, in November and December 2012. The first ten raffles were held among church groups and later expanded to other social groups and networks like Parent Teacher Associations, rotating credit groups, and other social or community groups, including IDP camps that are willing to participate.

In mid 2013, raffle activities slowed due to the fact that some churches saw the raffle as gambling. In June, ICTP met with the community organizers to discuss the issues and how the program can reinforce the individual churches. Despite the raffle sales being slow, each time a stove raffle is discussed it increases the visibility and understanding about the stoves in target communities.

Within the 23 churches there are more than 3,000 parishioners who have now been exposed to improved cookstoves. Out of the 3,000 parishioners, 1,000 of them have purchased tickets despite gambling concerns. The program took advantage of the meeting in June to highlight the intention of a raffle and how it differs from a lottery, showing that raffles are used to generate funds or purchase items that benefit the community, with the money staying in the community.

However, a review of the effectiveness of the raffle activity in July 2013 concluded that, given the amount of time required to organize the church groups, the program is not cost-effective. The raffle activity has now been discontinued, with less raffles conducted than originally expected. Human and financial resources are now being used on more cost-effective awareness building strategies.

1.3 Financing mechanisms for Manufacturers, Retailers, and Consumers to Purchase Improved Cookstoves Established

1.3.1 DEVELOP LOAN FUND OR FINANCING MECHANISM AVAILABLE TO MANUFACTURERS AND WORK WITH MFIS TO DEVELOP INVENTORY FINANCE SCHEME FOR RETAILERS

Expected Results

- At least one organization that supports retailers will access the financial products developed by the program;
- 25 small retailers will access inventory finance;
- At least one remittance company offers improved stoves (both charcoal and LPG) in their product line and is marketing these services abroad;
- With leadership from the program, at least three ICS manufacturers or distributors and retailers will access agencies that will either provide financing or provide tax alleviation in order to reduce the funding gap identified by the program.

Actual Results

- The program worked with Palmis Enèji, an organization who supports retailers to develop a loan product for retailers
- 21 Palmis Enèji retailers have accessed loans for inventory finance.
- Remittance company, NapDeal has agreed in principle to carry improved stoves and is reviewing a draft MOU setting the terms of the collaboration with the program
- Two manufacturers/wholesalers are finalizing applications for financing

Narrative

In order to accelerate loan product development in FY2013, the project hired a specialist, [redacted], for six months to work specifically on developing three types of loan products tailored to three targeted populations: manufacturers, retailers and consumers (via household energy loan packages). The specialist looked for ways to collaborate with ArcFinance which has funding to match sales for the Haitian diaspora when they purchase energy products. Working in collaboration with SogeExpress, ArcFinance contributes to a percentage of the purchase and delivery of energy products paid for by the Haitian diaspora and delivered to households in Haiti.

Because the cost of an improved cookstove retails for only $12-$15, neither consumers nor MFIs are interested in taking or providing loans for the cost of stoves alone. The program, with partner EdM, is testing consumer loans for a combination of household energy products. The loans will be for 2,000 HTG ($45) and allow consumers to purchase a combination of solar products, LPG household stoves, and/or improved cookstoves. The loans are provided by Initiatives Development, an NGO associated with EdM.

The program worked with microfinance institutions (MFIs) to provide access to inventory credit to smaller stove retailers. The current system of charcoal and traditional stove sales demonstrates that women and young men (youth) will be the retailers who need access to credit through MFI's. Two loan products were established where these small retailers can purchase between 12-15 stoves and after selling all their stoves, will reimburse the MFI and be eligible for another round of credit. The program worked to ensure that these retailers received a reduced price on the stoves that they purchase from the manufacturer, and thus can re-sell the stove at a reasonable price, without too much mark up to

consumers, but still have enough to reimburse their credit. One loan product was developed by EdM, the other by ID-Microfinance.

The last quarter of FY2013 closed with the loan product developer, [redacted], completing her assignment and presenting her proposed loan products and other initiatives and findings in a final report.

The program successfully hosted a "Financing the Value Chain" workshop at the Hotel Montana on May 15. The all-day workshop had the following objectives:

- Strengthen the link between the different ICS industry players: manufacturers, wholesalers and retailers
- Establish the ICS Industry as a dynamic value chain in Haiti (with the presence of journalists, article in The Nouvelliste and emissions on the radios)
- Present the financial mechanisms existing in Haiti which are accessible for the different industry actors
- Provide “keys of success” with examples on marketing approaches from green energy enterprises (including movies sequences from the Hystra document on marketing for the Base Of the Pyramid)
- Explain a business plan framework that the manufacturers and wholesalers should create to gain access to financial services.

1.4 GOH Working Groups and Certification of Cook Stoves Strengthened

1.4.1 TRAIN BME STAFF AND INTERESTED STAKEHOLDERS IN INTERNATIONAL TESTING STANDARDS AND PROTOCOLS FOR ICS

Expected Results

- One MOU signed by the BME (GOH) and ICTP
- Formally establish with the BME a documented stove certification process that supports the quality seal and public awareness campaigns

Actual Results

- An MOU was signed in June 2013 by the ICTP, the BME and the Minister of Public Works
- The program has established a certification process with the BME with testing procedures conducted by the State University of Haiti

Narrative

In FY2013, the program initiated a discussion with the BME energy laboratory to assess their commitment to creating a stove certification center, and to participating in the public awareness campaign. The BME expressed a clear interest in facilitating a stove certification process and in housing the stove certification laboratory, and signed an MOU to that effect.

In FY2013, ICTP in collaboration with the BME, established a National Stove Laboratory at the BME with the goal of catalyzing more extensive and effective clean cookstove activities in Haiti. The establishment of the national stove certification program has three main expected outputs. The first objective is to facilitate knowledge of current and potential cookstove designs on the Haitian market. The

second is to assure that civil society, private sector and government actors have access to information that improves their capacity to implement and support cookstove activities. The third is that the profile of clean cookstoves in Haiti is enhanced through advocacy and promotion of the quality seal.

The program engaged an international stove research center, the Aprovecho Research Center, to install the national laboratory at the BME. The stove research center mentored the laboratory team on the establishment and maintenance of the laboratory; including the use and maintenance of lab equipment, data analysis, record keeping, the protocols used for testing emissions and the thermal efficiency of cookstoves, and the role that focus group sessions play within laboratory testing. The skills learned were first applied by the trained staff as they supported the program by conducting WBTs on stoves used in program field studies.

During FY2013, the ICT program made a substantial effort to build the scientific and technical capacity of the BME so as to enable the agency to operate as an effective stove testing and certification laboratory. However, it became clear that the BME has limited physical and financial resources, and lacks the means to manage a national stove testing and certification agency at the high technical and scientific standards that are required.

In August, the ICT program proposed to the BME that the agency supervise the certification process, but that the testing of the stoves be outsourced to a technical institute such as a university or a technical college. The BME will supervise the stove testing procedures, and will issue the quality seal once the testing has been completed and the results are satisfactory. This approach allows the BME to more easily manage and supervise the certification process. The institution chosen to house the testing laboratory and conduct the stove testing protocols is the State University of Haiti (UEH). In September 2013, the Faculty of Science at the UEH committed to establishing and managing the testing laboratory and has identified the location where the lab will be installed.

1.5 Economic opportunities for urban charcoal workers increased

1.5.1 SUPPORT CHARCOAL WORKERS TO DEVELOP ALTERNATIVE LIVELIHOODS USING SHG METHODOLOGY

Expected Results

Three Self Help Groups functioning

Support charcoal workers to develop one alternative livelihood strategy each using the Self Help Group (SHG) methodology

50 charcoal workers have diversified their livelihood strategies through the participation in Self Help Groups

Actual Results

- Two Self Help Groups (SHG) are functioning with an average of 35 members present at the weekly meetings.
- Every charcoal worker in a SHG identified a business opportunity and received a small loan
- Approximately 41 charcoal workers participated in the SHGs and set aside 50 Gourdes a week to create a group savings pool that provides loans to members of the group

Narrative

In FY2013, Mercy Corps' conducted a series of training sessions with the three groups of charcoal workers established in FY2013. The facilitator hosted the first three group meetings (one meeting each week per group) and participated at the fourth, fifth and sixth meetings as an observer. After the sixth meeting of each SHG the facilitator continued to meet with each group once per month to offer ongoing training sessions in the establishment of the internal rotating credit program, business development, and management skills. Prior to developing the new business activities, the facilitator worked with each member of the SHG to ensure that their business activity was viable. As the management of the internal credit program solidified and the entrepreneurial endeavors of the SHG members became diversified, the facilitator reduced their involvement in the SHG incrementally.

The program issued an RFA in March 2013 inviting organizations to propose how they would manage Self Help Groups for Port-au-Prince charcoal workers. The program evaluated the applications in early May and selected an organization, AMURT, to implement the work.

The objective of the SHG grant activity is to establish three self help groups (SHGs) consisting of 60 charcoal workers/vendors. Within the 12-month period of the activity, these self-supporting and self-sustaining structures will reach a stage of being able to offer self-generated loans to their own members on a weekly basis, providing the base for future alternative economic livelihoods.

SECTION 4: COMPONENT 2 – RESULTS AND DISCUSSION

2. CHARCOAL CONSUMPTION BY LARGE USERS REDUCED

2.1 Access to availability of LPG stoves improved

2.1.1 CONVERSION OF STREET FOOD VENDORS TO LPG

2.1.2 CONVERSION OF SCHOOLS AND ORPHANAGES TO LPG

Expected Results

- 100 public demonstrations conducted by the demonstration team (including schools, orphanages and other large users of charcoal)
- 4,200 large users of charcoal switch to LPG in the metro PAP area[1]
- Three major fairs in 2013 used as showcase events for commercial LPG stoves
- Four communes in metropolitan Port-au-prince establish street food zones where cooking is only with LPG
- Import duty is reduced or eliminated on household stoves, imported stove parts, and on the LPG itself
- At least 50 demonstrations organized for schools and orphanages
- 300 schools and orphanages switch to using LPG for cooking

Actual Results

- 91 public demonstrations conducted by the program
- 662 large users (predominantly street vendors) switched to LPG during this program year
- The program participated in the May 1 agricultural fair. Other fairs were previously used to showcase commercial LPG stoves: the December 2012 Christmas fair in Pétion-ville, and the February 2013 Radio Lumière fair in Port-au-Prince.
- No communes have yet established charcoal-free street food zones, but five communes have stated their intention to do so[2]
- The Government eliminated import duty on LPG stoves, stove parts, and on the gas itself in October 2012
- Six demonstration have so far been organized for schools and orphanages
- 20 schools and orphanages converted

[1] As a result of a survey conducted by the M&E team in July 2013, ICTP has determined that there are only 4,139 street food vendors in Port-au-Prince that can potentially be switched to LPG. This target is therefore too high and will be revised downwards. See Section 8.2

[2] Delmas, Petionville, Tabarre, Carrefour, and Croix-de-Bouquets

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Narrative

LPG

To promote the commercial LPG stoves manufactured by the companies registered with the program, staff began to show these stoves at public events, including the important May 1st agricultural fair at the Ministry of Agriculture's campus at Damien. The stoves were used to cook traditional Haitian dishes that were sold to people attending the event.

In FY2013, public demonstrations were conducted by a mobile team of animatrices (female organizers) specifically engaged for this purpose. Demonstrations were conducted every week both in public areas and in schools and orphanages. The priority was areas with the largest concentration of street food vendors, and the schools and orphanages with the largest number of students and orphans.

In order to reduce the transactional costs for consumers switching to LPG, the program also focused on reducing the cost of the stoves, the gas cylinders, and the LPG itself. This objective was achieved by:

- Reducing import duty on imported stoves, imported gas cylinders, and commercial stove parts such as burners. (The Government eliminated tax and duty on these items in October 2012).
- Importing smaller LPG cylinders (12.5 lb) that are more affordable for households and easier to refill. (Sodigaz imported 3,000 of these small LPG cylinders in 2013).
- Importing 50 lb cylinders from the Dominican Republic that are less expensive than cylinders sourced from outside the island.
- Eliminating the import duty on the LPG itself. (The government no longer taxes LPG).

The program has identified a supplier of 25 lb and 50 lb cylinders in Nicaragua (Niva Industria), and has passed this information on to SODIGAZ and TOTAL, but at the time of writing new 50 lb cylinders are not available in Haiti.

PUBLIC DEMONSTRATIONS

The mobile demonstration team, which was set up in December 2012, carried out 71 public demonstrations, six of which were conducted in schools. The table below shows results through to the end of May 2013.

An effective and sustainable manufacturing and retailing system for improved cookstoves requires that mechanisms be available in order for manufacturers to finance investments to increase production and improve cookstove quality, and purchase inventory to be held by retailers on a consignment basis. ICTP will work with Haitian financial institutions in year 3 to develop financial products to meet the needs of manufacturers and retailers.

In year 2, ICTP worked with Haitian financial institutions and improved cookstove manufacturers, wholesalers and retailers to develop loan products appropriate for the Haitian marketplace and assist ICS manufacturers' access international financing. In year 3, ICTP will work with retailers to pilot loan products developed in year 2 and continue to support manufacturer's access existing financing mechanisms.

Table 2. LPG Stove Public Demonstration Results

Month	Demonstrations		Number of participants			LPG stove orders	
	Public	Schools	Men	Women	Total	Commercial	Household
December	6	2	41	67	108	22	24
January	15	0	56	92	148	34	60
February	13	2	61	99	160	127	69
March	11	0	29	43	72	86	26
April	11	2	42	55	97	22	22
May	9	0	4	7	11	5	2
Total	**65**	**6**	**244**	**292**	**596**	**442**	**203**

An additional 20 street demonstrations were conducted by marketing consultants The Edge Worldwide. The figures for the mobile team show that orders for commercial stoves placed by people viewing the demonstrations are averaging less than 75 per month. Since the goal was an average of 10 orders per demonstration, or 200 orders per month, 75 orders is not a high enough number considering the cost of operating the mobile team. This issue was discussed at a planning retreat in early May, and the program decided to halt mobile team's demonstrations were stopped at the end of the May 2013, pending a review of the objectives and strategy for public demonstrations.

STREET FOOD ZONES

The contribution of the ICTP in establishing the street food zones in the eight Port-au-Prince Communes involves facilitation, technical assistance, and training. Program staff met with [redacted] from the Petionville Mayor's Office in May to look at a potential site for a charcoal-free street food zone in Petionville. However, the site, which is behind the Mayor's office on Rue Gregoire and on the edge of a ravine is not an adequate site for a street food zone. It is not in a busy pedestrian area, the site is too small, and the proximity of the ravine presents a risk of flooding and erosion The Petionville Mairie has agreed to identify more appropriate sites; the program will collaborate with the Mairie on establishing the charcoal-free street food zones once they decide on the location of the zones. The identification of the first site in Petionville will take place in July.

The program has also been to look at a potential street food site outside the Mais Gaté airport in Port-au-Prince. This site, hosts about 70 people cooking with charcoal stoves. The site belongs to the National Airport Authority (AAN), stated that they intend to create a charcoal-free street food zone in this area. The program agreed with the AAN how this can be accomplished, and drafted an MOU with the ANN setting out the terms of each party's responsibility.[1]

[1] At the time of writing, agreement has been reached with AAN on the contribution of both parties; however, the MOU has not yet been signed.

SCHOOLS AND ORPHANAGES

The program's strategy to increase the use of LPG in schools focused on two different tracks.

First, for public schools, the ICT Program worked with decision-makers in the Ministry of Education (Ministère de l'Education et de la Formation Professionelle- MENFP), with the objective of making it the stated policy of the MENFP that all public schools in urban and peri-urban areas should switch to propane for cooking school meals.[1] Within the MENFP, it is the Department of Fundamental Education (DEF) that manages primary and secondary schools. The program arranged a meeting with the DEF in early June at which time it was agreed that an effective approach would be to create model charcoal-free kitchens in the school administrative centers called EFACAP (Ecole Fondamentale d'Application et Centre d'Appui Pedagogique). There are two EFACAPs in the ITCP zone: one at Thomazeau and one at Kenscoff. Program staff met with EFACAP directors in July and established the terms of the collaboration between the two EFACAPs and the ICT program.

The EFACAP at Thomazeau does not have a kitchen; the school cooks for 600 students on 3-stone fires in the open air. In September, the program provided six single-burner LPG stoves, and six full 25lb gas bottles (called *bonbonnes* in Haiti).

For the EFACAP in Kenscoff, which already has a two-burner LPG stove and two 25 lb *bonbonnes*, the program provided an additional three single-burner stoves and two 25 lb *bonbonnes*.

For private schools, the program met with the principal agencies that manage or sponsor the feeding program in these schools. The agencies include:

- The World Food Program
- Catholic church / CRS
- The Federation of Protestant schools
- World Central Kitchen
- AMURT (for elementary schools)

The program met with the Federation des Ecoles Protestantes d' Haiti (FEPH) in early July to discuss how the program can work with the FEPH to convert their schools from charcoal to LPG. An MOU was signed with the FEHP in August setting out the terms of the collaboration.

The FEHP manages 119 schools in the Port-au-Prince area that operate canteens. The aim of the ICT program is to convert all the schools over to LPG.

The cost of purchasing the LPG stoves and gas bottles for an average school with 300 children is about $450. It is very probable, therefore, that private schools will consider taking out a loan with a micro-finance institution (MFI) in order to purchase the equipment. The program has therefore contacted several MFIs in order to identify those MFIs that are willing to lend money to private schools wanting to switch from charcoal to LPG.

[1] Public schools in rural areas should switch to propane if a supply of the fuel is available nearby. If not, the cost of transporting propane to the school may negate the cost advantage of switching to propane from charcoal

The table below shows three MFIs that potentially could finance the switch to LPG for private schools.

Table 3. MFIs with Potential to Finance Private School LPG Conversion

FINANCIAL INSTITUTION	LOAN AMOUNT (HTG)	INTEREST RATE	PERIOD OF LOAN	OBSERVATIONS
KOTELAM	Small loans from 1,000 à 25,000 HTG ($23 -$568)	3% per month	12 months	Loans are available for schools
ACME	Minimum 50.000 HTG ($1,136)	2.5% per month (digressive)	2-4 months	Only available for those who are already a member of the institution
FHAF (Fonds Haïtiens d'Aide à la Femme)	10.000 to 1 million HTG ($227 - $22,727)	2.5% to 4.5% per month	Variable	Available for small businesses and also for schools

In September, the program arranged a meeting between these three MFIs and the agencies managing private schools cited above, with the aim of providing detailed financing information to the school management agencies, presenting the results of models simulating different loan and repayment scenarios, and encouraging the agencies to make the decision to switch from charcoal to LPG.

2.1.3 MEDIA CAMPAIGN TO PROMOTE LPG STOVES FOR LARGE USERS NARRATIVE

Expected Results

- High profile media campaign on radio and other media starts and continues promoting commercial LPG stoves

Actual Results

- The program began a high profile media campaign in February 2013 which ran for seven months

Narrative

As discussed above, in January 2013, the program engaged a Haitian media and marketing company, The Edge Worldwide (TEW) to implement the communication strategy developed by a Haitian consultant in October 2012. The strategy focuses on emphasizing very specific key messages. For example:

- The economic benefits of LPG stoves compared to charcoal
- The reduction in cooking time--important for women who manage many household duties
- Health benefits of LPG compared to charcoal--both for the cook and for children in the kitchen
- The availability of sales points
- Recognizing a certified LPG stove and understanding what that means
- Being informed about the price of the stoves

The promotional campaign developed and implemented by TEW used radio and print media, and billboards and public demonstrations to get these messages out to the public. A TV spot is also being prepared by TEW and will be shown on television in FY 2014.

Section 9.1.2 provides more detail on the specifics of the media campaign for LPG.

2.1.4 DEVELOPMENT AND SALE OF COMMERCIAL STOVE KITS WITH TOTAL AND SODIGAZ

Expected Results

- The program signs MOUs with TOTAL and SODIGAZ that sets the price of the commercial stove kits sold at service stations

Actual Results

- LPG stove kits are not being sold in service stations because of safety concerns.

Narrative

In August 2012, after discussions with TOTAL and SODIGAZ, the program developed a new approach to marketing commercial LPG stoves. The new approach introduces the idea of a 'kit' that comprises a commercial LPG stove, a gas bottle, and the necessary accessories (rubber hose,[1] clips, and coupling). The main LPG suppliers, particularly TOTAL, proposed to put together and sell these kits at their service stations throughout the country. This approach has the major advantage for the program of potentially providing sales points at every TOTAL service station in Haiti. During 2013 the project undertook the key steps to implement this approach and facilitate the sale of LPG kits to consumers.

The program met with LPG stove manufacturers in order to agree on the recommended retail price for both domestic and commercial LPG stove kits. The recommended price points are shown in the table below.

Table 4. Recommended Price Points for LPG Stove Kits

Kit	Manufacturer price, USD	Retail price, USD
Domestic (Household) 12lb tank, 2-burner stove, pressure regulator, clamps, hose, LPG fill.	$60	$72
Domestic (Household) 25lb tank, 2-burner stove, pressure regulator, clamps, hose, LPG fill.	$82	$100
Commercial 1-burner stove 25lb tank, pressure regulator, clamps, hose, LPG fill.	$167	$203
Commercial 3-burner stove 100lb tank, pressure regulator, clamps, hose, LPG fill.	$438	$490

[1] A rubber hose is acceptable as a connection between the stove and the gas bottle, but not as an interior part of the stove itself--where it is too close to the burner.

However, the plan to sell these LPG kits in microfilling centers and in service stations ran into a safety issue. In order to sell a stove, a potential client will want to see the stove light up. It is one of the major advantages of LPG stoves that the burner lights automatically and that heat is instantly available for cooking. However, both TOTAL and SODIGAZ have indicated that lighting the stove in an area where highly flammable fuel is being sold is strictly prohibited. The program has therefore been forced to look for and adopt another strategy.

As such, the program will partner with Entrepreneurs du Monde (EdM) and in FY2014 will sell LPG stove kits in the retail network for improved charcoal stoves that has already been developed by EdM. More than 30 retailers belong to this network. As of the writing of this report, an agreement is being developed with EdM that will set out the terms of this partnership.

In parallel with this initiative, the program discussed with internet-based retailer NapDeal the introduction of LPG stoves into the range of NapDeal's products that can be purchased on-line. The NapDeal site would showcase LPG stoves, including commercial LPG stoves, and that online shoppers, including the diaspora, will be able to purchase them online.

2.2 LPG cook stoves production increased

2.2.1 INCREASE NUMBER OF CERTIFIED MANUFACTURERS

Expected Results

- 4,200 commercial LPG stoves are sold by manufacturers in metropolitan PAP area
- Six stove manufacturers will receive grants and will double their production rates for commercial stoves

Actual Results

- 493 commercial LPG stoves were sold during FY2013 by the six manufacturers registered by the program.
- In-kind grants for six LPG stove manufacturers were awarded, implemented and closed out.

Narrative

Two commercial stove manufacturers were registered by the program in FY2012: Jean Baptiste Enterprise and Filière Congelée. In FY2013, the program increased the number of registered manufacturers of commercial stoves by working with four more stove manufacturers to improve the quality of their stoves, and by negotiating a retail price that provides an acceptable profit margin for the manufacturer while keeping the price for the consumer at a reasonable level.

The four manufacturers registered by the program in FY2013 were:

- Omnigaz
- PIPE
- Lutesa/Ecogaz
- Frank Machine Shop

Following a competition, the program provided grants to six stove manufacturers that comply with technical norms and construction standards. The in-kind grants provided tools and equipment that enabled manufacturers to substantially increase production and also increase employment. For the five manufacturers surveyed, production rose from an average of 21 to 117 stoves a month. Employment rose from 16 to 26 workers.[1]

In July, three more LPG stove manufacturers: Heema Engineering, Atlas, and Epsilon Construction (manufacturer of the Ayiti Cherie LPG stove) contacted the program. Their manufacturing procedures and stove quality were assessed and technical assistance provided in order to reduce their manufacturing costs. For example, ICTP provided information on the availability of the imported burners in retail outlets in Port-au-Prince and manufacturers associated with ICTP get a reduced price on burners at Matelec and Valerio Canez.

All the small household LPG stoves are imported at the present time; however, Haiti Metal is now proposing to manufacture household stoves in Haiti. ICTP has provided technical assistance to Haiti Metal on the design of the stoves.

2.2.2 PROVIDE TECHNICAL ASSISTANCE TO RETAILERS TO IMPORT BURNERS AND PARTS

Expected Results

- Four hardware companies import commercial LPG burners and stove parts at least once during the year
- At least 20,000 burners are imported into Haiti in FY 2013

Actual Results

- Four hardware companies imported commercial LPG burners and stove parts at least once during the year (Valerio Canez, C&K hardware, Matelec, and Flamingo)
- About 7,000 burners were imported into Haiti in FY 2013

Narrative

In FY2012, the program recognized that one of the most serious constraints to the increased production of commercial LPG stoves in Haiti was the unavailability of key inputs in the manufacturing process, namely high-quality LPG burners. To address this constraint, the project held extensive discussions with the senior management of Valerio Canez (whose stock of 516 commercial stove burners sold out in August 2012), and C&K Hardware. The program worked with both retailers to present a sound business case for a substantial increase in the stock of LPG burners and as a result, the two retailers placed substantial orders for commercial burners, including an order for 1,000 burners and 4,000 valve parts by Valerio Canez, and orders totaling 3,000 burners for C&K Hardware.

In 2013, the program continued its efforts to ensure that stove parts, and particularly the burners for commercial stoves, were always available in Port-au-Prince. Hardware stores Matelec and Flamingo also imported parts for commercial stoves. We realized that the original target of 20,000 burners was not

[1] The five LPG stove manufacturers were Jean Baptiste Enterprise, Frank Machine Shop, Lutesa/Ecogaz, and Omnigaz. Filière Congelée was not available to be surveyed.

realistic; an estimated 7,000 burners were imported into Haiti in FY2013 and this was sufficient to meet the demand for burners from the stove manufacturers in Port-au-Prince.[1]

Retail partner Matelec received a large (40-foot) container-load of household LPG stoves and commercial LPG burners in July 2013. The program provides contact information about Indian and Chinese suppliers to all retail partners, and constantly checks on-line for the best deals and the best quality.

There are very few 50 lb LPG cylinders available in Haiti. This size is the preferred size for two-burner commercial stoves because it is easier to transport for street-food vendors. The program has identified and contacted a manufacturer in Guatemala: Industrias Nivi, that can ship 25 lb and 50 lb LPG cylinders to Haiti at a very competitive price: $29 for the 25 lb cylinder and $40 for the 50 lb cylinder (FOB Guatemala). This information was provided to the LPG stove manufacturers and retailers, and to SODIGAZ and TOTAL. SODIGAZ has stated that it will purchase a container-load of 50lb bottles from this source. Information about the new cylinders was shared during regular partners meetings.

2.2.3 CAPACITY BUILDING OF MANUFACTURERS' AND STOVE TECHNICIANS

Expected Results

- 60 technicians are trained in LPG stove repair and manufacturing techniques
- Two technicians trained by the program will start manufacturing commercial stoves

Actual Results

- 29 technicians were been trained in FY2013, 65 since project inception
- Two technicians trained by the program are now manufacturing commercial stoves

Narrative

One of the major constraints preventing the greater use of LPG stoves is a lack of qualified technicians to repair the stoves, once purchased. The program found in FY2012 that there were many commercial-size LPG stoves owned by street food vendors in Port-au-Prince that are no longer used because the burners are blocked or the ignition mechanism has failed.

In FY2012, the program ran two training activities for technicians in LPG stove repair and maintenance. The technicians were selected from government agencies (BME), from the private sector (SODIGAZ and TOTAL), and from among street food vendors themselves.

A third training session for 14 LPG stove technicians was organized by the program from August 19 – 23, 2013. At least two of the technicians trained by the ICTP have started to manufacture commercial stoves.

The most recent training activity was in September 2013 when another 15 technicians were trained by the program. Since training is conducted the ICTP office in Peguy-Ville, 15 persons is about the maximum number of trainees that can be accommodated at any one time.

[1] Some retailers ran out of burners during the year; but in general the supply of burners matched the demand.

The technicians completing the course are provided with a set of basic tools that enabled them to repair LPG stoves, and to offer their services to stove users. Several technicians have indicated that they intended to work together to manufacture commercial stoves.

2.3 Private Public Partnerships (PPP) for LPG stoves market expansion developed

2.3.1 ADVOCATE WAIVERS ON TAX AND DUTY WITH GOH ON BURNERS AND SPARE PARTS

Expected Results

- Two PPP agreements that expand the market for LPG are developed and signed
- The GOH reduces import duty on commercial LPG stove burners
- Total public and private funds leveraged by USG for energy projects is more than $10 million

Actual Results

- The program negotiated a PPP agreement between SONAPI and SODIGAZ in 2012
- The GOH has waived import duty on LPG stove parts including LPG tanks
- TOTAL and SODIGAZ have both stated they will invest substantially in the LPG sector once the regulatory framework is established (see section 3.2.1)

Narrative

Expanding the market for LPG stoves requires collaboration with the major suppliers of LPG in Haiti. Three firms dominate the market: SODIGAZ, TOTAL and ECOGAZ. They want to sell significantly more LPG in Haiti, where the per capita consumption of LPG is 50 times less that the consumption in neighboring Dominican Republic. In collaboration with the Government of Haiti, the program has sought ways to partner with these companies to help expand the market for LPG.

TOTAL is on record as stating that the company will invest $50 million in the LPG sector for new gas cylinders if the GOH passes the LPG law (see section 3.1). The program is committed to getting the legislation passed, the regulations enforced, and working with TOTAL to get the new gas cylinders onto the market.

In a continuing effort to reduce the retail price of the commercial LPG stoves, the program is collaborating with the major LPG suppliers, and continuing discussions with the Ministry of Commerce and Industry with a view to reducing or eliminating the import duty on items essential for the manufacturing of LPG stoves. The first priority was the commercial LPG burners on which a 16 percent import duty is paid. The burners account for approximately 30 percent of the price of the commercial LPG stoves.

In October 2012 the government waived import duty on LPG, LPG cylinders, and LPG burners. The program also advocated for the Ministry of Finance to also waive import duty on the small household LPG stoves being imported from China and India.

The first PPP agreement negotiated by the ICT Program was the agreement between SONAPI and SODIGAZ related to the creation of the charcoal-free food zone in the SONAPI industrial park in Port-au-Prince (see section 2.3.2). This MOU was signed by SONAPI in November 2012.

All the small household LPG stoves are imported at the present time; however, Haiti Metal is now proposing to manufacture the household stoves in Haiti. The ICT program is providing technical assistance to Haiti Metal on the design of the stoves.

2.3.2 COMPLETE SONAPI CONVERSION TO LPG

Expected Results

- The SONAPI food zone is declared charcoal free
- More than 50 food vendors in the SONAPI food zone are cooking with LPG

Actual Results

- The SONAPI food zone was declared charcoal free on March 1, 2013
- 52 food vendors now cook with LPG at the SONAPI food zone.

Narrative

One of the major successes of the program's first year was a successful partnership to refurbish the canteen area of the industrial park run by the parastatal Société Nationale des Parcs Industriel (SONAPI) in Port-au-Prince. After the program presented the economic, environmental and health benefits of switching to LPG, SONAPI management decided that there would be no more cooking with charcoal in the park. SONAPI is the largest industrial park in the Port-au-Prince area, where every workday more than 10,000 workers buy a cooked lunch in the open canteen area.

All the food vendors at the site agreed to switch from cooking on charcoal to using LPG stoves. The 52 vendors (49 of whom are women) currently serve 12,000 meals a day. This initiative is a very high profile development that will be used as a model for the "LPG-only" Restoration Zones (zones de restauration) that the Communes are considering establishing in and around Port-au-Prince. SODIGAZ is a partner in this initiative and will invest in infrastructure that will provide LPG to the food vendors without the need for the vendors to leave the Park.

The program signed a MOU with SONAPI and SODIGAZ that set out the terms of the organization and management of the SONAPI food zone. Under the terms of this agreement, SODIGAZ provided, free of charge, two 100-lb LPG bottles to each of the food vendors working in the area, and ensured that LPG is available in the park for the vendors to purchase when needed. SONAPI provides security in the area and ensures that the gas bottles and stoves are not stolen from the zone.

The opening of the new charcoal-free food zone took place in March 2013. The program coordinated with SONAPI, SODIGAZ, and with the GOH to ensure that the inauguration of the food zone was a showcase event that demonstrated the advantages of switching from charcoal to LPG for street food vendors in Haiti. The SONAPI food zone is now officially charcoal-free. SONAPI will build a second food zone in early 2014 and this area will also be charcoal-free.

Following the success of the SONAPI initiative, the program approached the eight Communes[1] of metropolitan Port-au-Prince toward establishing street food cooking areas where all cooking is done entirely with LPG. An Open House event was conducted at the Recho Paw office in early 2013 to which

[1] Delmas, Croix-des-Bouquets, Kenscoff, Port-au-Prince, Cité Soleil, Pétionville, Tabarre, and Carrefour

the mayors of the eight Communes were invited. The Open House showcased the commercial LPG stoves produced by the manufacturers registered with the program, and featured a slideshow of the model SONAPI charcoal-free food zone. Tours of the SONAPI food zone were offered by the program for mayors interested in creating LPG street food areas in their Communes. As a result, the mayors of Delmas and Petion-ville expressed keen interest in establishing charcoal-free street food zones in their respective Communes. ICTP will continue to work with them in FY 2014.

2.4 Agreements with funding institutions to support sustained production developed

2.4.1 DEVELOP ADDITIONAL MFI AGREEMENTS PROVIDING LOANS TO MANUFACTURERS, RETAILERS, AND USERS

Expected Results

- At least one MFI develops a financial product that successfully finances manufacturers of commercial LPG stoves

Actual Results:

- The program signed a MOU with SOGESOL in FY2012 under which SOGESOL has developed a financial product for LPG stove manufacturers and LPG stove users

Narrative

As explained in previous reports, both TOTAL and SODIGAZ have stated that they prefer to work with their own partner microfinance institutions, and not with SOGESOL. SODIGAZ is partnered with Unibank (both part of the DINASA company), and TOTAL is partnered with EdM. This means that street food vendors and other clients who purchase commercial LPG stove kits from either SODIGAZ or TOTAL will be offered financial products developed by Unibank or EdM, but not by SOGESOL

The purchase of LPG stoves for private schools will require a loan from a finance institution. The program has discussed an approach with the Federation des Ecoles Protestantes en Haiti (FEPH) and this organization has stated that the schools that want to switch to propane will need a loan in order to purchase the LPG stoves. The program has created a stove kit that private schools can purchase and a loan product they can access to facilitate the purchase. The stove kit consists of a single-burner commercial stove connected to a 25 lb LPG tank.

A financial institution partner, the Fonds Haitien pour l'Aide aux Femmes (FHAF), will provide loans of up to about 50,000 Gds which will be sufficient for most schools to switch over to LPG.

SECTION 5: COMPONENT 3 – RESULTS AND DISCUSSION

3. LEGAL AND REGULATORY FRAMEWORK FOR LPG STRENGTHENED

3.1 GOH capacity to monitor and enforce regulations improved

3.1.1 IDENTIFY GOH STAFF AND TRAIN ON REGULATION OF LPG SECTOR INCLUDING MICROCENTERS

Expected Results

- Four GOH staff are trained by the program in understanding, applying, and enforcing the LPG regulations
- At least one training activity is conducted for LPG retailers on the application of the regulations

Actual Results

- The law regulating the LPG sector has not yet been approved.
- No training activities took place.

Narrative

In 2013, ICTP was in contact with the World LPG Association concerning the possibility of the WLPGA conducting technical training for LPG sector GOH managers and decision-makers.

The program stressed to the WLPGA that the training was to focus on technical issues, international standards, norms, and safety procedures. Policy issues related to the management of microfilling centers and the permissibility or not of cross-filling are not part of the training as envisaged by the ICTP.

Unfortunately, it became clear that the WLPGA takes the firm view that cross-filling should be prohibited and has informed the program that any training conducted by them must necessarily include this perspective. Since the Government's position, as outlined in the discussion document that the MCI has recently circulated, is that cross-filling should be allowed for the smallest tanks (the 12lb *bonbonnes* populaires), the WLPGA's management philosophy is clearly contrary to the Government's position. The program has therefore decided to cancel the proposed training by the WLPGA.

The ICTP will look for other agencies working in the LPG sector that have a more open mind on the question of cross-filling, and which are prepared to leave policy questions aside and to focus on the technical challenges of managing the LPG sector in Haiti.

3.2 Regulations, standards and pricing for LPG strengthened

3.2.1 SUPPORT WORKING GROUP TO REACH AGREEMENT ON DRAFT REGULATIONS

Expected Results

- One policy reform or administrative procedure is drafted and presented for public consultation to enhance governance or facilitate private sector participation and competitive markets

Actual Results

- A draft of the proposed LPG regulatory framework was prepared and circulated for review by the Ministry of Commerce and Industry

Narrative

The Ministry of Commerce and Industry (MCI) finalized a draft version of the framework regulating the LPG sector and circulated this document for comment and discussion in July 2013. The ICT program has made important contributions to the draft framework. Passing a regulatory framework is a project goal, and is also key in attracting investment to the LPG sector, so that industry has confidence that the investment climate is stable.

The strategy envisions the creation of a National Petroleum Products Council (the Conseil national produits petrolier- CoNaPP). This interministerial council is proposed as the regulatory agency that will set and enforce standards and the norms that will apply to importers, transporters, distributors, and retailers.

On the contentious issue of cross-filling, the MCI proposes a compromise where the small 12 lb household LPG cylinders (called *bonbonnes* populaires) can be partially or completely refilled at any microfilling center. However, the larger cylinders: 50 lb and 100 lb, must be exchanged at a service point of the company that provided the cylinder (i.e. TOTAL, Sodigaz, or Ecogaz). No cross-filling is allowed for these cylinders. For the intermediate sized 25 lb cylinders, the policy has not yet been defined and will depend on negotiations with the LPG suppliers.

The major advantage of this approach is that it allows families of modest means to fill (or partially fill) their small 12lb LPG cylinder at any microfilling center in their neighborhood. This should make LPG accessible to nearly every household in Port-au-Prince and allow families to pay for only small quantities of the fuel if this is what they prefer.

The regulatory framework proposed by the MCI will not necessarily be fully supported by TOTAL and DINASA (Sodigaz). However, the two companies have stated that they are committed to finding a compromise position that both companies can support. Once this agreement is reached and the strategy is approved by the government, the ICT program will work with all the stakeholders and play a role in disseminating information and facilitating the implementation of the regulations.

3.2.2 WORK WITH GOH TO PROMOTE LPG NATIONALLY

Expected Results

- Two MOUs signed with Ministry of Communications that specify access to these media by the ICT program
- Sales of household LPG stoves in the metropolitan PAP area increase to more than 15,000 per year
- Annual sales of LPG in metropolitan PAP area increase to 20,000 tons

Actual Results

- The Ministry of Communication has agreed to air ICTP radio and TV advertisements, but no MOU was signed. ICTP will pursue that effort in FY14.
- Approximately 10,000 household LPG stoves were sold this year

- LPG sales figures provided by SODIGAZ show that sales have increased sharply. From 4,088,379 US gallons (7,862 MT) in 2011, gas import increased to 6,048,704 US gallons (11,632 MT) in 2012. Figures for 2013 are not available yet, but preliminary indications show a continuing increase of sales. Note that these figures are only for SODIGAZ.

Narrative

Now that media consultants The Edge Worldwide, has finalized the radio advertisements and the jingle, the program will contact the Ministry of Communications with the aim of running the same advertisements on national radio. When the TV spots are completed by Edge, the program will again contact the Ministry to negotiate the TV spots being run on national television.

In July 2013, the program met with [redacted], a senior advisor to the Ministry of Communications. M. Justima indicated that ICTP will be given access to the national radio and television. A program for the radio emissions was prepared by Communications Specialist [redacted] and submitted to the Ministry for review. However, it has become clear that these emissions will not be free of charge. In August, the program discussed with the Ministry how radio and television emissions can be implemented. Meetings will continue on this topic in FY2014

3.3 Institutional framework for LPG strengthened

3.3.1 ADVOCATE FOR THE CREATION OF A PARASTATAL ENTITY TO MANAGE THE LPG SECTOR

Expected Results

- 50 % of microfilling stations in the metro PAP area abide by the regulations concerning the sale and distribution of LPG

Actual Results

- 0 micro filling stations abide by the regulations because legislation has not been finalized by the Ministry of Commerce and Industry.

Narrative

Given the various versions of the legislation now circulating, it is not yet clear if a parastatal entity responsible for implementing and enforcing the regulations will be created under the proposed legislation. The ICT program has advocated for the creation of an independent parastatal agency to manage the LPG sector and as noted in Section 3.2.1, the MCI is now proposing that a regulatory agency called CoNaPP be established. This council will be placed under the aegis of the MCI.

Once the regulations are clear and have been formally issued by the government, the program will focus on publicizing the regulations and working with the *Association nationale des distributeurs de produits pétroliers (*ANADIPP) to ensure that microfilling center owners and managers are aware of the regulations, are fully licensed to sell LPG, and agree in writing to comply with the regulations.

SECTION 6: COMPONENT 4 – RESULTS AND DISCUSSION

4 CARBON FINANCE PROGRAM FOR COOKING TECHNOLOGIES SCALED UP

4.1 Emissions and market data analyzed

4.1.1 IMPLEMENT LONGITUDINAL STUDY ON NINE COOKSTOVES INCLUDING LPG

Expected Results

- Initial report outlining study design and sampling strategy for participating household selection produced
- Thermal efficiencies of 9 improved stove models assessed
- Report of second round of Water Boiling Tests
- First report presenting detailed feedback on key stoves performance indicators

Actual Results

- The Longitudinal Study involving 120 households in the Port-au-Prince area started in July.
- The program conducted efficiency tests on the eight stove types included in the longitudinal study. Testing procedures follow international protocols.
- A second round of Water Boiling Tests occurs after six months of stove use in the longitudinal study households.
- The program will report on stove performance at the end of the year.

Narrative

The longitudinal study will, for the first time, generate accurate data on the long-term durability of improved cookstoves in Haiti. This information is essential for the calculation of the number of credits that the use of an improved charcoal stove can produce in a typical Haitian household.

The specific objectives of the study are to:

- Understand patterns of household energy behavior in homes to help inform stove choices and marketing strategies,
- Compare stated ICS manufacturer and laboratory performance measurements with in-field performance measures over time,
- Assess ICS durability in real-life scenarios, and compare these with manufacturer claims,
- Better capture and understand household members role in usage and adoption of improved cookstoves
- Improve local monitoring and evaluation capacity to measure estimated emissions and exposure to indoor air pollution,

In June 2013, the program piloted, refined and implemented all baseline assessment tools. The majority of improved cookstoves were placed in most of the households selected as part of the study. The program finalized improved cook stove dissemination in July 2013.

During the first weeks of the June, AMURT, the longitudinal study field partner, and the program piloted the tools and trained surveyors in the correct implementation of KPTs and enrollment surveys. The program refined survey tools substantially after feedback from the pilots. The program and AMURT conducted a total of four survey implementation pilots for these tools. The tools include: 1) the household selection survey 2) the enrollment (baseline) survey, 3) the KPT survey, and 4) the indoor air pollution survey.

Among the initially selected households, the program decided to exclude the control group of 30 households. Instead, 30 households that had already received ICS would be distributed traditional stoves. The logic of this decision was twofold: 1) address budgetary issues related to having a control group of 30 households (which would increase sample sizes from 120 to 150 households; and 2) to understand traditional stove usage in households which already have an ICS. The program would have excluded some of these households because they either cooked commercially (10 households) or their primary fuel was wood (2 households). Excluding these households makes the population more homogeneous and increases the validity of the study.

In June, the program launched of the Stove Use Monitoring System and Indoor Air Pollution (IAP) Monitoring devices.

The SUMS are attached to the stoves to record temperatures at several time intervals, allowing monitors to determine when the stove is being used, and to estimate how frequently households are using a device. The number of households where IAP monitoring takes place is 20. The reasons were that most of the households had open-air kitchens (and thus IAP is assumed to be very low), and concerns of participating households that IAP monitoring devices would somehow "eavesdrop" and thus invade their privacy.

4.1.2 COMPLETE PORT-AU-PRINCE AND NATIONAL BASELINE STUDIES TO DETERMINE CURRENT HOUSEHOLD FUEL CONSUMPTION

Expected Results

- All baseline studies are completed and the reports available

Actual Results

- Baseline study was not completed by the end of FY2013 because the baseline data was still under review.

Narrative

In June 2013, ICTP subcontracted the national baseline activities to Papyrus a local consulting firm. Papyrus quickly produced a good implementation plan and completed survey translations and piloting. There were three surveys for the national baseline: 1) household fuel consumption baseline 2) street food vendor survey and 3) charcoal vendor survey. All of these surveys were translated into Creole, tested in the field and then had corrections made to them. After the corrections, Papyrus again returned to the field to verify that the translations were more accurate.

PORT-AU-PRINCE HOUSEHOLD BASELINE

The program will complement the currently available Port-au-Prince baseline data with data from the national baseline to incorporate peri-urban areas of Port-au-Prince. National baseline data was made available in September 2013. The baseline reports are expected to be completed in October 2013.

NATIONAL BASELINE

Data was collected for the National Baseline in July and August. Two reports were issued by Papyrus in September 2013.

SCHOOLS BASELINE

The program finalized analyzing the schools data and a report has been made available. The baseline measure was calculated as 0.0528 kilograms of charcoal/person/day. The measure is adjusted during monitoring of carbon credits to the number of people in a given school as well as the school's days of operation.

STREET-VENDORS BASELINE

The program will complement the currently available street-vendor baseline data with data from the national baselines to incorporate peri-urban areas of Port-au-Prince. The street vendor baseline report was finished in October 2013.

The final data set, which will be robust and statistically reliable, will be available to any future investor who is potentially interested in generating carbon credits in Haiti.

4.2 Carbon credit program developed

4.2.1 DESIGN A CARBON CREDIT PROGRAM (PRE-VALIDATION)

Expected Results

- Letter of approval issued by Haitian Ministry of the Environment
- Cell phone monitoring system deployed

Actual Results

- The Minister of Environment agreed to prepare the letter in October 2013. At the time of writing the LoA had not yet been received
- The cell phone monitoring activity had not yet commenced.

Narrative

The program finalized the pre-validation design of the Program of Activities. The Letter of Approval will be provided by the Ministry of Environment, acting in their capacity as the Designated National Authority (DNA), based on their understanding of the PoA.

C-Quest Capital, the Coordinating Managing Entity (CME) of the PoA, is finalizing an online web application to track stove data. The application contains monitoring data and enables easy management of PoA data from multiple PoAs. The Haiti PoA information will be nested in this system for efficient management by the CME.

4.2.2 PROGRAM OF ACTIVITIES VALIDATION

Expected Results

- The PoA Design Document submitted for DOE review

Actual Results

- The PoA Design Document was submitted for DOE review on March 12, 2013

Narrative

The Global Stakeholder Consultation (publication of the Design Documents for comments on the UNFCCC website) for the Improved Cookstoves for Haiti PoA ended on April 17, 2013. No comments were received from stakeholders during the process.

The DOE reviewed the documents during that timeframe and submitted the first round of comments on April 29. During the process, the DOE created validation reports for the PoA design document (which also includes the generic Design Document) and the CPA design document. The validation reports contain two types of comments: Corrective Action Requests (CARs) and Clarification Requests (CLs).

CARs are raised where the DOE believes there is a risk that emissions reductions cannot be monitored or calculated, when CDM requirements have not been met or when there are errors that influence the ability of the PoA to achieve real, measurable and additional emissions reductions. CLs are raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

The program submitted the revised design documents to the DOE on May 16. A second round of DOE comments came at the end of the month of May. The list of Clarification Requests and Corrective Action Requests was significantly reduced. Overall, CQC addressed more than 70% of the first round of comments to satisfaction. Most of the remaining open requests refer to information that the program does not currently have will obtain before the end of the FY2013.

The program addressed the second round of comments on the Design Documents. During August, Paulo Lopes, an independent consultant evaluated the PoA and provided useful recommendations. The recommendations included introducing KPTs to monitor fuel consumption in intervention households, street-vendors and schools, elimination of requirements for serial numbers, and minor adjustments to the PoA operational plan. CQC and the DOE agreed on providing the next round of comments along with the baseline studies in order to have a more substantial review of the carbon credit program documentation.

4.3 PoA implemented

4.3.1 CONDUCT A PILOT STOVE MARKETING AND DISTRIBUTION

Expected Results

- Market pilot test design completed

Actual Results

- This activity did not commence this year

Narrative

The market pilot test will start once the PoA is validated. The expected date (contingent on a smooth validation process) is January 2014.

The ICT program is also supporting two other initiatives focused on the production of a carbon asset for Haiti. D&E Green, the firm that manufactures the Eco Recho charcoal stove, has two PoAs registered: one under the CDM and one under the Gold Standard voluntary market. The ICTP was instrumental in

assisting D&E obtain a letter from the Ministry of Environment to enable them to complete the verification process with the DOE and to register the PoA. The ICT program provided supplementary testing information on the stove model that will be the first CPA for the PoA. In addition, the ICTP has provided D&E Green with an in-kind grant to substantially increase their levels of production and standardize their stoves quality, ensuring that emissions reductions is higher than their original stove model--an improvement that will generate more carbon revenues for the company.

Another agency pursuing carbon credits in Haiti is Entrepreneurs du Monde (EdM). This agency has a Gold Standard micro-program CPA under development focused on fuel switching, i.e. replacing charcoal with LPG. This activity should take six more months to complete, and then carbon credit generation can begin.

4.4 Improved cookstoves manufacturers' access to investment funds increased

4.4.1 SEEK CAPITAL TO FUND STOVE DISTRIBUTION UNDER THE POA

Expected Results

- A source of financing will be found

Actual Results:

- This activity is on-going. A source of financing has not yet been found.

Narrative

C-Quest Capital is marketing the Haiti PoA to European carbon credit buyers, sovereign countries and private companies. CQC has presented the program, shared timelines for validation, and discussed prices above market levels. Discussions with interested parties will take place when the validation process reaches in an advance stage.

SECTION 7: COMPONENT 5 – RESULTS AND DISCUSSION

5 CAPACITY OF ENTERPRISES ALONG THE BIOMASS COOKSTOVE SUPPLY CHAIN TO PROFITABLY SCALE UP PRODUCTION AND SALE OF ICS STRENGTHENED[1]

5.1 Production and distribution capacity of targeted manufacturers, distributors, and retailers strengthened

5.1.1 DEVELOP BUSINESS PLANS AND GROWTH STRATEGIES TO ASSIST ENTERPRISES WITH BETTER UNDERSTANDING THE MARKET, THEIR PROJECTED SALES AND PROFITS, AND FINANCIAL REQUIREMENTS

Expected Results

- Four manufacturers or distributors identified to receive additional project technical assistance
- Six manufacturers or distributors develop or improve their company business plans in a way that allows them to apply for new loans
- At least two growth strategies for retailers identified and shared
- Four new manufacturers or distributor partners identified for ongoing support and integrated into ICS supply chain

Actual Results

- Four manufacturers or distributors were identified to receive additional project technical assistance: Ticadaie SA, Palmis Enèji-EdM, D&E and ILF
- Four manufacturers or distributors are developing and/or improving their company business plans in a way that allows them to apply for new loans: Ticadaie SA, Palmis Enèji-EdM, Prakti Haiti and D&E.
- Two growth strategies for retailers were identified and shared.
- Four new manufacturers or distributors partners were identified for ongoing support and should be integrated into ICS supply chain during year 3: Micama Soley, TOTAL Haiti SA, Earth Park Int. ("Enèji Pwop" owner), and Jean-Marie Laurent Transfert SA.

Narrative

With assistance from the program, Prakti and D&E Green submitted improved business plans to allow them to apply for new capital.

In order to expand the wholesale and retail network, in May 2013 the program released an advertisement in Le Nouvelliste newspaper seeking to identify existing business that are interested in carrying improved cookstoves as one of their products. The advertisement generated many calls, the majority of which were questions about access, but there were at least three viable wholesalers.

[1] Component 5 is a new program component introduced as a result of the contract modification signed with USAID in April 2013. The work plan for Component 5 was submitted to USAID in May 2013.

The program held an open house August 13 to inform the public about the project, and the different products that ICTP and its supply chain partners promote.

ICTP organized an exhibition of the different improved biomass stoves with a poster of the displays provided to retailers, and documents relating to various strategies used in the campaign. The manufacturers of improved biomass cookstoves also participated.

5.1.2 INCREASE ACCESS TO FINANCING THROUGH LOAN INSTRUMENTS, FUNDS TO SUPPLIERS AND MANUFACTURERS TO ON-LEND TO DISTRIBUTORS, RETAILERS AND TRANSPORTERS, RISK MITIGATION MECHANISMS, AND REMITTANCE SCHEMES.

Expected Results

- Supported manufacturers and distributors apply for at least $2 million in funding from various institutions as well as for tax abatement from the GOH
- One ICS product marketed for purchase through remittance program

Actual Results

- Supported manufacturers and distributors applied for $1.8 million in funding from various institutions.
- The program created a partnership with the remittance program Unitransfer and will test the marketing of ICS in FY2014.

Narrative

Applications for funding have been made by the following partner manufacturers:

D&E Green Enterprise

- $500,000 grant with "Compete Caribbean" (D&E Green is already in the phase III of application);
- $300,000 loan with YSB (application on-going); and
- $100,000 grant with the LEAD-PADF

Palmis Enèji – EdM

- $300,000 loan with YSB; and
- $300,000 loan with the Spark Fund

ID-Microfinance applied for a $300,000 loan with Global Partnership

Ticadaie SA is testing a new marketing initiative through a remittance program. They have a partnership with UniTransfer (a well-known money transfer institution in Haiti, a division of the Unibank). The test will start in November 2013. The products will be sold in Haiti (briquettes, ILF stove, Rena Stove and one institutional stove designed by Rena) in Unitransfer shops. Ticadaie SA will offer a stock of all these products in the different sales points of Unitransfer across Haiti, and expects to increase their sales thanks to the diaspora money transfer from several countries (primarily Canada and USA)

5.1.3 SECURE COST-SHARING INVESTMENTS CRITICAL FOR EXPANDING MANUFACTURING, ASSEMBLY, DISTRIBUTION AND SALES.

Expected Results

- Per-unit production costs of ICS produced by manufacturers is reduced
- Up to four grants issued to organizations to improve ICS supply chain operations with cost-sharing goal of a 1:1 match

Actual Results

- The production cost of ICS manufacturers has not yet been reduced.
- Two grants will be issued to manufacturers to improved ICS supply chain operations. The grants will be awarded to EdM and ILF, pending USAID approval.

Narrative

Stove pricing remains a contentious issue for many ICS partners. After discussions with the program, this has been resolved and all stove partners have agreed to the prices shown in the table below.

Two RFAs were released in June 2013 to help manufacturers increase stove stock throughout their distribution line and allow them to pilot innovative marketing and commercialization techniques that have worked elsewhere in the world but haven't been tested in Haiti. At the end of June, candidates submitted their applications and an ICTP selection committee completed their evaluations by the end of the month.

5.2 Management systems of enterprises along the cookstove supply chain strengthened

5.2.1 PILOT DIFFERENT MARKETING AND COMMERCIAL STRATEGIES TO DETERMINE WHICH ARE MOST ACCEPTABLE TO CONSUMERS AND ASCERTAIN THEIR RELATIVE IMPACT

Expected Results

- At least four commercial and marketing strategies tested and evaluated
- Report on pilots and mass media campaigns with recommendations for cost effective ways to scale up ICS sales

Actual Results

- Four supply chain ICS partners developing innovative strategies for marketing to be deployed in the 2013 Christmas period
- The report will be issued in FY2014

Narrative

ICTP tentatively selected four supply chain partners for grants to pilot innovative strategies on marketing and commercialization. These grants will allow supply chain partners to test strategies that they normally could not afford, or would generally consider to be high risk. All of the grant agreements with the selected partners should be finalized by November, pending USAID approval.

The piloting test with the TOTAL service stations is continuing. Service stations are already testing the sales of ICS and have been trained by Palmis Enèji-EdM.

5.2.2 TRAIN STAFF ON BUSINESS MANAGEMENT, FINANCIAL MANAGEMENT, ACCOUNTING, INVENTORY MANAGEMENT, MARKETING, SALES AND OTHER SKILLS NECESSARY FOR IMPROVING BUSINESS OPERATIONS

Expected Results

- 80 individuals who work at supported businesses apply business skills training
- At least three manufacturers, distributors, and retailers apply after-sales services for ICS
- Profit margins increase across supply chain actors
- 50 manufacturers, distributors and retailers are developed by the ICTP over the life of the program

Actual Results

- Since September 2012, more than 150 individuals who work at supported businesses have been trained by Palmis Enèji- EdM. 73 of these are currently ICS retailers.
- At least three manufacturers and distributors are applying after-sales services.
- ICTP selected manufacturers have agreed to stove prices through 2013. For some manufacturers this reduces their current subsidy and increases their supply chain partners' profit margin.
- More than 60 manufacturers, distributors and retailers have been developed by the ICTP over the life of the program.

Narrative

For the business skills trainings, ICTP has developed a specific booklet for retailers. ICTP trained 120 individuals living in IRCF camps since September 2012 in business skills and marketing for ICS.

Palmis Enèji proposes every week a free business skills training at its head office for any individuals who work at supported businesses.

As part of the Business Kit for Manufacturers, the program provided all partners with a business plan template tailored to businesses in the ICS sector. The business plan framework covers key sections of business description, opportunity assessment, product, marketing, competition, operations, schedule, risks, impacts and finance. The presentation aimed to provide participants with a framework that can be used to apply for funding from the various financial mechanisms available.

Concerning after sale services, D&E have produced a stock of ICS in case they need to replace damaged stoves which are under warranty. ILF proposes to its retailers to have a stock of ceramic grates that they can sell for 100 Gourdes to consumers to replace a damaged grate. Palmis Enèji offers to its retailers and consumers to replace all products which have a warranty if there is any default/damage. All clients from these three ICS partners have filled a warranty formed once they have purchase ICS.

SECTION 8: MONITORING AND EVALUATION

8.1 ANNUAL RESULTS

The Monitoring and Evaluation (M&E) unit collects and reports data on 27 indicators on a quarterly basis, and on three other indicators on an annual basis: indicators that require household surveys to validate the information. The results are analyzed and reported on a performance indicator table as shown on the following pages.

An overview shows that:

- 15 targets have been reached (or will be once the data is finally available : e.g. #13 and #15)
- 7 targets have not been reached
- 4 indicators are not applicable (because program activities have changed)
- 4 indicator values are not yet known because they are new (IR5 indicators)

Of the 7 targets that have not been reached, three are derived from other indicators (indicators 1, 2 and 30). The remaining four indicators are as follows:

12. Number of large user of charcoal that have switched to LPG as a result of project assistance
13. Number of commercial LPG stoves sold by manufacturers in target area
14. Number of PPP agreements signed that expand the market for LPG
15. Number of loans from funding institutions to large user to purchase stoves from manufacturers

Indicators 12 and 14 are directly related to the project objective: “Market for sustainable cooking technologies expanded.” Indicators 16 and 18 measure mechanisms that were thought to be useful in achieving the project objective, but they are not intrinsically part of the objective.

Results for Indicators 12 and 14 are not achieving their targets. However, there are a couple of issues with the data:

1. **The original target was based on an incorrect assumption.** As described in section 8.2, a recent study showed that the actual number of 'switchable' street food vendors is 4,139, and not 12,000. The ICTP team has submitted a report on the survey results to USAID
2. **The numbers are underestimated.** For example, if 662 street vendors have switched to LPG, at least 662 commercial LPG stoves must have been sold by manufacturers. If fact, survey results show that the majority of street food vendors use more than one LPG stove: the mean is 1.6 stoves per vendor. So 662 vendors are estimated to be using 1,059 LPG stoves--a figure much higher that the number calculated from manufacturers' sales figures. The discrepancy is due to the fact that several new manufacturers are not yet registered with the program. The ICTP endeavors to collect sales data from all stove manufacturers, but as the number of manufacturers in Port-au-Prince is growing each year, this task is never completely successful.

The complete deviation report is provided in an Annex.

Table 5. Performance Monitoring Report

PERFORMANCE INDICATORS BY QUARTER (October 2012 – September 2013)									
Indicator Code	Performance Indicator	Unit of Measure	Year 2 PMP Target	Q1 Results (Oct-Dec)	Q2 Results (Jan-Mar)	Q3 Results (Apr-Jun)	Q4 Results (Jul-Sep)	Year 2 Results	Notes
Program objective: Market for sustainable improved cooking technologies expanded									
1	Number of beneficiaries with improved energy services due to USG assistance (FACTS 4.4.1-31)	Number	29,300	6,079	4,800	6,469	3,822	21,171	Target not reached
2	Amount of charcoal consumption reduced as a result of increased use of improved cooking technologies due to project assistance	MT	58,590	4,287	3,070	5,064	9,278	21,698	Target not reached
Intermediate Result (IR) 1 Local market for improved household biomass cookstoves expanded									
3	Number of certified improved biomass stoves sold in metropolitan Port-au-Prince	Number	10,000	3,651	3,344	4,623	1,159	12,777	This target has been reached
4	Number of manufacturers that meet proposed requirements for certification of improved biomass cookstoves	Number	1	3	0	0	0	3	The target for 2013 has been reached.
Sub IR1.1 Leading efficient improved biomass cookstoves promoted and commercialized									
5	Number of new sales points for improved cookstoves in Port-au-Prince	Number	12	3	13	12	29	57	The target for 2013 has been reached
6	Number of manufacturers and retailers receiving training in commercialization	Number	20	0	10	0	14	24	Target reached but data not yet validated
Sub IR 1.2 Marketing and outreach cookstove campaigns expanded									
7	Number of media campaigns conducted in and covering target area	Number	4	2	0	2	0	4	Target reached
8	Percentage of target population that recognizes the national eco-label and logo with project assistance	Percent	15%	0	0	0	0	0	Target not reached
Sub IR 1.3 Financing mechanisms for manufacturers, retailers, and consumers to purchase improved cookstoves established									
9	Number of manufacturers and retailers that have accessed financing to improve the affordability of improved cookstoves with project assistance	Number	8	4	0	0	12	16	Target reached
Sub IR 1.4 GOH working groups on certification of cookstoves strengthened									
10	Number of protocols proposed for improved cookstoves developed by GOH working groups	Number	1	0	1	Target achieved	Target achieved	1	Target reached. Stove testing standards and protocols have been established at the BME
Sub IR 1.5 Economic opportunity for urban charcoal workers increased									

PERFORMANCE INDICATORS BY QUARTER (October 2012 – September 2013)

Indicator Code	Performance Indicator	Unit of Measure	Year 2 PMP Target	Q1 Results (Oct-Dec)	Q2 Results (Jan-Mar)	Q3 Results (Apr-Jun)	Q4 Results (Jul-Sep)	Year 2 Results	Notes
11	Number of charcoal workers trained in alternative economic opportunities	Number	50	56	Target achieved	Target achieved	Target achieved	56	This target has been achieved
Intermediate Result 2 Charcoal consumption by large users reduced									
12	Number of large users of charcoal that have switched to LPG as a result of project assistance	Number	4,200[10]	143	108	248	662	662	Fourth quarter data is from street food vendors' survey results realized in October 2013. It represents 16% of a population of 4,139 street food vendors that can be switched to LPG have switched
13	Quantity of LPG sold annually in metro Port-au-Prince	MT	20,000	2,142	4,284	4,021	3,722	14,169	Data for the 4th quarter are from Sodigaz only. We are still waiting for data from TOTAL. This figure will is likely to double when we receive data from TOTAL.
Sub IR 2.1 Access and availability of LPG stoves improved and Sub IR 2.2 LPG cookstoves production increased									
14	Number of commercial LPG stoves sold by manufacturers in target area	Number	4,300[11]	143	109	119	122	493	Target not reached
15	Number of technicians trained in LPG stove repair and manufacturing	Number	30	0	11	12	14	37	Target reached
Sub Result 2.3 PPPs for LPG stove market expansion developed									
16	Number of PPP agreements signed that expand the market for LPG	Number	2	1	0	0	0	1	Target not reached
17	Total public and private funds leveraged by USG for energy projects (FACTS 4.4.1-32)	USD	0	0	0	0	0	0	Indicator is not applicable
Sub Result 2.4 Agreements with funding institutions to support sustained production developed									

[10] Target will be reduced if number of switchable vendors is accepted as being 4,139

[11] idem

PERFORMANCE INDICATORS BY QUARTER (October 2012 – September 2013)

Indicator Code	Performance Indicator	Unit of Measure	Year 2 PMP Target	Q1 Results (Oct-Dec)	Q2 Results (Jan-Mar)	Q3 Results (Apr-Jun)	Q4 Results (Jul-Sep)	Year 2 Results	Notes
18	Number of loans from funding institutions to large users to purchase stoves from manufacturers	Number	1,140	0	0	0	0	0	None of the street food vendors in Port-au-Prince contacted by the ICT Program are willing to pay the high rates of interest on a loan from a microfinance institution.
Intermediate Result 3 Legal and regulatory framework for LPG strengthened									
19	Number of policy reforms/laws/regulations/ administrative procedures drafted and presented for public/stakeholder consultation to enhance sector governance and/or facilitate private sector participation and competitive markets as a result of USG assistance (FACTS 4.4.1-33)	Number	1	0	0	0	0	0	Target not reached
20	Number of GOH staff trained by project in regulation and enforcement of LPG distribution	Number	2	0	0	0	0	0	Target not reached
21	Percentage of micro-filling stations in metropolitan area that follow new regulations concerning the sale and distribution of LPG	Percent	50%	0	0	0	0	0	Target not reached. Since the regulations do not yet exist, no microfilling station can be said to be following them
22	The increase in sales of household LPG stoves as a result of the program's promotion of LPG.	Number	15,000	2,285	1,348	1,727	2,541	7,901	This data is from only three retailers. There are more retail stores selling LPG household stoves in Port-au-Prince, the true figure for household LPG stove sales is likely to be much higher. Sales data from all retailers will be collected in FY2014
Intermediate Result 4 Carbon finance program for improved cooking technologies scaled up									
23	Number of baseline studies on carbon reductions based on household charcoal consumption	Number	3	3	2	0	0	5	Target achieved
24	Number of stove models available in target areas that meet carbon emission reduction requirements	Number	2	4	0	0	0	4	Target achieved
Intermediate Result 5 Capacity of enterprises along the biomass cookstove supply chain (manufacturers, distributors, and retailers) to profitably scale up production and sale of ICS strengthened									
Sub Result 5.1 Improved cookstoves supply chain (from manufacturers, to distributors, to retailers) becomes more profitable									
25	Increased profit margin for actors along the supply chain	%	TBD	0	0	0	0	0	This is a new indicators included added in June 2013 when IR 5 was introduced into the PMP indicator framework

PERFORMANCE INDICATORS BY QUARTER (October 2012 – September 2013)									
Indicator Code	Performance Indicator	Unit of Measure	Year 2 PMP Target	Q1 Results (Oct-Dec)	Q2 Results (Jan-Mar)	Q3 Results (Apr-Jun)	Q4 Results (Jul-Sep)	Year 2 Results	Notes
26	Amount of investment leveraged in USD, from public and private sources, for climate change as a result of USG assistance	$	TBD	0	0	0	0	0	This is a new indicators included added in June 2013 when IR 5 was introduced into the PMP indicator framework
Sub Result 5.2 Management systems of enterprises along the improved cookstoves supply chain strengthened									
27	Number of institutions with improved capacity to address climate change issues as a result of USG assistance (GCC 4.8.2-14)	Number	TBD	0	0	0	0	0	This is a new indicators included added in June 2013 when IR 5 was introduced into the PMP indicator framework
Custom/GCC Indicators Access to improved cooking technologies expanded									
28	Number of stove/equipment manufacturers, distributors and retailers developed through USG assistance.	Number	30	45	0	0	0	45	The target has been achieved
29	Percentage reduction in energy expenditures by HHs and businesses	%	TBD	0	0	0	0	0	This is a new indicator and no target has been set for FY2013 since there was no baseline data. Baseline data is now available and a target has been set for FY2014 in the updated PMP report.
30	Quantity of Greenhouse Gas (GHG) emissions, measured in metric tons of CO_2, reduced as a result of USG assistance.	MT	336,894	24,648	17,653	29,118	53,347	124,766	The value of this indicator is calculated directly from Indicator 2. The calculation is based on the assumption that producing 1 ton of charcoal from wood and then using it as a fuel generates 5.75 tons of CO_2.

8.2 STREET VENDOR SURVEY

The ICTP contractual target of converting 9,450 street food vendors to LPG is based on a previous estimate of about 12,000 vendors working in the metropolitan area of Port-au-Prince. These numbers figure in the USAID contract with Chemonics. However, recent survey data strongly suggest that this estimate is inaccurate.

Because of significant anecdotal evidence from project staff working in the field, in June 2013, the program decided to register all the street food vendors and small restaurants in the nine communes (districts) of the metropolitan area of Port-au-Prince. A survey of street food vendors was subsequently conducted during the months of June and July 2013 supervised by the head of the program's Monitoring and Evaluation unit. The objective was to conduct a census: i.e. to identify and register every street food vendor in the metropolitan area. A total of 6,417 street food vendors were identified and surveyed during this period.

STREET FOOD VENDOR PROFILES

Street food vendors were categorized into four types of business activity:

1. Restaurants: meaning that food is cooked by the vendor in a small covered space where clients can sit while eating;
2. Street food vendor: meaning that food is cooked on a stove in the street and sold in a polystyrene container. Street food vendors require at least two burners;
3. Fried food vendor: meaning that only fried food is prepared on a single burner;
4. Other: small mobile vendors that used mostly kerosene stoves to prepare sandwich, snacks and sweet foods.

The table below shows the number of vendors involved in each category of business.

Table 6. Types of Street Food Vendors

Type of Business	Number	Percentage
Restaurant	256	4%
Street food vendors	2,957	46.1%
Fried food vendors	1,852	28.9%
Other (small mobile vendors)	1,352	21%
Total	**6,417**	**100%**

STREET FOOD VENDORS AND RESTAURANTS THAT CAN BE SWITCHED TO LPG

Small restaurants and large food vendors are potential candidates to switch to LPG because they cook in a fixed place and do not move their stoves every day. Fried food and other small vendors, while technically street food vendors, are mostly mobile. They do not have a fixed place to cook and they move their stoves every day, which is difficult with LPG. Moreover, most of them sell barbequed food cooked with charcoal. It is estimated that only about half of fried food vendors are willing to switch to LPG.

The following table shows the number of street food vendors who potentially can be switched to LPG and those who cannot.

Table 7. Street Food Vendors and Restaurants that can be Switched to LPG

Type of Vendor	Number	Percentage
Switchable Vendors	4,139	64.5%
Restaurant	256	
Street Food Vendors	2,957	
Fried Food Vendors	926	
Unswitchable Vendors	2,278	35.5%
Fried Food Vendors	926	
Other (small mobile vendors)	1,352	
Total	**6,417**	**100%**

This recent study conducted by the ICTP demonstrates that the hypothesis that there are 12,000 street food vendors in the metropolitan area of Port-au-Prince is not valid. Even assuming 1,000 night-time vendors in Cite Soleil (and these are mostly unswitchable vendors), there are no more than approximately 7,500 street food vendors (all categories) in the metropolitan Port-au-Prince area. The conclusion of the ICTP survey is that, of these 7,500 vendors, only 4,139 are potential candidates for switching to LPG.

Given the lower number of street food vendors, the ICTP has stepped up efforts to convert, not just large users of charcoal, but all users of charcoal, particularly households. This is partly because street food vendors are mostly women managing households, and when they switch to LPG they also want a domestic LPG stove in their house. It is also because there are several new GOH housing developments (supported by USAID) where all household cooking is with LPG.

SECTION 9: MARKETING AND GENDER

9.1 MARKETING CAMPAIGNS

Achieving ICTP's objective of establishing a foundation for sustainable and profitable businesses providing clean cooking technologies rests on the assumption that the demand for clean cooking technologies will continue to grow over at least the next decade. A substantial amount of time and effort has therefore been expended by ICTP on marketing the improved cooking technologies being promoted by the program: improved charcoal stoves and commercial LPG stoves.

9.1.1 Improved Charcoal Stoves

- The media campaign for improved charcoal stoves consisted of seven components:
- Logo development
- Marketing materials
- Billboards
- Newspaper advertisements

- Radio advertisements
- TV advertisements
- Gauging marketing effectiveness

STOVE LOGO DEVELOPMENT

The aim was to create a character that would be uniquely identifiable as representing improved cookstoves, and that could be utilized in a variety of ways thorough various manipulations of the logo character. The logo is a smiling pot sitting on top of a generic improved stove. All improved stoves possess two characteristics not found on traditional charcoal stoves: an enclosed firebox, and a door to control the flow of air.

Figure 4. Happy Pot Logo

The 'happy pot' logo is used to convey a variety of messages to the public. The logo is employed both for marketing, i.e. increasing the demand for the improved charcoal stoves, but also as a mechanism to instruct stove users how to use their stove correctly. This is important because a stove used in the wrong way will not last as long as it should, and customers will complain that the new stoves do not last long enough to justify the additional cost.

The images set out below show the different ways in which the logo is used to “speak”” to the public:

Figure 5. Stove Use Instructions

The 'Happy Pot' logo instructing stove users how to use the stove correctly

Figure 6. Stove Use Instructions

The 'Happy Pot' logo instructing stove users how to use the stove correctly

MARKETING MATERIALS

Marketing awareness materials were used in a variety of ways to draw attention to the benefits of ICS for multiple uses (for retail, for manufacturers, for trainings, and demonstrations).

A general use pamphlet, which described the benefits of ICS, highlights the group of stoves that the project is promoting, allowing consumers to directly inquire where the ICS would be available.

Figure 7. **Stove Use Instructions**

The 'Happy Pot' logo instructing stove users how to use the stove correctly

BILLBOARDS

Two 8’ X 10’ billboards were posted in key traffic areas of the target market of greater Port au Prince. In designing the billboards placement strategy for the improved stoves, the program weighed three important factors:

- The target audience
- Public traffic in the area and
- Congestion level in the desired space.

Two billboards were installed at their designated spots the week of June 30, 2013. They will stay in place until the end of 2013 in the specified locations.

Figure 8. Billboard Placement in Port-au-Prince

Billboard 1: Uses less charcoal and cooks fast | Billboard 2: Cooks fast and uses less charcoal

NEWSPAPER ADVERTISEMENTS

The newspaper advertisements incorporated the key selling points for the stoves but were presented in different visual ways. What was changed was more the visual approach; layout and visual elements, rather than the copy itself. The program separated the selling elements primary and secondary benefits:

Primary Benefits

- Saving money – stoves use up to 60% less charcoal
- Cooks Fast – Saves Time
- Food Tastes Great
- Durability – stoves last up to 5 times longer than traditional stoves
- Easy to Keep Clean

Secondary Benefits

- Where stoves are available

- Health Benefits
- Stove Safety
- Ecological Benefits
- Made in Haiti
- Job creation

Each advertisement incorporated all the primary elements. The emphasis changed but they all were present. The secondary benefits varied from advertisement to advertisement. As with the concept, there were a set of values that were common and promoted in all five advertisements:

- Presentation of all the key benefits
- Use of the stove logo character
- Photos of the 4 ICS and phone number where available
- Use of the 'available here' poster

Where the advertisements were different is in what they key in on to visually emphasize. Each advertisement promoted two of the key benefits.

Figure 9. **"Recho Amelyore" Newspaper Advertisements**

Advertisement 1: Saves Money/Cooks Fast

Advertisement 2: Tastes Great/Less Charcoal

Advertisement 3. Cooks Fast/Less Charcoal

Advertisement 4: Saves Money/Tastes Great

Advertisement 5. Less Charcoal/Cooks Fast

The print advertisements placement strategy proposed seeks to reach a younger generation of users that is not illiterate and not necessarily poor. It should also reach relatives of potential stoves users who are established in the diaspora who may influence their parents' use

The print media selected were:

- **Le Nouvelliste –** Haiti's oldest newsprint medium (over 115 years in operation) has always been a sure, respected sources of information in Haiti. Its online link (www.lenouvelliste.com) reaches millions of Haitians living in the U.S. and other countries throughout the world.
- **Le Matin** – With a weekly issue, Le Matin also brings balanced news and information to the Haitian public in Haiti via distribution centers and door to door delivery. It also reaches a large audience beyond Haiti thru www.lematinhaiti.com.

RADIO

Five spots were developed. In addition, a radio jingle was created and used to introduce the radio campaign to the listening audience.

Each spot consisted of a conversation between 2 women. The spots were 35 – 45 second little 'slice of life' pieces, using humor, and always the same two voices, music beds, jingle, etc. The goal was for listeners to talk about these advertisements and actually look forward to them.

Woman #1 is a traditional stove owner and her character will be a little down, not too happy, etc.

Woman #2, who owns an ICS will be much more upbeat, better off, etc. It was considered critical to the success of the radio campaign that the differences between these two women were obvious and discernible to the listening audience. Casting the voices was a major part of this campaign.

The women visit each other's house and personalize their experiences. This is much more effective than a voice saying that you will save money on charcoal, etc.

Each spot keyed in on 2 – 3 of the primary benefits. Secondary benefits were utilized more as 1- liners, to round out the commercial.

One example would be that #1 is in #2's house and compliments her on her new dress. #2 tells her how that was possible because of all the money she was able to save in charcoal with her new, modern, stove. #2 continues to tell her how great the food tastes and how easy to keep clean the stove is. In closing, she could say…"and you know what", all these stoves are made in Haiti and create lots of jobs to! It could be that there is a voice over at the end of each spot that says something like "Available in better house wares shops in the greater PAP area"

In designing the radio placement strategy for the Improved Cookstoves, the program weighed three major factors:

1. The popularity of the program first, and then that of the station.
2. The profile of the audience for particular programs and the audience share with other similar programs.
3. The costs and conditions of purchasing a spot on a particular program.

ICTP reviewed several studies on radio stations and radio programs in Haiti, and took into account recent and current programs trends and popularity. While certain radios have had an overall dominance in listenership ratings for many years, every now and then some new programs emerge as very popular in those same or other radio stations. For instance, while Radio Scoop FM does not rate well in major surveys, over the past 13-18 months, their 2:00-4:00 program emerged as a dominating program in the 2-4 timeslot. The same holds true for the 4:00 – 6:00 pm slot with Radio Kiskeya (Nouvèl 4 è) which dominates the radio dial in the Port-au-Prince metropolitan area and the provinces--as many other radio stations syndicate with this station for those news hours.

Based on these considerations, ICTP selected Radio Caraïbes, Radio One, Radio Kiskeya, Radio Vision 2000 and Radio Lumière for the radio campaign:

- **Radio Caraibes** – Radio Caraibes is by far the most popular radio station in the Port-au-Prince Metropolitan Area (PAPMPA). For many years, it has sustained its leadership with many hit programs that captivate reliable audience types. The programs "La Manne" "Matin Caraibes" and "Ranmasse" are by far the ones that draw the highest customer base to date.
- **Radio One** – Over the past 12 months, Radio One has emerged as a major contender in radio communications with two program slots that have gained high popularity: 8-9 and 16:00 – 20:00 that attract people aged 18 and over. Radio One's ability to reach many departments gives it a reach beyond the capital.
- **Radio Kiskeya** – For many years now, "Nouvel 4 e" at Radio Kiskeya has established itself as the dominating program on Haiti's radio dial. The 16:00 – 18:00 broadcast timeslot reaches households, drivers, in Port au Prince, the provinces (as many radio stations in the provinces network with Kiskeya for the news every weekday) and throughout the diaspora.
- **Radio Vision 2000 ou Radio Ginen** – The morning News at Radio Vision 2000 and "Vision 2000 à l'écoute" which broadcast in the morning and early afternoon are very popular segments. Given that the morning news is given in French might, diminish the audience for the target population for this segment. Replacing this with spots on Radio Ginen's Jwèt pou ou program that airs on weekdays from 12:00 – 13:00 might provide a better reach. However, like Caraibes, the costs for the spots on Radio Ginen are almost prohibitive based on the limited funds available for the campaign.
- **Radio Lumière** – Radio Lumière enjoys a very large and reliable audience that is trans generational. This station has a secure and widespread reach within the Christian community in Haiti. While Radio Shalhom has gained support and popularity over the past few years, the airtime is leased from Radio Akansyel and thus their broadcasting is conditional to the terms and conditions of their contract with Radio Akansyel. This factor also weighs in on our decision to utilize Radio Lumière in this campaign.

TELEVISION ADVERTISEMENTS

The production for the TV advert was intended to be concurrent with the radio spots.

The same voices used in the radio spots are the same used in the TV advertisement. The same characteristics that applied to the voices apply to the visual aspects, clothing, etc., of female actors. The radio voices were dubbed in.

At the time of writing, the TV advertisement video is being tested on two focus groups to determine its effectiveness.

GAUGING EFFECTIVENESS

The 'Hotline'

In all the billboard, newspaper, radio and TV adverts, a 'Hotline' phone number is prominently shown or announced. This number is manned by Entrepreneurs du Monde (EdM), a French NGO operating in Haiti and involved in ICS distribution. EdM has information provided to them by the stove manufacturers on all the places where their respective stoves are being sold.

When an interested consumer calls the Hotline, EdM will direct them to the nearest outlet that is selling the stove that the consumer is inquiring about. At the same time, EdM will capture information as to how the consumer became aware of the stoves (what form of media or referral) and also capture the approximate location of the consumer. EdM is also equipped to answer most questions regarding the benefits and attributes of each stove.

INCREASE IN MANUFACTURER SALES

Each stove manufacturer was requested to keep and make available their project records of stove sales during the marketing campaign time frame. When comparing sales to earlier periods, the program can gauge how effective the campaign has been in actually increasing sales.

9.1.2 LPG Stoves

- The media campaign for LPG was different to the campaign developed and implemented for improved charcoal stoves in three important respects:
- There was no animated logo; messaging showed images of women clearly happy to be using an LPG stove. The women themselves 'spoke' to the public.
- It was not necessary to distinguish between traditional and improved LPG stoves. All LPG stoves are a considerable improvement over charcoal stoves for the simple reason that they do not burn charcoal.
- The LPG stoves do not have names. In effect, it is the fuel that is being promoted rather than the stove.

The primary messaging components were defined as being:

- The economic benefits of LPG stoves compared to charcoal
- The reduction in cooking time--important for women who manage many household duties
- Health benefits of LPG compared to charcoal--both for the cook and for children in the kitchen

PRINT ADVERTISEMENTS

Four print advertisements were developed and carried by the Nouvelliste and Le Matin newspapers. The first left hand image was also used as a billboard that was erected in two locations in Port-au-Prince.

The message in the top left image is that cooking is very quick. The woman is also saying that she is now beautiful. This speaks to the concern expressed by many women cooking with charcoal that the fuel is dirty, and that they cannot easily keep themselves clean. The names and telephone numbers of all six

manufacturers registered with the ICTP at the time of the media campaign are shown on the advertisement.

Figure 10. **LPG Print Advertisements**

The message conveyed by the image on the right is "Rapidity, Cleanliness, and Economy": the three primary benefits of the LPG stoves. The woman is also saying that the stove is good for her business--a reference to the use of these large stoves by street food vendors.

The lower left image is also intended to convey the primary benefit that using an LPG stove saves money. The other benefits are listed in the box to the left of the stove, including, in last place, 'protecting the environment', which surveys have shown not to be a major influential factor in women's decision to buy an LPG stove.

The lower right image has a different purpose. It is intended to reassure women that LPG is easy to use "as easy as 1, 2, 3". The poster also instructs users how to safely use the stove. This is important because surveys consistently show that many women believe that LPG is dangerous, and poses a risk for the family particularly for children.

RADIO ADVERTISEMENTS

As noted in Section 1.2.1, as part of the media campaign implemented by the program, weekly radio programs called 'Environnement Plus' were aired every Sunday afternoon on Radio Caraibe from April to July 2013. The programs discussed household energy use: both charcoal and LPG. Each radio program generated 20 to 30 phone calls from listeners asking for additional information. The radio campaign organized by The Edge Worldwide (TEW) followed the Evironnement Plus radio shows.

Table 8. LPG Radio Messaging

LPG Radio Advertisement – Principal Messages	
1	LPG stoves are easy to use
2	LPG stoves cook quickly and save time
3	LPG stoves are convenient: clean cooking (easy to clean). They also look good
4	LPG stoves reduce health hazards from smoke to women and children
5	LPG stoves save money in the long run

The radio schedule for the LPG spots is shown below:

Table 9. LPG Radio Schedule

Week	LPG Radio Ad						Station / Show				Total
	Jingle	1	2	3	4	5	Radio Caraibe Monday – Friday 4:00 – 6:30 La Manne du Matin	Radio Kiskey Monday – Friday 16:00 – 18:00 Nouvèl 4è	Radio Ginen Monday – Friday 12:00 – 13:00 Jwèt Pou Ou – Cartes sur table	Radio Lumière Monday – Friday 6:00 – 9:00 Réflexions	
6/30/2013	✓						2	2	2	3	9
7/7/2013		✓					4	4	4	4	16
7/14/2013			✓				4	4	4	4	16
7/21/2013				✓			4	4	4	4	16
7/28/2013					✓		4	4	4	4	16
8/4/2013						✓	4	4	4	4	16
Total							**22**	**22**	**22**	**25**	**91**

PUBLIC DEMONSTRATIONS

The promotional campaign implemented by TEW also included 20 public demonstrations of LPG stoves in market areas around Port-au-Prince where street food vendors generally congregate.

TELEVISION ADVERTISEMENT

The Edge Worldwide is producing a TV advertisement that will air in November 2013. At the time of writing this advertisement had not yet been finished.

9.1.3 Lessons learned from the media campaign

Level of media advertising necessary to effect behavior change. Convincing low income consumers to purchase a more expensive ICS takes time and both the duration and frequency of advertising should reflect that fact. The duration and frequency of media messages will continue through FY2014.

Forms of media that are effective for ICS are different than for LPG stoves. ICTP scheduled the same forms of media and the same level of media deployment for both the ICS and the LPG stoves. The reality is that they are quite different consumer markets and the media deployment to successfully reach them is also different. For ICS, in market after market, the most successful forms of marketing have been public demonstrations, radio, and word-of-mouth. Newspaper and TV have proven to be largely ineffective for ICS, but because the LPG consumer tends to be from a different social-economic sector, they can be highly appropriate for LPG. The FY2014 media campaign will change the marketing mix for each to better reflect the makeup of the intended consumer sector.

Ensure there is an adequate supply of handout material at public demonstrations. It is not possible to talk to each individual consumer at a public demonstration and be able to answer all his or her questions. It is therefore important to have enough leave-behind material that gives:

- Additional information about the stoves
- Contact number where consumers can call for additional information
- List of retail stores in the vicinity where the stoves can be purchased

Stove manufacturer representatives should be at public demonstrations. Public demonstrations are generally carried out by either local NGOs or local private sector companies which are not completely informed of the full benefits of ICS and cannot completely answer consumer questions. There tends to be an increase in stove sales at these events if manufacturer representatives are present.

An adequate supply of stoves should be available for sale at public demonstrations. Some consumers will want to purchase stoves immediately and if stoves are not available for sale not only will the immediate sale opportunity be lost but that consumer may never purchase a stove.

There should be retail stores in the vicinity of a public demonstration that have stove inventory prior to the event. The goal of public demonstrations is to create increased awareness for ICS and LPG and ideally to push sales to local retailers. Timing is very important. Stoves should be in local retail stores at least 3-4 days prior to the event. If the stoves are locally stocked too early, before any awareness has occurred, the retailer may lose interest because of lack of consumer sales.

Choice of partner for capturing consumer level of interest. Initially the phones were not properly manned and calls were not answered in Creole. This problem has now been corrected. In Haiti there are multiple professional businesses that are call-centers which handle this type of business on a regular basis.

The advantages of using local businesses whenever possible are many, as long as the level of professional service can be verified. Using local firms for this task is recommended for the future.

There is no question though that the program's media campaign has been successful. The recent household survey conducted by ICTP show that 82% of households say that they would like an improved charcoal stove, and 76% of households also say they would like an LPG stove. These numbers are much higher than those recorded in October 2013, and show that the majority of households in Port-au-Prince are now aware of the new cooking technologies.

9.2 GENDER

The program's gender strategy focuses primarily on women, and by extension on children, given that the program's primary concern is changing the way cooking is carried out in Haiti and evaluating the impact of the improved technologies. Cooking in the home and commercially on the street is almost entirely done by women. Women do most of the preparation of the food sold in the street and around the commercial and industrial centers, and in institutions such as schools, health centers, and restaurants, although men often cook in the more expensive and up-market restaurants. Above all, some 7,000 women cook and sell food in the streets of the capital, Port-au-Prince.

In USAID's recently circulated "How-to Note: Addressing Gender and Inclusiveness in Project Design", it is recommended that the gender analysis of a program should address at a minimum five principal questions.[1] These questions are discussed below:

1. What is the status of women and men and their differential access to/control over assets, resources, opportunities and services relevant to the project?

Although Haiti is a gender-unbalanced society, access to loans and microfinance is available as easily to women as it is to men. A microfinance institution, FHAF, specifically focuses on providing loans to women of modest means. At a more senior level, ICTP works with two consulting companies (The Edge Worldwide and Papyrus S.A.) both of which are owned and managed by highly qualified women.

2. What are male and female roles, responsibilities and time use that could prevent or facilitate participation in the project?

In Haiti, women are primarily responsible for managing the home including preparing food for the family. While this activity does not preclude women's participation in the ICTP, cooking with charcoal (which is the norm), places a substantial health burden on women and carries substantial opportunity costs. A recent publication by the Global Alliance for Clean Cookstoves (GACC) states that household air pollution is the fourth biggest health risk in developing countries. Four million people die each year from exposure to cookstove smoke, and the majority of those affected are women. In the half a million households in Port-au-Prince, 94 % of the families are cooking with charcoal. Cooking with charcoal also takes more time compared to more modern fuels such as LPG and kerosene. The extra time it takes to light the charcoal stove, get the charcoal burning hot, and then douse the flames and clean out the ashes when cooking is finished, could be used more productively helping children with their school work or on informal sector commerce or business opportunities.

[1] USAID How-To Note: Addressing Gender and Inclusiveness in Project Design, Version 1.0, August 2013.

3. **Are there laws, policies, and institutional practices that may contain implicit or explicit gender biases and that may need to be addressed by the project? Which are they?**

There is no evidence of laws, policies, and institutional practices that contain implicit or explicit gender bias that would impact the ICT program.

4. **What gender norms exist that may affect female's ability to assume leadership roles and decision-making in the project as well as to participate?**

There are many examples in Haiti of women taking the lead in small businesses and major enterprises. However, one example of gender bias relates to technicians. Young women are not generally regarded as competent in trades such as plumbers, electricians, mechanics, and technicians, and so are not often selected for training in these fields. This bias has an impact on the participation of women in maintaining and repairing LPG stoves, and this lack of knowledge is a disadvantage when it comes to selling LPG stoves--where knowledge of the way they work and how to fix them when they break is an advantage for the retailer.

5. **What are the potential impacts of the project purpose on men and women, including unintended or negative consequences such as increasing the risk of gender based violence or increasing women's unpaid work?**

There is no evidence of unintended consequences that could adversely affect the position of women. On the contrary, women stand to gain enormously from the results achieved by ICTP, both in terms of their improved health (and the health of their children), and the extra time they will have available for activities that contribute to their livelihoods. It has also been noted that young men are increasingly involved in street food vending, so the stereotype that only women are involved in preparing street food is inaccurate.

The approach taken by ICTP is based on the principle of building and strengthening the capacity of the women employing the different cooking technologies. This approach is applied across all program components and targets the different groups of women involved in the program. The approach is not simply focused on encouraging the women to abandon charcoal and move on to LPG. The approach aims at building confidence and knowledge among women related to the use of LPG, including how to set up the stoves and gas bottles and how to maintain and repair the stoves.

In March 2013, a charcoal-free cooking zone was inaugurated in the SONAPI Industrial Park. Of the 52 food sellers, 49 are women. At this major commercial food zone, women cooking on charcoal are providing lunch to more than 10,000 workers a day, The program collaborated with SONAPI managers to clean up and refurbish the area, and to convert all the cooking over to LPG. This model may soon be replicated in charcoal-free street food zones across the Communes of Port-au-Prince, most of which have stated a desire to establish charcoal-free street food zones in their localities.

The program has organized training sessions aimed at teaching technicians how to repair LPG stoves and how to use the necessary tools. The most recent training activity was in September. Two of the 14 participating technicians were young women. The success of this initiative has encouraged the program to include greater numbers of female technicians in future training activities. The program also employs a majority of women in demonstration teams and as data collectors in the quarterly performance monitoring surveys and the annual household surveys.

Lastly, program activities related to health messaging largely target women and children. Acute lower respiratory infections are the leading cause of death of children under five in Haiti. In a Caribbean island country with little industrialization, the consensus is that these infections are linked to the widespread use

of wood and charcoal for cooking in the home. The transition from charcoal to LPG in Haitian households will have enormous positive benefits for the health of women and children--especially in the poorest urban households.

SECTION 10: CONCLUSION

This report has presented a review of progress the Improved Cooking Technology Program has made in meeting its performance targets during the period October 1, 2012 to 30 September 2013. The majority of the ICTP's targets have been met. However, seven important target values, all related to Component 2 (the conversion of large users of charcoal to LPG), have not been reached. A summary of the challenges to be faced and overcome during the next year of the program are outlined below.

Progress under IR1 (Local market for improved household biomass stoves expanded) has been excellent. There are now five very efficient charcoal cookstoves on the market in Port-au-Prince, and 12,777 of these stoves were sold in FY2013--exceeding the planned target by 27.8 %. The whole supply chain has been strengthened: from manufacturers (who have received grants to improve their manufacturing processes), to distributors and retailers: who have received training from the program and who now have much better access to credit mechanisms. The partnership with Entrepreneurs du Monde (EdM) has been productive and synergistic for both partners.

The certification of improved cookstoves remains a challenge. The stove testing facility at the BME set up by the ICTP at the beginning of 2013 was never fully operationalized by that agency. As a result of this setback, the ICTP plans to move the stove testing laboratory to a building in the Faculty of Science (FDS) at the State University before the end of December 2013. However, at the time of writing, the FDS had yet developed a business plan that shows how the laboratory will cover its operating costs in order to be sustainable.

A second challenge is how to improve the lives of the Port-au-Prince charcoal vendors whose livelihoods are threatened by the shift from charcoal to LPG in Haiti. The 'Self Help Group' has been effective in other social contexts, but it is not evident that it is effective with this group of disadvantaged workers. A different approach may be required.

In Component 2 (Charcoal consumption by large users reduced), the results are unsatisfactory. On the supply side, excellent progress has been made in that there are now nine firms manufacturing commercial LPG stoves in Port-au-Prince. The development and marketing of LPG kits has been essential to the development of the market for commercial LPG stoves. At the same time, sales of LPG nationally are rising exponentially: it is clear that Haiti is transitioning from charcoal to LPG. But this transition is being led by households switching to LPG in greater numbers now that less expensive LPG imported stoves, smaller LPG cylinders, and easy access to neighborhood microfilling stations, is becoming the norm.

But large users: street food vendors, schools, and orphanages, have been slow to adopt the new technology because, compared to households, their investment is substantially greater. There is evidence that this situation is changing, but this evolution may not come quickly enough for the ICTP to meet its targets within the lifetime of the program. In FY2014, the program will deploy substantial financial resources to accelerate the rate of change among street food vendors, schools and orphanages. At the time of writing, a Fixed Obligation Grant is being finalized with a Haitian firm that aims to convert 800 street food vendors to LPG by June 2014. If this initiative is successful, a second grant will follow. There is every chance that the target for street food vendors will be achieved.[1]

[1] The revised target of 4,139 vendors

Switching the majority of schools to LPG remains a challenge. The Ministry of Education appears not to consider this a priority--in spite of the conclusive evidence that cooking with charcoal is harmful for both the cooks and children that inhale the smoke. Private schools are more aware of the need for change and starting with the protestant schools associated with the Federation des Ecoles Protestantes en Haiti, it is expected that a good number of other private schools will convert in FY2014. The situation is also very positive for orphanages--where a major effort to convert them to LPG commenced in October 2013.

Component 3 (Legal and regulatory framework for LPG strengthened) continues to be a frustrating challenge. An evaluation of the LPG economic structure has been completed by the Ministry of Commerce and Industry as a prelude to drafting the law, but a first draft of the actual legislation still has not yet been circulated by the MCI. The ICTP will continue to advocate for the development and promulgation of a law regulating the LPG sector but this objective looks increasingly unlikely within the lifetime of the program.

The development of a carbon asset under Component 4 has made good progress. The program of activities called "Improved cookstoves for Haiti" is likely to be validated and registered under the Clean Development Mechanism in early 2014. However, no manufacturer of an improved cookstove appears willing to develop a CDM program of activities for a specific stove model. This may change once the PoA is registered but once again, as with Component 3, the program finds that achieving the final objective is mostly out of its hands.

Component 5 focuses on developing sustainable and commercially successful improved charcoal stove businesses in Haiti. All the signs are that this objective will be achieved. With five efficient charcoal stoves now on the market, a burgeoning retail network expanding across Port-au-Prince, and with three of the five stove manufacturers well established and profitable Haitian businesses, the success of the sector seems assured.