

Market Assessment Context

This document summarizes the Peru Cookstove and Fuels Market Assessment conducted by Accenture Development Partnerships (ADP) on behalf of the Global Alliance for Clean Cookstoves. Sixteen assessments were conducted across the world as part of a broader effort by the Alliance to enhance sector market intelligence and knowledge. They are intended to provide a high level snapshot of the sector (based on mid 2012). Further detail on these assessments can be found at the end of this document.

The Peruvian Cookstove Market

The Peruvian market is well established, with a well-coordinated national campaign bringing together all major implementers. Peru was also the first country to join the Global Alliance for Clean Cookstoves and the Partnership for Clean Indoor Air (PCIA) Bi-Annual Forum was held in-country in 2011.

In Peru, 34%¹ of households currently cook with kerosene or solid fuels without a chimney, hence suffering from indoor air pollution (IAP). The WHO estimates that this results in 1,500² annually.

Although the focus is now clearly on improving health, deforestation was the original driver since Peru is aiming to halt all deforestation by 2018 (with international funding). As such, the government and a handful of NGOs began implementing ICS initiatives in the 80s, although the realities with regard to stove efficiency are unclear. CentroECO was one of the first NGOs to undertake a systematic approach to the issue of household cooking practices, taking a holistic approach to the sector to understand which stoves were likely to be successful and offered sufficient efficiency improvements. They also addressed the issues of 'stove ownership', using an innovative micro financing technique.

Momentum was slow until 2007 when the First Lady Pilar Nores de García helped establish the 'Instituto Trabajo Y Familia' (ITYF), launching the 'Sembrando' project. This project has distributed over 90,000 stoves to date, and received carbon credits in 2011 under the Qori Q'oncha PoA.

In 2009, GIZ and ITYF launched the 'Medio millón de cocinas mejoradas por un Perú sin humo' campaign with the aim of raising awareness of the benefits of ICS within the central government. The campaign carried out research regarding the health implications of IAP and successfully raised the profile of the ICS and numerous NGO projects within central government in 2009. The campaign also established the need for an independent stove testing facility which could ensure improved cookstoves were of a suitable standard. The campaign ended in 2011 and there are concerns that momentum could be lost.

Increasing government involvement led to the Ministry of Energy and Mining (MINEM) launching 'Project Nina' (Oct. 2009 – Dec. 2011), successfully distributing 40,000+ LPG stoves and 64,000+ improved wood burning stoves to rural communities. Whilst the long term strategy is focused on LPG, the government remains very supportive of improved wood burning stoves for the immediate future.

There is considerable momentum within the market and a vast amount of funding is available for the key initiatives. Currently, income tax and right to extraction fees from mining and oil industries are collected and 50% are distributed to the regional and local governments – 'canon, sobrecanon & regalía

minera'. Through the campaign, a law is now under review to allow up to 10% of these funds (billions of dollars) to be spent on improving livelihoods e.g. cookstoves, water systems and latrines.

The Academic sector is also actively involved, with several universities working with government and NGO projects to help develop more efficient/versatile/cost effective stoves and improve current distribution models. PUCP and UNI (both in Lima) are the key academic institutes are present.

Although numerous small companies provide the stove components to implementers, the private sector is a minor player in the industry. It is difficult for private companies to compete with the NGO and government initiatives which are often highly subsidized and concerns about access to capital and corruption within the tender process only exacerbate this.

Established by the campaign, the SENCICO testing facilities have had a marked improvement on the sector, allowing stove quality to be monitored. Whilst benefitting the sector, there are concerns that the facility is inaccessible for small players who need to transport their materials to Lima in order for the stove to be certified. SENCICO is aware of concerns regarding limited testing capability with regard to emissions reduction and stove durability, although this will not be rectified in the immediate future.

The market is relatively homogenous with regards to stove design and implementation. The vast majority of ICS implementers use a design based on the original 'Inkawasi' wood burning stove (using rocket stove principles). The stoves typically consist of 2-3 burners, enabling the families to cook traditional Peruvian meals and are made predominantly of locally sourced materials e.g. brick, adobe; although higher quality stoves also use more robust materials for key components e.g. chimney, stove top, combustion chamber. The distribution and quality of these materials remains an issue. Whilst programs in the coastal and highland areas tend to install the standard inkawasi, the rainforest region has developed a similar stove without a chimney, since most cooking is performed outside under cover. At present, these stoves cannot be certified by SENCICO, but a review is ongoing. Overall, the stoves have been widely accepted by rural communities in all 3 geographies (coastal, highlands and rainforest), although awareness and education remains essential.

Most implementers use a similar model – the family builds the stove base and collects the necessary basic materials then local technicians (trained by the implementer/local municipality) build the stove. The families are often required to assist during the build to ensure familiarity with the basic principles and maintenance. Some implementers carry out training for the household with regard to good cooking practice and complete basic follow up and monitoring exercises for the subsequent months. It is worth noting some houses encountered on site visits were undergoing monitoring, but still in a poor state.

Microsol began developing the 'Qori Q'oncha' PoA in 2008, enabling rural communities to benefit from carbon financing by reducing the barriers for implementers. The PoA now works with 90% of cookstove implementers in Peru and awarded its first carbon credits to ITYF in 2011. The PoA is widely praised and offers extensive support to interested parties although concerns remain regarding return on investment due to the high cost of registration. Although still in its infancy, there is potential for the PoA to address the urgent need for improved monitoring and evaluation and thus sustainability of ICS initiatives.

The market remains dominated by NGO and government initiatives, which are reaching a large number of households (currently over 225,000), but the private sector is clearly less well established.

The main conclusions of the Market Assessment are illustrated in the table below.

		Situation	Hypothesis
Fostering an enabling environment	Awareness	Although ICS are on the agenda within central government, local governments are less aware; this is further impeded by the process of decentralization. In addition, awareness of the impacts (especially long term) of IAP amongst the general population is often limited to areas of implementation.	Improved coordination could increase engagement at the local government level. Raising awareness within the general population will stimulate demand, increasing local government focus and encourage the private sector to enter the market.
	Monitoring & Evaluation	Despite the considerable support of SMEs such as Microsol, M&E remains a key issue in Peru. Few implementers have the necessary experience and expertise to successfully ensure long term sustainability of projects. There are also concerns about the ability to track project progress since the campaign ended.	Monitoring projects post implementation will improve long term sustainability and allow visibility to the most successful stoves/models. This will increase the return on investment for funding. Drawing on carbon finance and key partnerships will help to fund improved M&E
Cookstoves Value Chain	Materials / Fuel	Non-local materials e.g. chimneys often vary in quality, impacting the effectiveness of the stove. They're also expensive to transport to remote areas during stove build/maintenance. The government's drive for LPG is limited by suppressed demand due to cost and accessibility.	Bulk transport/storage reduces costs and improves accessibility in rural areas. Improving clean fuel initiatives should reduce unexpected market impacts and increase consumer confidence. Introducing material standards will help to ensure SENCICO standards are echoed in the field.
	Production	Local masons, although often trained, lack any formal certification scheme. Hence, they are unable to differentiate themselves in the market, blocking informed consumerism. Training is limited to regions undergoing implementation, and there are difficult market conditions for the private sector.	Regional experts could train, certify and monitor stove implementers to improve the quality of stoves in the field, especially in areas which have not yet been contacted by ICS projects. Allowing master technicians to differentiate themselves will allow informed consumerism.
	Repair & Replacement	Few projects provide maintenance plans beyond basic training for the household. Poor maintenance impacts stove durability and hence the long term health benefits and ROI for carbon financing.	Improved maintenance plans involving trained technicians will ensure the benefits are longer lasting, reducing the cost of large scale maintenance/re-fitting at a later date.

Summary of Illustrative Priority Intervention Options

Although the sector is making good progress, with strong government support, key challenges remain. One of the main issues with regard to ICS are the lack of coordination between local governments, often

impeded by local political disputes and funding being directed towards ‘higher profile’ projects due to a lack of awareness of IAP. Whilst the creation of SENCICO has been crucial, the results in the field are often impacted by poor quality materials and a distinct lack of adequate follow up procedures post implementation.

- Create a national body to build upon the progress made by the national campaign. This body should track progress of implementers, share best practice and support key areas such as M&E.
- Improve the capabilities of the SENCICO testing facility to include long term durability testing. This may need to be in-situ, but is a critical factor when accessing IAP improvements from ICS.
- Expand the current standards to include materials and workmanship to ensure that results established in the laboratory are representative of the stoves implemented in households.
- Improve coordination between central and local government, potentially incorporating IAP into local government targets – MINEM is best placed to lead this.
- Build partnerships to enable best practice to be shared cross sector in-country and internationally (work with implementers of similar projects and local NGOs with a strong grass roots presence). Build a comprehensive on-line tracking tool to monitor progress/ stove durability (via maintenance). GIZ, ITYF are the most experienced candidates.
- Build on the success of local roadshows/radio to create national campaigns raising awareness of IAP and ICS.
- Establish regional experts to train masons in best practice in areas which are yet to be contacted by other implementers. They would also carry out mason certification as well as acting a focal point for MINEM regarding best practice, new policies, financing opportunities etc.
- Improve project follow up, incorporating local technicians, since households are often poorly trained 12 months before they need to execute stove renovations. Incorporate this into requirements for the campaign and carbon financing through the PoA. Carbon financing should be used to ensure long term project sustainability.
- The private sector could be supported by increased access to capital through initiatives such as large implementers investing in capacity building rather than implementation as well as MINEM providing governance to large ICS tenders, reducing corruption at the local level.

Market Assessment Approach

- This is one of sixteen such assessments completed by the Alliance to:
 - Enhance sector market intelligence and knowledge; and
 - Contribute to a process leading to the Alliance deciding which regions/countries it will prioritize.
- Full slate of market assessments include studies in: Bangladesh, Brazil, Colombia, East Timor, Ethiopia, Ghana, Indonesia, Kenya, Mexico, Nigeria, Peru, Rwanda, South Africa, Tanzania, Uganda and Vietnam.
- Each assessment has two parts:
 - Sector Mapping – an objective mapping of the sector; and
 - Intervention Options – suggestions for removing the many barriers that currently prevent the creation of a thriving market for clean cooking solutions.

- In each Alliance study a combination of ADP and local consultants spent 4-6 weeks in country conducting a combination of primary (in-depth interviews) and secondary research. They used the same Market Assessment 'Toolkit' for each country so that comparisons can be made. The Toolkit is available free of charge to all organizations wishing to use it in other countries.

Acknowledgements

The Alliance wishes to acknowledge the generous support of the following donors for the market assessments: Barr Foundation, Dow Corning Corporation, Shell Corporation, Shell Foundation, and the governments of Canada, Finland, and Spain.

References

¹Censo Nacional 2007 (INEI)

²WHO Indoor Air National Burden 2004