Experience of financing a Solar Cookers Project for fifteen years in the Andean Region of South America

Carmen Rocio Maldonado de Chazal,

Project Manager, Asociación Inti Illimani,

https://asointiillimani.wordpress.com/

maldonado.rocio@gmail.com, Cell phone: (591) 72 02 74 74,

Postal Address: Calle Fernando Guachalla No. 790 Sopocachi, La Paz, Bolivia.

Keywords:

Carbon credits, bussines model,

Abstract:

The project started in the year of 2000 as an initiative of Bolivia Inti, a French nonprofit Association. From the beginning, this project has been designed as a partially subsidized initiative, the beneficiaries paid about 25% of the actual cost of the solar cooker. The subsidies came from public and private organizations / individuals in France. Between 2000 to 2015, 18,049 solar cookers have been delivered in four countries.

In 2007, the projects in Bolivia and Peru started getting money from Voluntary Carbon Market. Furthermore, the project was validated by Gold Standard foundation as a micro scale project (less than 5000 tons CO2e per year) in 2011 and 2012. Carbon credits became one of the most important sources of funding for about 5 years, however, after those five years, the amount of funding was reduced for different reasons (overestimation of Emission Reductions, changes in the price of Ton of CO2, difficulty to sell Emission Reductions). Also the monitoring cost rose to between 2500 to 3500 Euros per year. With the new engagements of COP 21 a new dynamic of carbon market may start, but it will take some time.

Since 2013 with the economic crisis in Europe, the availability of funds for subsidies have drastically reduced. New business models such as listed are being developed:

- Sale of solar cookers without subsidy for domestic and productive usage (restaurants, food processing and others). Microcredit could be an option to help users to pay.
- A small portion of the price of the sale could be used to subsidy solar cookers for people who cannot afford the hold price.
- Local financial mechanisms of compensation of CO2 emissions are being developed.

The main conclusions are:

- Solar cookers still remain as a viable and adapted solution for communities in isolated areas where the access of fuel is difficult and expensive as those people cannot always afford the full price of solar cookers.
- Appropriation and adoption of a solar cooker requires a training, education and a follow-up process to the beneficiaries and this increases the cost.
- Carbon credits can be a funding source to subsidize the price of solar cookers but there are many factors for incertitude of this source, it is a very time consuming process. The cost of validation, verification and monitoring have to been taken into account.
- The demand of solar cookers for sale without subsidies is still pretty small.

Given a 16 years of experience, Asociación Inti Illimani is ready to try different business models with the help of SCI communities.

Purpose
This paper shares the financing experience of a nearly 16 year-old project with over 18,000 delivered solar cookers in Andean Region of South America.

Results
The project started in the year of 2000 as an initiative of Bolivia Inti, a French nonprofit Association. From the beginning, this project has been designed as a partially subsidized initiative, the beneficiaries paid about 25% of the actual cost of the solar cooker. The subsidies came from public and private organizations / individuals in France. Between 2000 to 2015, 18,049 solar cookers have been delivered in four countries: Bolivia, Peru, Chile and Argentina.

In 2007, the projects in Bolivia and Peru started getting money from Voluntary Carbon Market in the frame of a collaboration with a Foundation. This foundation started giving money to these two projects in advance, even before getting any validation of the projects in order to motivate and push them to go into this process.

Besides the money, the foundation also provided technical support to get the validation from Gold Standard. Because of the lack of experience and different problems, the process to get the validation took 4 years. Furthermore, the projects were validated by Gold Standard foundation as a micro scale project (less than 5000 tons CO2e per year) in 2011 for Bolivia and 2012 for Peru.

Once the validation was achieved, Carbon Credits became one of the most important sources of funding for about 5 years, however, after those five years, the amount of funding was reduced for different reasons (overestimation of Emission Reductions, changes in the price of Ton of CO2, difficulty to sell Emission Reductions). With the new engagements of COP 21 a new dynamic of carbon market may restart, but it will take some time.

The methodology used to validate the projects was: "Indicative Program, Baseline, and Monitoring Methodology for Improved Cook-Stoves and Kitchen Regimes" V.02 approved by the Gold Standard, this methodology requires many in-situ test and measurements, this means lots of time and money required for the monitoring, the monitoring cost rose to between 2500 to 3500 Euros per year.

Picture 1: Measurements for surveys

New methodologies from Gold Standard much simpler are now available, however changing the methodology means a new validation process which cost is too expensive for small projects like these ones.

Besides the reduction of funding coming from Carbon Credits, the economic crisis in Europe has also entrained a drastic reduction of funds available for subsidies. In this scenario it is necessary to think and to develop new business models in order to keep promoting this great principle: using sun to cook.

New business models such as listed are being developed by Inti Illimani in Bolivia and its partners in Peru and Chile:

- Sale of solar cookers without subsidy for domestic and productive usage (restaurants, food processing and others). Microcredit could be an option to help users to pay.
- Capacity building on food processing using solar energy.
- Adapt the technology to different needs and process.
- A small portion of the price of the sale could be used to subsidy solar cookers for people who cannot afford the hold price.
- Local financial mechanisms of compensation of CO2 emissions.

Picture 2: Capacity building on food processing with solar energy



Conclusions

- Solar cookers still remain as a viable solution for communities in isolated areas where the access of fuel is difficult and expensive as those people cannot always afford the full price of solar cookers.
- Appropriation and adoption of a solar cooker requires a training, education and a follow-up process to the beneficiaries and this increases the cost.
- Carbon credits can be a funding source to subsidize the price of solar cookers but there are many factors for incertitude of this source, it is a very time consuming process. The cost of validation, verification and monitoring have to been taken into account.
- The demand of solar cookers for sale without subsidies is still pretty small.

Given a 16 years of experience, Asociación Inti Illimani is ready to try different business models with the help of SCI communities.