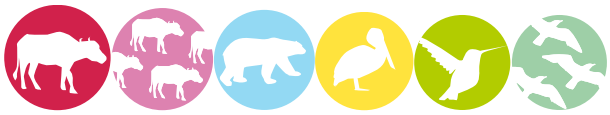
GOLD STANDARD PASSPORT

GOLD STANDARD PASSPORT

CONTENTS



GOLD STANDARD PASSPORT

SECTION A. Project Title

Solar cookstoves Project in Bolivia

Version 2.2
Date: 27/04/2011

SECTION B. Project description

Introduction

Bolivia is one of the poorest countries in Latin America, and Bolivian people still face difficulties to meet their cooking energy needs. Thanks to the government's efforts to spread the use of LPG, most of the urban population is now using that fuel, but the less supply and higher cost of LPG in the rural areas slow down its diffusion in the remote areas. As a consequence, most of the rural population and even some of the urban periphery population still rely on firewood to meet their cooking energy needs.

On the one hand, some of the poorest areas in Bolivia are located on the Altiplano, the mountainous plateau located at 4000m of altitude, where wood resources are scarce, and mainly constituted of small trees disseminated through the mountains. As a consequence of the overexploitation of these forest resources, the region is affected by a strong deforestation.
Moreover, the smoke coming out of the energy-inefficient stoves has a negative health impact on women and children who are the main players in the kitchen. According to the World Health Organization, Indoor Air Pollution is one of the major global concerns that remain unattended. On the other hand, the population relying on LPG for their cooking energy needs has to spend a large part of their income to buy their fuel every month. They are also regularly facing problems of supply, forcing them to use traditional fuels as firewood for few days in a month. Also, the use of LPG contributes to global warming.

The high incidence of solar light in Bolivia and its high altitude make the power of the sunlight more attractive option for the diffusion of solar cookstoves. The solar cook stoves can cover most of the cooking energy needs of the beneficiaries, reducing more than 50% of the fuel consumption of the households, and can even be used for other purposes such as pasteurisation of water.

Purpose of the Project Activity

The purpose of the project is to improve the living conditions of 6900 Bolivian rural households, by promoting the use of a clean and cost-free energy source: solar energy for cooking, and at the same time, the project intends to fight against global warming by reducing deforestation and use of fossil fuels in the country.

The beneficiaries of the project will save money from the purchase of traditional fuel. Moreover, they will save considerable time from the collection of firewood, the purchasing of LPG and the cooking process (indeed, even if cooking with the solar cook stove takes much longer, it doesn't need surveillance as the food does not get burnt or dehydrated). The sanitary conditions of the beneficiaries will be also greatly improved. Indeed, the project will avoid most of the smoke emissions from firewood, which cause lung and eye diseases. Moreover, the solar cook stove can be used to sterilize water. Finally, the cooking over a gentle heat with the solar cook stoves preserves the food nutrients. The project also includes nutritional and dietary lectures given by the Inti Illimani team. The beneficiaries of the project learn how to cook healthy food with their solar cook stove during nutrition courses, but also through a cooking recipe handbook.

On the environmental aspect, the project helps to reduce the consumption of firewood, therefore it relieves some of the pressure on the forest in areas where forest resources are already scarce. This avoided deforestation as well as the reduction of use of fossil fuels as LPG contributes to the fight against global warming.

Presentation of the technology

The solar cook stoves are made of a wooden box, thermally isolated by sheep wool. A double-glazing traps the solar energy inside the box thanks to the greenhouse effect, while reflectors concentrate the sunbeams inside the box. The temperature inside the cook stove can go up to 180°C. The cook stove can be used in two different ways:

- As a solar cook stove: the stove is used normally with the energy from the sun.
- As a thermal case: when the weather is cloudy or rainy, the beneficiaries can heat up their food briefly (5 minutes) with their traditional fuels, then wrap them in a blanket, put them in the cook stove, where the heat will be conserved, and the food will keep on cooking.

The first heating of the food with traditional fuels can also be used when the stove is used with sun, and speeds up the cooking. Therefore, a lot of beneficiaries resort to this process.

Implementation of the project

From 2007 to 2009, 400 cook stoves are constructed every year, for a total of 1200 solar cook stoves. The project takes place in 4 of the 9 departments of the country: La Paz, Oruro, Potosi and Cochabamba, but focuses especially on the three first departments, which are located in the highest regions of the country.

The cook stoves will be disseminated through 4 days construction courses in the local communities, during which 20 beneficiaries will build their own cook stoves, under the directive of two Inti Illimani technicians. All the materials and food are brought by the Inti Illimani members. This method of dissemination has been chosen because it allows people to understand better the structure of the solar cook stove. They can therefore repair their cook stove by themselves more easily, and for the most skilled of them, even build new cook stoves (as all the information about the dimensions, etc. are also given to

the participants). Also, since all the cooking during the course is done with the solar cook stove, the beneficiaries can witness the technology functioning and adopt it more easily.
During the 4 days construction courses, two Inti Illimani instructors give the beneficiaries theoretical lectures about the use of solar cook stove (solar application, thermal case application, etc.), but also about nutrition and health.
After the course, Inti Illimani organizes every 2 weeks monitoring meetings with the group of beneficiaries to help with the assimilation of the technology. People can explain what they cooked and what was a success or a failure. The group has an emulating effect: seeing others succeeding, the beneficiaries are willing to try again and improve their cooking skills. The Inti Illimani monitoring technician is there to help the discussion, motivate people and give explanations when needed.

Inti Illimani does not choose the communities where the courses are done. The people of the community have to form a 20 person group, contact Inti Illimani and ask for the course. Thus, only motivated communities participate in the project. Inti Illimani can then select the communities where they operate, depending on their fuel mix, poverty conditions, etc.

How does the project mitigate GHG emissions?
Depending on the communities where the solar cook stoves are constructed, people use gas, firewood, or often a mix of the two fuels. The solar cook stoves allow an average saving of fuel of around 50%. The gas saving will directly mitigate the CO2 emissions from fossil fuels. Depending on the local non-renewability rate of the firewood, the firewood saving will contribute to the mitigation of CO2 emissions from deforestation.

View of the project participants of the contribution of the project to Sustainable Development
The project will contribute to the local development of the beneficiaries' villages through the following ways:

Impact on Natural Resources

- *Avoided deforestation*
  By reducing firewood consumption, the project slows down deforestation.
- *Preservation of eco-systems*
  The avoidance of deforestation preserves biodiversity and local ecosystems in general.

Socio-economic Impacts

- *Time savings from fuel acquisition*
  For the families who collect firewood to meet their energy needs, the project will allow them to save time from that activity.
  Also the families who buy LPG have sometimes to travel for more than 2 hours, or wait several hours when the LPG supply truck comes in their village, in order to

purchase their fuel. The project will help them to save time from this purchase.

- *Time savings from cooking*
  The cooking with solar cook stoves is long, generally more than 2 hours. But since the food cannot get burnt, dehydrated or wasted, this cooking process does not need surveillance. Hence, the families can go to work, study, or do other activities during the cooking time. Thus, the project allows them to spare time from cooking.
- *Money savings from the purchase of fuel*
  The cost of LPG can represent up to 4% of the family's income. By reducing the LPG consumption, the project allows money savings.

Impact on health

- *Reduction of smoke emissions*
  Cooking with firewood indoors fills the house with smoke, which contains airborne particles, carbon monoxide and other toxic elements. All of these emissions can cause lung diseases and other health problems. Solar cook stoves are smoke-free.
- *Water Quality*
  The solar cook stoves are often used to pasteurize water. Thus, a lot of infections can be avoided.
- *Healthy food*
  The cooking with solar cook stoves is soft and preserves the nutrients of the food. Moreover, less oil is needed. All of this makes the food prepared with the solar cook stoves healthier.
  Also, the nutrition lectures during the 4 days courses teach the beneficiaries of how to prepare well-balanced meal.

Construction course closure, in Peñas, Bolivia, May 2009.

GOLD STANDARD PASSPORT

Cook stoves construction with the help of the technicians, in Trillizos, Bolivia, April 2009.

Estimated start date of construction: The construction of the solar-cookers has already started since the start of the year 2007.

GOLD STANDARD PASSPORT

SECTION C. Proof of project eligibility

C.1. Scale of the Project

Project Type	Large	Small
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐
		☑

C.2. Host Country

Bolivia
The official approval from the host country is not required for this project. (GS-VER)

GOLD STANDARD PASSPORT

C.3. Project Type

[See Toolkit 1.2.c and Toolkit Annex C]

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	☑	☐
Does your project activity classify as an End-use Energy Efficiency Improvement project?	☐	☑

Please justify the eligibility of your project activity:

Solar energy is a renewable energy. Therefore, the solar cook stove project is classified as a renewable energy project.
As explained before, project's participants will save firewood and/or LPG, which they use as cooking fuels, thanks to the introduction of the solar cook stove technology. The non-renewable biomass ratio is assessed in order to claim the emission reductions concerning the wood savings. Furthermore, the LPG savings are translated into emission reductions as well.

While signing the contract with Bolivia Inti, to obtain the solar cook-stove, the participants sign an attestation so that they give up their rights on emission reductions.

Pre Announcement	Yes	No
Was your project previously announced?	☐	☑
Explain your statement on pre announcement		

GOLD STANDARD PASSPORT

C.4. Greenhouse gas

[See Toolkit 1.2.d]

Greenhouse Gas	
Carbon dioxide	☑
Methane	☑
Nitrous oxide	☑

C.5. Project Registration Type

[See Toolkit 1.2.f]

Project Registration Type	
Regular	☐

Pre-feasibility assessment	Retroactive projects (T.2.5.1)	Preliminary evaluation (eg: Large Hydro or palm oil-related project) (T.2.5.2)	Rejected by UNFCCC (T2.5.3)
	☑	☐	☐

If Retroactive, please indicate Start Date of Construction : 06/2007

GOLD STANDARD PASSPORT

SECTION D. Unique project identification

D.1. GPS-coordinates of project location

The coordinates of main cities of targeted departments are given below:

Department	Latitude - Longitude
La Paz	16° 30' S 68°09' W
Oruro	18°0' S 67°09' W
Potosi	19°35’ S 65°45’ W
Cochabamba	17°26' S 66°10' W

Explain given coordinates

The project takes place in four regions of the country: La Paz, Oruro, Potosi and Cochabamba.

D.2. Map

GOLD STANDARD PASSPORT

SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

The stakeholder consultation took place on Friday 27th of March 2009, in La Paz.
Thirteen persons attended the meeting, beneficiaries of the project or members of environmental associations.

One negative comment was done during the meeting. A participant noted that the paint was contaminating and might be removed.
This comment was taken into account by the Bolivia Inti team.
Inti Illimani technicians have tested lino oil to replace the paint but it is not weather resisting to protect solar cookstoves from rain and sun. In that case, wood could be damaged (moisture, etc.) and in consequence, the cookstoves lifetime be reduced.
The AII team stays attentive for any better solution. But the only economically viable solution until now is the continuation of the use of the current paint.

In order to limit the impacts of painting, Inti Illimani team takes all the necessary

precautions:

- Take care on not spilling paint on the soil
- Use of gloves for painting
- Preparing, painting and drying the stoves outside on a protecting surface
- There is no paint inside the box, and then there is no risk of polluting food.

The following table shows the stakeholder comments during the local stakeholder meeting:

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
Professor Herminio Cahuaya, who collaborated with Bolivia Inti for the CO2 measurement process: “Thanks to the solar cook stove, they [the mothers and the families] earn about 85% of the amount they used to pay per month [for fuel purchase]. On the other hand, the solar stove is useful for everybody. We have cooked with the help of the sun energy, otherwise everything we could have cooked with a traditional oven. What interested most us is the following: a lot of people from the Altiplano, being a rural area, are not really used to deal with hygiene and health.”	/ Positive comment	/
Madam Jacqueline Quintela, in charge of the association Inti Watana, who solicited a course for young people of her association: “They all thank you, since in a way you changed their lives. At the beginning they were not very happy, they thought the solar cook stove structure was quite complicated. But now, having used it for a year, you can see the difference. They can bring their food easily, the food they cooked the day before. This is one of the advantages. An other advantage is health, because a lot of them who complained about the vesicle, stomach ache, stopped eating fat. And now, those young people are promoting the solar cook stoves in various regions. Soon Bolivia Inti must receive a solicitude for new construction courses.”	/ Positive comment	/
Madam Jacqueline Quintela, in charge of	/	/

the association Inti Watana, who solicited a course for young people of her association: "In the case of nutritional handling, what is most attractive, is practising the solar cook stove. During the construction, you live the elaboration, the cooking of food. It is the didactic instrument the most valuable. At the same time, you have other instruments (explicative panels, books...), but the more impactive part of the construction courses is that you eat food cooked in the solar cook-stove and the last day you manipulate the cook-stove and cook yourself, so that you can witness it works."	Positive comment	
Madam Luce Catalina Fernand: "About the paint used, what paint is it? Would it be possible to change or abandon it?"	Yes	Rene De La Rocha: "It is monochrome paint. We are investigating to change it." The team already thought about this point, but they had not taken any measure. The Bolivia Inti team of Argentina does not use paint any more, they use lino oil. This is more environmental friendly. The team of La Paz is thinking about changing the paint by the lino oil. It first must be tested if it resists to humidity.
Madam Luce Catalina Fernand: "I know that the procedure for CO2 compensation can only be done with ODL in Bolivia. But I can see that you did it directly by yourself, with Gold Standard, without the bolivian government."	/ Neutral comment	René De La Rocha: "Bolivia Inti Sud Soleil is a French association. So, Bolivia Inti, as a French association started working without any certification, building solar cook stoves by the mean of operators. We, the team of Bolivia Inti - Inti Illimani, are operators of Bolivia Inti Sud Soleil."

E.2. Stakeholder Feedback Round

Please describe report how the feedback round was organised, what the outcomes were and how you followed up on the feedback.

GOLD STANDARD PASSPORT

Invited stakeholders were contacted by e-mails from January 11th and were invited to give their comments following the stakeholder meeting. The copies of the PDD and the GS stakeholder documents were made available for all the stakeholders through online and/or by keeping a copy of these documents in the Inti Illimani office in La Paz.
Every participant of the stakeholder consultation was sent a summary of the meeting and of the comments made.
The outcomes of the stakeholder feedback round have been provided in annexe 2.

Moreover, beneficiaries have been continuously consulted during construction courses to take into account their opinion.

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low, medium, high)	Mitigation measure
Human Rights		Low	
The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	Yes, the project respects the internationally proclaimed human rights in all aspects.	Low	The project promoter is promoting solar cook-stoves in the project area keeping in view the basic human right to clean and affordable technology as an alternative to firewood and in this process assure there is no disrespect to the dignity, cultural property and the uniqueness of the indigenous people due any of the on-going project activity.
The project does not involve and is not complicit in involuntary resettlement.	No, there is no involuntary resettlement in the project.	Low	Not required
The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage	No, there are no alterations, damage or removal to any cultural heritage due to the project activity.	Low	Not required
Labour Standards			
The project respects the employees' freedom of association and their right to collective	Yes, the project respects the freedom of the employees.	Low	The project has generated local employment opportunities and therefore will respect the freedom

bargaining and is not complicit in restrictions of these freedoms and rights			and rights of the employees.
The project does not involve and is not complicit in any form of forced or compulsory labour	No, there is no forced or compulsory labour in the project activity. The beneficiaries of the project are voluntarily trained to build their own solar stoves.	Low	Not required;
The project does not employ and is not complicit in any form of child labour	The project does not employ any form of child labour.	Low	The project involves the distribution of solar cook-stoves through a training programme and the project proponents make sure that there is no form of child labour during the project activity.
The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	The project is not complicit in any form of discrimination. The beneficiaries are selected according to a constitution of a list of at least 20 interested people.	Low	The project promotes equal and unbiased access to clean energy through the programme to the rural families irrespective of the race, religion or gender.
The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.	The project involves construction of solar cookstoves with safe and healthy working environment.	Low	The Bolivia-Inti team gives complete guidance for the construction of the solar cookers during the workshops. The teams members inspect each of the beneficiaries' safety during the construction of the stoves to assure there are no accidents.
Environmental protection			
The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	The project takes all the necessary precautions in regards to the environmental challenges. However, the paint used may emit VOCs[1]. And the transportation of construction materials and instructors emits greenhouse gases.	Medium	Further investigation will be carried out to assess the impact of the paint used. All team stays attentive for any better solution of paint substitution. The team tries to carry out more construction courses at the same time in the same place whenever possible, thus reducing the potential emissions due to transportation. Moreover, estimation of the transportation CO2 emissions (annex 10 of the PDD) shows that these emissions

[1] http://www.toolbase.org/Technology-Inventory/Interior-Partitions-Ceilings/low-voc-paints

GOLD STANDARD PASSPORT

			are negligible compared to the annual emission reductions of the project.
The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities.	A risk exists that beneficiaries continue using as much wood or LPG as before[2]. However, the project intends to diminish fuel consumption of beneficiaries. Therefore, the impact of the project is better than the baseline scenario in terms of preservation of critical natural habitats.	Medium	We can not forbid people responding to their needs. However the beneficiaries will be explained all the ways they can use the solar cook stove, for all their needs. Indeed, construction courses comprise training to use the solar cookstove. The use of traditional and solar cookers is checked during a strong monitoring. Also an incentive is given (cooking pans for example) to beneficiaries who use their SCS all sunny days.
Anti Corruption			
The project does not involve and is not complicit in corruption.	No, the project is not complicit in any form of corruption.	Low	Not required.
Additional relevant critical issues for my project type	**Description of relevance to my project**	**Assessment of relevance to my project (low, medium, high)**	**Mitigation measure**

F.2. Sustainable Development matrix

Insert table in section C3 from your Stakeholder Consultation report (Sustainable Development matrix).

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development.	**If relevant copy mitigation measure from "do no harm" –table, or include**	**Check www.undp.or/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals**	**Defined by project developer**	Negative impact: score '-' in case negative impact is not fully mitigated score 0 in case

[2] GTZ, Here comes the sun - Options for Using Solar Cookers in Developing Countries (http://www.gtz.de/de/dokumente/gtz-en-here-comes-the-sun-2007.pdf) : "One clear finding from the trial was therefore also that solar energy is not universally utilisable as an alternative for cooking."

	mitigation measure used to neutralise a score of '–'			impact is planned to be fully mitigated No change in impact: score 0 Positive impact: score '+'
Air quality	- Further investigation will be carried out to assess the impact of the paint used. And the AII team stays attentive for any better solution of paint substitution. - The team does two followed construction courses in the same place when possible, thus dividing by two the gases emissions due to transportation.	The indicator is related to one of the MDG – Environmental sustainability. The cook-stoves avoid the emission of suspended particular matter and the production of ashes[3]. Thus it improves indoor air quality[4].	Qualitative survey among households (smoke)	+
Water quality and quantity		The indicator is related to two of the MDG - Reduce child mortality & Combat diarrhea. The water can be pasteurized in the cook stove, thus reducing the number of water-borne diseases[3]. However, the impact of this indicator is considered minor compared to the main benefits of the project, so marked '0'.		0
Soil condition	AII will pay attention to protect the soil	The indicator is related to one of the MDG - Environment sustainability.	NRB study, monitoring report and	+

[3] D. Curtis, Solar cooking and health (http://www.she-inc.org/docs/80.pdf)

[4] According to World Health Organization, 1.9% of Bolivian burden of disease is attributable to solid fuel use (http://www.who.int/indoorair/publications/nationalburden/en/index.html)

	from the paint when painting the cookstove.	By limiting firewood consumption[5], the project limits deforestation and erosion[6] and preserves the soil.	surveys to estimate the reductions of firewood consumption.	
Other pollutants				0
Biodiversity		The indicator is related to one of the MDG – Environmental sustainability. By avoiding deforestation[5], the project preserves local ecosystems and biodiversity.	NRB study, monitoring report and surveys to estimate the reductions of firewood consumption.	+
Quality of employment				0
Livelihood of the poor		One of the project's main objectives is to improve the living conditions of the poor. Indeed[7], the project provides them with a clean and cost-free energy source, it allows them to save time (from fuel collecting and from cooking), money[7] (from fuel purchasing), and improves their sanity conditions (preserves the nutrients of the food, pasteurize water).	Monitoring report and survey to estimate the money spent buying fuels.	+
Access to affordable and clean energy services		By exploiting a clean, cost-free, and inexhaustible energy source for cooking[5], the project improves the access to energy services of the beneficiaries. Their access to energy was previously limited by the shortage of LPG supply, or the time they had to spend on firewood collection.	Monitoring report (number of beneficiaries and share of the solar energy in the total energy mix)	+
Human and institutional capacity		The beneficiaries build their own solar cook-stove and learn to use them. Thus, they develop new skills.	Monitoring report (number of solar cookstoves constructed)	+

[5] GTZ, Here comes the sun - Options for Using Solar Cookers in Developing Countries (http://www.gtz.de/de/dokumente/gtz-en-here-comes-the-sun-2007.pdf)

[6] Solar Household Energy, Inc., Solar Cooking in El Salvador (http://www.she-inc.org/docs/121.pdf)

[7] M. Szulczewski, Lasting Impacts of Solar Cooker Projects (http://www.she-inc.org/docs/51.pdf)

GOLD STANDARD PASSPORT

Quantitative employment and income generation		The implementation and monitoring of the project will create several jobs. Also, the beneficiaries are taught on how to build the solar cook-stoves. It has been observed that some beneficiaries build and sell other stoves, thus providing them with an extra job and additional source of income. Also, in addition to money savings due to fuel expenditures[7], some families sell food, cooked with the solar cook-stove, thus generating an extra income.	Monitoring report (number of solar cookstoves constructed)	+
Balance of payments and investment				0
Technology transfer and technological self-reliance		As the beneficiaries build their own solar cook-stoves, at the end of the course, they are fully able to make new ones. Also, all the information about the construction of the cook-stoves (as dimensions of the stove, materials, etc.) is given to the participants who ask for this detailed information and they are encouraged to build other stoves. The project thus contributes to skill development and to the replicability of the technology. It promotes a full technology transfer to the population.	Monitoring report (number of solar cookstoves constructed)	+
Justification choices, data source and provision of references				

Air quality	As the project reduces firewood consumption, it avoids smoke emissions inside the houses and improves indoor air quality[3]. The paint, the varnish and the glue used for the construction of the stoves may contain volatile organic components (VOCs). Further investigation will be carried out to assess the impact of the paint used. And the AII team stays attentive for any better solution of paint substitution. The combustion of firewood also emits VOCs[8]. Therefore, the project also reduces the VOCs.
Water quality and quantity	As the solar cook stoves can be used to pasteurize water, it improves the water quality. There is no evaporation of water when boiling, so there is no waste of water (quantity).
Soil condition	Thanks to the solar cook stove, people use less wood. Therefore the deforestation is reduced and it avoids erosion of the soil[6]. Some paint may fall down on the soil, thus contaminating. AII will pay attention to protect the soil from the paint when painting the cookstove (in painting the cookstoves in a cement surface or protecting the soil with plastic).
Other pollutants	No significant impact was found. Possible pollutants (especially linked to the paint used) have been detailed in other indicators.
Biodiversity	By avoiding deforestation[6], the project preserves habitats, local ecosystems and biodiversity.
Quality of employment	The activity of AII permits to employ 6 people. And few beneficiaries take the opportunity of solar cookstoves to sell cooked food. However, this benefit is minor compared to the main benefits of the project.
Livelihood of the poor	One of the project's main objectives is to improve the living conditions of the poor. Indeed, the project provides them with a clean and cost-free energy source[5], it allows them to save time (from fuel collecting and from cooking), money[7] (from fuel purchasing), and improves their sanity conditions (preserves the nutrients of the food, pasteurize water).
Access to affordable and clean energy services	By exploiting a clean, cost-free, and inexhaustible energy source for cooking, the project improves the access to energy services of the beneficiaries[5]. Their access to energy was previously limited by the shortage of LPG supply, local conflicts, or the time they had to spend on firewood collection.
Human and institutional capacity	The beneficiaries build their own solar cook stove. Thus, they develop new skills and eventually are able to repair their cook stoves by themselves, or even make new ones. Also, the theoretical lessons about nutrition and the use of solar cook stove are fully part of the project. In this way, it contributes to education of the population about nutrition and healthy lifestyles. Finally, as the women are generally the ones in charge of collecting the firewood and cooking, the project saves them a lot of time that they can spend on other activities. The project thus contributes towards women's empowerment.
Quantitative employment and income generation	The implementation and monitoring of the project will create several jobs. Also, the beneficiaries are taught on how to build the solar cook stoves. It has been observed that these same beneficiaries build and sell other stoves, thus providing them with an extra job and extra income. On top of that, some families sell food, cooked with the solar cook stove, thus generating an extra income.

[8] California Environmental Protection Agency, Wood burning handbook (http://www.arb.ca.gov/cap/handbooks/wood_burning_handbook.pdf)

Balance of payments and investment	No significant impact was found on the balance of payments of Bolivia. The project is a micro-scale and have a relatively small impact on the focused region, the Altiplano.
Technology transfer and technological self-reliance	As the beneficiaries build their own solar cook stoves, at the end of the course, they are fully able to make new ones. Also, all the information about the construction of the cook stoves (as dimensions of the stove, materials, etc.) is given to the participants who ask for this detailed information and they are encouraged to build other stoves. Moreover, all construction materials used are local ones. The project thus contributes to skill development and to the duplicability of the technology. It promotes a full technology transfer to the population.

Keeping the Millennium Development Goals (MDG) of the UNDP, this project tries to meet almost all the goals –

End of hunger:
By providing solar cook-stoves makes sure that the poor communities will not have to depend on the available scarce forest resource or any other fossil fuels thus making them independent for energy needs and avoiding any future hunger causes due to the non-availability of non-renewable sources.

Universal education:
Educating the rural communities about climate change and the benefits of the solar cook-stoves & about creating awareness about deforestation. According to the Ministry of Natural Resources, of Bolivia, the population has no environmental conscience.
In Cochabamba, one of the departments where the project takes place, a study has been carried out by the Private University of Valle, in 2003: 53% affirms that they never participated in environmental planning of their zone. Thanks to the lectures on environment during the construction course, people are aware of the environmental situation and willing to help.

Gender equity:
This project mainly involves the women of the rural areas and also addresses the very much issues of health for the women while cooking with the help of the traditional cook-stoves causing respiratory problems.

Child Health:
As most of the children tend to spend their time with the mothers, the possibility of getting respiratory problems is quite high as being exposed to the smoke from the traditional cook-stoves in the kitchen. This is being avoided by the solar cook-stoves thus improving the health of the child.

Environmental sustainability:
Since 1990, the total forest loss is 4,055,000 ha in Bolivia. Bolivia's annual deforestation rate is 270,000 hectares, according to the European Space Agency. The greater threats to Bolivia's forests come from oil and gas development, commercial agricultural expansion, subsistence agriculture and fuelwood collection. As a matter of fact, by using the solar energy we reduce the deforestation due to gas development and fuelwood collection. Moreover, the heavy downpours in the summer months create erosion. Maintaining the forest enables reducing soil erosion.

Global Partnership:
The project consists in a partnership between developed and developing nations, between the NGO and the rural community. It addresses the energy needs of this landlocked country. Over 300 NGOs work in Bolivia every year. The major part helps the rural communities.

SECTION G. Sustainability Monitoring Plan

GOLD STANDARD PASSPORT

No		1
Indicators		Access to affordable and clean energy services
Mitigation measure		
Chosen parameter		Number of solar cookstoves beneficiaries
Current situation of parameter		1700 solar cookstoves constructed
Estimation of baseline situation of parameter		
Future target for parameter		5700 in 2016
Way of monitoring	How	Constitution of a beneficiaries list
	When	In every construction course
	By who	Team of Inti Illimani

No		2
Indicators		Human and institutional capacity
Mitigation measure		
Chosen parameter		Number of solar cookstoves beneficiaries
Current situation of parameter		1700 solar cookstoves constructed
Estimation of baseline situation of parameter		
Future target for parameter		5700 in 2016
Way of monitoring	How	Constitution of a beneficiaries list
	When	In every construction course
	By who	Team of Inti Illimani
Chosen parameter		Planning of construction courses
Current situation of parameter		No construction courses are organized to construct solar cookers
Estimation of baseline situation of parameter		Same as above
Future target for parameter		The planning of construction courses given by Inti Illimani is given in Annex 3
Way of monitoring	How	The planning will be part of construction course report
	When	After every construction course
	By who	Team of Inti Illimani

No	3
Indicators	Quantitative employment and income generation
Mitigation measure	
Chosen parameter	Number of solar cookstoves beneficiaries
Current situation of parameter	1700 solar cookstoves constructed

GOLD STANDARD PASSPORT

Estimation of baseline situation of parameter		
Future target for parameter		5700 in 2016
Way of monitoring	How	Constitution of a beneficiaries list
	When	In every construction course
	By who	Team of Inti Illimani
Chosen parameter		Number of employees in Inti Illami staff
Current situation of parameter		
Estimation of baseline situation of parameter		6
Future target for parameter		
Way of monitoring	How	Copies of employment contracts of Inti Illimani staff
	When	Annual
	By who	Team of Inti Illimani

No		4
Indicators		Technology transfer and technological self-reliance
Mitigation measure		
Chosen parameter		Number of solar cookstoves beneficiaries
Current situation of parameter		1700 solar cookstoves constructed
Estimation of baseline situation of parameter		
Future target for parameter		5700 in 2016
Way of monitoring	How	Constitution of a beneficiaries list
	When	In every construction course
	By who	Team of Inti Illimani

No		5
Indicators		Biodiversity
Mitigation measure		
Chosen parameter		Non-renewability status of woody biomass fuel in baseline scenario
Current situation of parameter		
Estimation of baseline situation of parameter		61.63%
Future target for parameter		61.63%
Way of monitoring	How	Any large reforestation/deforestation activities will be taken into consideration while monitoring the estimated NRB rate. The reduction in the consumption of firewood by the beneficiaries due the regular use of solar-cookers

GOLD STANDARD PASSPORT

		will be monitored as well.
	When	If any large reforestation/deforestation activities occurs in the project area
	By who	Team of Inti Illimani
Chosen parameter		Mass of woody biomass combusted
Current situation of parameter		
Estimation of baseline situation of parameter		1194 kg / household / year (>KS report 2008)
Future target for parameter		757 kg / household / year (>KS report 2008)
Way of monitoring	How	Kitchen Surveys and Kitchen Tests
	When	Annual
	By who	Team of Inti illimani

No		6
Indicators		Soil condition
Mitigation measure		
Chosen parameter		Non-renewability status of woody biomass fuel in baseline scenario
Current situation of parameter		50 - 75 % of NRB
Estimation of baseline situation of parameter		61.63%
Future target for parameter		61.63%
Way of monitoring	How	Any large reforestation/deforestation activities will be taken into consideration while monitoring the estimated NRB rate. The reduction in the consumption of firewood by the beneficiaries due the regular use of solar-cookers will be monitored as well.
	When	If any large reforestation/deforestation activities occurs in the project area
	By who	Team of Inti Illimani
Chosen parameter		Mass of woody biomass combusted
Current situation of parameter		
Estimation of baseline situation of parameter		1194 kg / household / year (>KS report 2008)
Future target for parameter		757 kg / household / year (>KS report 2008)
Way of monitoring	How	Kitchen Surveys and Kitchen Tests
	When	Annual
	By who	Team of Inti illimani

No	7

GOLD STANDARD PASSPORT

Indicator		Air quality
Mitigation measure		
Chosen parameter		Health problems of beneficiaries
Current situation of parameter		People are using firewood and/or LPG
Estimation of baseline situation of parameter		Smoke provokes respiratory diseases
Future target for parameter		Reduction of firewood consumption for cooking means, which implies a reduction of smoke in the house and respiratory diseases
Way of monitoring	How	Qualitative survey among households
	When	Annual
	By who	Team of Inti Illimani

No		8
Indicator		Livelihood of the poor
Mitigation measure		
Chosen parameter		Money spent buying fuels
Current situation of parameter		Expenditures on firewood and/or LPG
Estimation of baseline situation of parameter		Around 10 Bolivianos/household/month [7]
Future target for parameter		6 to 7 Bolivianos/household/month
Way of monitoring	How	Survey among households
	When	Annual
	By who	Team of Inti Illimani

Additional remarks monitoring

SECTION H. Additionality and conservativeness

This section is only applicable if the section on additionality and/or your choice of baseline does not follow Gold Standard guidance

H.1. Additionality

Not required for Voluntary Micro Project

H.2. Conservativeness

Not required for Voluntary Micro Project

GOLD STANDARD PASSPORT

ANNEX 1 ODA declaration

The ODA declaration was given as a separate annex in the Gold Standard registry.

GOLD STANDARD PASSPORT

ANNEX 2 STAKEHOLDER FEEDBACK ROUND

The following text was sent to stakeholders invited to the meeting.

Dear Sirs,
Bolivia Inti / Inti Illimani association has developed a project and they are implementing it in the departments of La Paz, Oruro, Potosi and Cochabamba. This project is meant for diffusion of those stoves in the villages and communities who ask for it.

This project is a Gold Standard micro scale project. To fulfill the Gold Standard requirement, we have conducted a Local Stake Holder Consultation Meeting. We have attached the report of this meeting to this mail. And we have uploaded the same to Gold Standard registry and to the website of Action Carbon for the public viewing.

You can access to the document at the following link:
http://www.actioncarbone.org/docs/GS813_Bolivia_LSC_solar_cookstove.pdf

We are sending this mail to you for your comments as this is the feedback round.

Please feel free to contact us for any more details and information.

Yours sincerely,

Rocío Maldonado
Responsible for Carbon Mission
Inti Illimani Association
(591) 720 2 74 74
maldonado.rocio@gmail.com

Magda Catorceno Aguilera
Presidenta
Asociación Inti Illimani
Calle Fernando Guachalla N° 790 Sopocachi – La Paz
Tel: (591) 732 20 370

Estimados señores,

La Asociación Bolivia Inti / Inti Illimani ha desarrollado y está implementando un proyecto de Cocinas Solares en los departamentos de La Paz, Oruro, Potosí y Cochabamba. Este proyecto está orientado a la difusión de estas cocinas a través de la realización de Cursos taller de construcción y uso de las mismas en los pueblos y comunidades que las solicitan.

Este proyecto está siendo sometido a la fundación Gold Standard para su Validación como Micro Scale Project. Para cumplir con los requerimientos de Gold Standard, hemos llevado a cabo una reunión de consulta a las partes interesadas locales.

GOLD STANDARD PASSPORT

Un resumen de las conclusiones de dicha reunión ha sido incluido en el documento adjunto, así mismo el documento oficial en inglés presentado a Gold Standard está disponible en el siguiente link:
http://www.actioncarbone.org/docs/GS813_Bolivia_LSC_solar_cookstove.pdf

Le enviamos el presente mensaje para recoger sus comentarios el marco de una ronda de retroalimentación. Para cualquier información complementaria, estamos a su entera disposición,

Atentamente,

Rocío Maldonado
Rsponsable de Misión Carbono
Asociación Inti Illimani
(591) 720 2 74 74
maldonado.rocio@gmail.com

Magda Catorceno Aguilera
Presidenta
Asociación Inti Illimani
Calle Fernando Guachalla N° 790
Sopocachi – La Paz
Tel: (591) 732 20 370

One comment was received by e-mail and one other by phone:

- E-mail of Mariana Butron (email address: mariana.butron@gtz.de) from Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ) GmbH.

  Estimada Magda:

  Muchas gracias por el envío, estoy leyendo los documentos, siguiendo el proceso. Agradeceré que no dejes de enviarme esta información, estamos viendo las posibilidades de apoyo a la distribución de cocinas de Inti Illimani.

  Saludos cordiales
  Mariana

  Dear Magda:

  Thank you very much for sending me these documents. I'm reading them following the process. I would appreciate you continue sending me this information; we are seeing the possibilities of supporting the Inti Illimani kitchens distribution.

  Best regards
  Mariana

- Phone call of the environment responsible of Oruro government *M. Félix Callapa Mamani (phone number +591 252 50 201)*, who showed an interest for the project.

GOLD STANDARD PASSPORT

ANNEX 3 PROCEDURE FOR CARRYING OUT THE COURSES

The construction courses should been done during 4 days: first three days are for construction and theory sessions for using the Solar Cooker, fourth day beneficiaries have finished constructing their Solar Cook Stoves and prepare a communitarian lunch in their own solar cook stoves.

Lunch for all beneficiaries and instructors is prepared in the solar cookers.

Each participant assemble their own Solar Cook Stove

Registration of the participants should include following information:

- Date of the course
- Name of the Village or the community
- Zone urban / rural
- Distance and traveling time from the office (La Paz) to the village
- Number of participants of the course
- Number of participants using different fuels
- Name of the beneficiaries
- Address
- Fuel used for cooking and estimated fuel consumption before intervention
- Number of persons in the household
- Monthly income

The questionnaire KS without Solar Cook Stove should been done during the course.

Precautions:

- Special care should been taken to ensure that not damages to soil are being caused by the paint (SCS should be painted over a plastic cover or cement floor).
- At the end of the course the place where the course has been carried out should be as clean as it was before the course.

GOLD STANDARD PASSPORT

ANNEX 4 EMPLOYMENT CONTRACTS OF EMPLOYES OF INTI ILLIMANI

The employment contracts are included as a separate annex.