

## **Improved cookstove and sustainable charcoal initiative - PoA**

### **Key Project Information**

The primary mission of this planned program of activities (PoA) is the replacement of traditional stoves which cause environmental degradation, emission of smoke and greenhouse gases by the introduction of improved cook stoves (TLUD Gasifier Biomass Cookstove) in India. These activities shall be supported by carbon funding for the reduction of greenhouse gases, for which registration under the Clean Development Mechanism (CDM) and the Gold Standard. This project description has the purpose to inform stakeholders in the context of the design consultation and the local stakeholder consultation. These consultations are part of the certification procedure according to the criteria of the Gold Standard, a foundation in Switzerland that certifies projects saving greenhouse gas emissions, according to high environmental and social standards.

#### **1. Project Description and Design**

The PoA is generally open for different technologies that allow energy efficient cooking with biomass. One focus technology consists in micro gasifier stoves like the TLUD Gasifier Cookstove. In the Top-Lit Up-Draft (TLUD) technology, dry biomass fuel is ignited on the top of a vertical container. The TLUD allows for significant savings of firewood compared to traditional stoves and additionally generates charcoal.



Figure 1: TLUD gasifier stove technology.

Its design ensures efficient combustion of fuel and cleaner fire, it therefore uses considerably less fuel as compared to traditional stoves. This means speedy cooking, time and fuel savings, cleaner pans, kitchen walls and indoor atmosphere. Charcoal is not combusted in the TLUD stove, it can therefore be collected and used for other purposes.



Figure 2: Cooking on the TLUD gasifier stove.



Figure 3: Charcoal produces by the TLUD gasifier stove.

The PoA will allow to sell an unlimited number of stoves. Currently, there is already 6,000 TLUD stoves operational under two Gold Standard Microscale projects (GS reference number 1296 and 3024).

Stove distribution is envisioned to take place all over India, activities will however start in West Bengal.

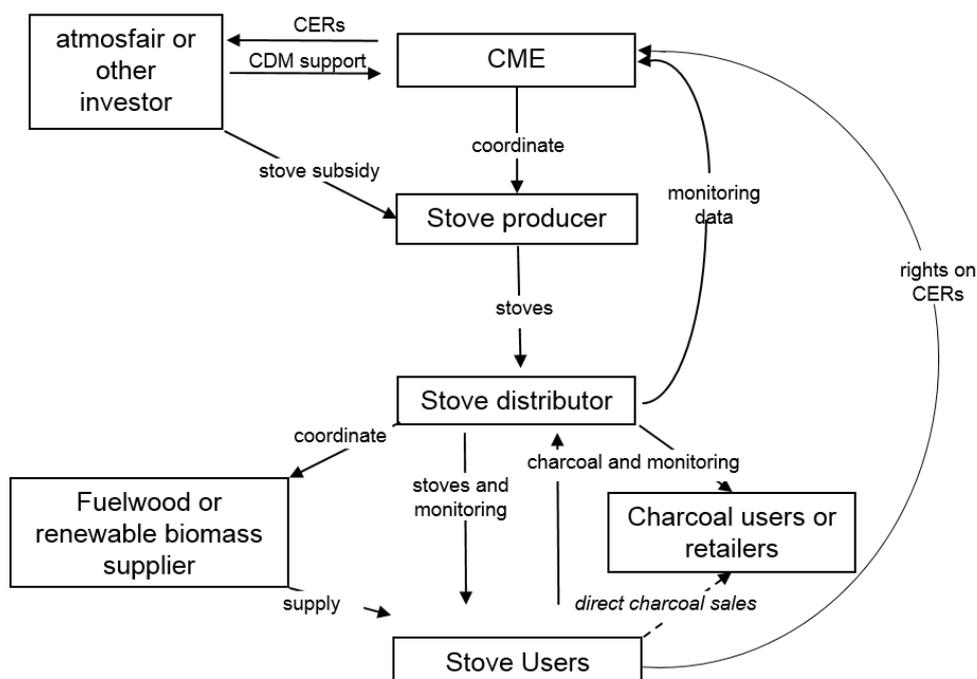
### Project participants as of now:

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 atmosfair gGmbH: [www.atmosfair.org](http://www.atmosfair.org), Berlin, Germany. Contact: Katrin Mikolajewski ([mikolajewski@atmosfair.de](mailto:mikolajewski@atmosfair.de))

### Tentative organisational structure

Sapient Infotech, will probably be the distributor of the cookstoves and organize the charcoal collection and sales. atmosfair, a not-for-profit company from Germany, will provide funding and coordinate the activities relevant for carbon funding.

The following diagram represents the currently planned management structure of the PoA applicable for CPA1. This structure may still be amended and adapted for each CPA.



## **Terms of Project Activity Inclusions to the PoA**

1. Each Project Activity is located within India.
2. A unique numbering system for stoves is applied in each Project Activity.
3. No Project Activity was registered as stand alone CDM Project activities, included in other PoAs nor be a deregistered project activity.
4. Technology requirements:
  - Project Activities under this PoA will consist in the distribution of stoves with a thermal efficiency of at least 20% to users cooking with non-renewable biomass in the baseline scenario.
  - Where charcoal is generated under the PoA, it must be generated in ICS of the type micro gasifier stoves, without auxiliary power consumption in a blower or fan for forced convection.
  - Users of charcoal must be (i) households; or (ii) small and medium enterprises (SMEs); or (iii) a group of households served by a charcoal market (e.g. charcoal consuming urban areas). End users must not include large scale industries.
5. Any Project Activity start date shall not be before the PoA starting date.
6. Additionality is demonstrated by demonstrating that the Project Activity is solely composed of microscale CDM units below the given microscale thresholds.
7. The local stakeholder consultation will be conducted at the Project Activity level for a group of Project Activities. Each Project Activity will be implemented in similar social economic situations. The stakeholder consultation will be repeated at CPA level as soon as:
  - A Project Activity is included with a boundary reaching outside West Bengal, or
  - A Project Activity is included applying another stove technology than the TLUD technology
8. The CME and the Project Activity operator (in case of being different from the CME) shall confirm that in case of public funding, there is no diversion of Official Development Assistance.
9. Target groups are users of traditional stoves cooking with non-renewable biomass. Additionally, target groups can be users of charcoal: (i) households; or (ii) small and medium enterprises (SMEs); or (iii) a group of households served by a charcoal market, but not large scale industries.
10. The distribution mechanism is the direct distribution of stoves and possibly also charcoal through the CME, project participants or regional partners such as the Sapiant Infotech.
11. End users receiving stoves under the specific Project Activity as well as charcoal users receiving charcoal from the Project Activity contractually cede their rights to claim and own emission reductions under the Clean Development Mechanism of the UNFCCC to the CME of the PoA.

## **2. Project's social, economic and environmental benefits and impacts**

A huge part of India's rural population depends on inefficient mud stoves that use biomass as cooking fuel. Despite their strong positives such as easy availability and affordability, the usage of inefficient biomass stoves poses some significant disadvantages:

- Collection of fuel wood leads to deforestation, because people tend to cut down trees.
- Collecting fuel wood requires time that women and children can otherwise dedicate to more productive purposes like education and livelihood.
- Smoky traditional stoves cause respiratory diseases, particularly to women and children

- Moreover, the use of conventional charcoal requires huge amounts of fuelwood as raw material, representing an additional source of deforestation.

Many studies have been carried out in several parts of India pointing to the need for special measures to address ecological sustainability, distributional equity and well-being and at the same time providing choices to the community to live the way they like and value what they have reason to value.

Keeping this in mind, this project is set up to provide the TLUD Gasifier Biomass Cookstove to the households of India at subsidized cost. The project will use carbon revenues to subsidize the purchase of these efficient stoves, and thus make them available for poor people.

Moreover, users will have the possibility of sell charcoal generated in the cooking process to generated income. The project will purchase the charcoal from the households and sell it to users such as restaurants who can thus reduce the consumption of conventional charcoal which is produced from large quantities of wood.

Additionally, the PoA will probably offer fuel to stove users; this fuel will either consist in fuelwood allowing for the generation of high-quality charcoal or in specific fuel made of biomass residues such as rice husk pellets.

The key benefits of the TLUD are as follows:

- 1) It results in significant saving of cooking fuel and thereby reduces the time and monetary cost of obtaining cooking fuel, additionally reducing forestation.
- 2) It is simple to operate and works on the pyrolysis technology and hence represents an improved biomass stove that generates a flame comparable to an LPG burner.
- 3) It allows for faster cooking due to high fire power; there is no need to monitor the flame during the cooking session.
- 4) It reduces indoor air pollution and hence improves health for women and children.
- 5) It requires low maintenance since it is made of stainless steel, durable and easy to clean.
- 6) It creates charcoal which can be used in the same way as conventional charcoal.

Apart from the direct benefits to the users, there are additional benefits to the community since the project will catalyze economic activity:

- A large number of local field assistants will be employed.
- Users can obtain additional income from the sale of charcoal.

### **3. The project's tentative timetable:**

August 2018: Start of Design Consultation

August 2018: Local Stakeholder Consultation Meeting

August 2018: Start of Stakeholder Feedback round

September 2018 (after stakeholder consultations): Start of distribution of TLUD stoves