Design Change Memo

Date

03/03/2016

Projects

GS976_ Improved Cookstoves Meru South

Summary

The purpose of this design change is to extend the project boundary of GS 976. This is driven by intended dissemination of improved cook stoves outside of the current project area in neighbouring wards.

Details

The purpose of this design change is to the extend the project boundary of GS 976 Improved Cookstoves Meru South to incorporate an increase in stove dissemination.

As part of this design change, CO2balance wish to distribute an updated model of cookstove to households in the following sub-locations located within Meru, Nyeri and Laikipia counties:

Nyeri county EEL	
wards	**sub-locations**
Naromoru/ Kiamathaga	Naromoru, Ndiriti, Kabendera, Tigithi, Murichu, Kamburaini and Gikamba
Thegu River	Maragima, Thirigitu, Thungari, Rongai, Gaturiri and Lusoi
Kabaru	Ndathi, Kirima, Kimahuri and Munyu
Gakawa	Kahurura, Gathiuru and Githima
Meru county EEL	
Ward	**sub-locations**
Timau	Kangaita, Katheri, Antu Ba Mwitu, Kithithina and Kiambogo
Kisima	mutarakwa,maritati,Buuri

Laikipia county EEL	
Ward	**sub-locations**
Thingithu	Marura, Thingithu
Nanyuki	Nturukuma,Likii
Tigithi	Lamuria, Matanya

Changes accounting for the design change are made in the Meru_PDD_Version 8.0. Ex-ante calculations have been changed to reflect the actual verified emission reductions from Monitoring Period 1 and 2 and predicted emission reductions from subsequent years, including the new stoves as part of this design change.

Evidence to support request

The changes, detailed above, have been included in the amended PDD that accompanies this memo. The effect of the design change on the key arguments defined in our PDD is described below.

- **Additionality**

There will be an increased in number of stoves distributed in the new project boundary, but this does not affect the additionality of the project. The project satisfies the criteria under EB 68 Annex 27 which shows that the project would not be possible without VER revenues; it can therefore be deemed additional.[1] The additionality tool has been removed from the PDD in light of updated guidance from EB since the original PDD and project were registered. The additionality of the project activity is therefore unaffected by this proposed design change.

- **Scale of the project activity**

The project remains within the limits of Small Scale (180 GWth), this is shown in the PDD and accompanying ER calculations. The scale of the project activity is therefore unaffected by this proposed design change.

- **Validity/applicability of the applied methodology**

The project is registered under Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1. This methodology will still be applicable after the change has been carried out. As evidenced in the updated Baseline Report, the new project area and target population are identical to the current project areas and population and so the baseline is still applicable.

[1] Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds;

An updated model of stove is proposed to be introduced; should the thermal efficiencies of our two project stoves be within +/- 5%, TTPDDTEC V.1 would allow us to consider both stoves as being part of the same project scenario and therefore monitored together.

- The Carbon Zero Kenya 3 stove as distributed in Meru had an overall efficiency of 34%. [See University of Nairobi Report 2011, Dr. Jacob Kithinji]

- The WISDOM stove as expected to be distributed in Meru had an overall efficiency of 28% [See University of Nairobi report 2015, Dr. Jacob Kithinji]

The laboratory test does not meet the +/- 5% efficiency requirement. However, co2balance wish to highlight that operational efficiencies are much lower in the field, and it is expected that both operational efficiencies would be +/- 5%. Evidence from other co2balance projects suggests that the CZK3 operates at 24% when tested under field conditions outside of the laboratory. The WBT from nearby project (See *GS 976_Design Change WBT_Supporting)* uploaded as part of this design change) states how operational efficiency of CZK3 stoves in the field from a sample of 33, was 24.35%. This is within the +/- 5% difference boundary of the soon to be newly distributed WISDOM stoves. In summary, both stove types are to be considered as part of the same project scenario.

The applicability of the methodology is therefore unaffected by this proposed design change.

- **Stakeholder consultation**

As the design change includes an extension to the project boundaries, a stakeholder feedback round will have launched among international and local stakeholders. This stakeholder feedback round will last for 60 days. Stakeholders are invited to give comments on the design change.

A local stakeholder consultation was also conducted as part of this design change. 6 new WISDOM stoves were trialled on participating farmers. Farmers were happy with stoves for a number of reasons:

  - Uses less firewood than the traditional 3-stone fire or even other stoves they have (no gasifier)
  - Produces less or no smoke. One of the farmers was especially happy because she has an eye problem and before she had to stand outside the house while cooking with the open fire because of the smoke but now she can stay inside with the new stove.
  - The stove can be transported. One of the farmers was taking the stove to the field so that she can work while in the field while she is cooking.
  - The stove works very well to cook soft foods like rice, vegetables, tea, etc.

CO2balance project partner have also shown these stove on several occasions like farmer's trainings and agricultural meetings or Annual General Meetings. The response has been overwhelmingly positive. CO2balance will ensure that local stakeholders are available to give feedback on this proposed design change via our local Project Officers.

- **Sustainable development assessment**

Extending the project boundaries will enable the distribution of stoves to a wider group of beneficiaries; as the sustainable development indicators are scored positively for the project, it is not envisaged that there will be any necessary revisions.

- **Sustainable development monitoring plan**

PP will assess whether a revised monitoring plan is necessary following the stakeholder feedback round.

- **Legislation**

There is no need for new licenses or approvals from regulatory agencies or authorities. Relevant local stakeholders will be informed of planned project activities as part of the stakeholder consultation.