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DAP-IS-3516.01
DPT-ZE-3510.02
ZLS-ZE-219/99
ZLS-ZE-246/99

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IS-CMS-MUC/ Javier Castro	++49 8957 912686 Javier.castro@tuev-sued.de	++49 8957 912756	2008-09-20	1 of 9

Request for Review

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the registration number 0218. In case you have any further inquiries please let us know how we can kindly assist you.

Yours sincerely,

Javier Castro
Carbon Management Service

Headquarters: Munich
Trade Register: Munich HRB 96 869

Supervisory Board:
Dr.-Ing. Axel Stepken (Chairman)
Board of Management:
Dr. Peter Langer (Spokesman)
Dipl.-Ing. (FH) Ferdinand Neuwieser

Telefon: +49 89 5791-2246
Telefax: +49 89 5791-2756
www.tuev-sued.de

TÜV®

TÜV SÜD Industrie Service GmbH
Niederlassung München
Umwelt Service
Westendstrasse 199
80686 Munich
Germany



Response to the CDM Executive Board

Question 1

Further clarification is required on how the DOE verified that the selected 82 interviews representing 10% of the total equipment installed are statistical representative for all operational solar cookers.

Response by PP

The PDD of CDM SOLAR COOKER PROJECT Aceh 1 states in chapter D.3:

D.3 Data to be monitored:

ID Number	Data type	Data variable	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	For how long is archived data to be kept?	Comment
1	number of solar cookers	n_1	-	m	quarterly/ annually	100%	paper and electronic	9 years	
2	mean operation time of a solar cooker	t_1	hours per period	m and e	daily	10%	paper and electronic	9 years	Data measured daily and verified quarterly

The actual monitoring includes a much more comprehensive data acquisition than demanded by Methodology “AMS - I. C. ver. 6 - Thermal energy for the user”, which applies. In case of emission reduction per system less than 5 tonnes CO₂ a year, this methodology calls for: Recording annually the number of systems operating and estimating the annual hours of operation of an average system, if necessary using survey methods.

The more detailed monitoring was established due to the pilot character of the project. Thus a greater proportion than 10 % of solar cookers was monitored.



Response by DOE

As described in the PDD the monitoring plan of the project includes 2 parameters: number of solar cookers and mean operation time of a solar cooker, and doesn't include the interviews as a parameter. During the desk review all parameters and the collected data for these parameters have been checked on basis of data cards thoroughly for accuracy and plausibility. Therefore 100% of data has been verified.

During the on-site validation TÜV SÜD assessment team conducted the interviews, that was not required by the monitoring plan, however was implemented in order to corroborate the state of the project, operation and distribution of the solar cookers, implementation level and effectiveness of devices, and cross-checking of the raw data presented in the monitoring cards. The users interviewed were not selected by the project participants, it was a group selected by TÜV SÜD assessment team on random basis. The validator visited the majority of the communities where the project was operational. Most of the focal points were interviewed. It has to be noted that the distance between one and other user interviewed can be measured in kilometres.

For parameter "mean operation time of a solar cooker" the proportion of data to be monitored is 10%, it coincides with the number of interviews carried out.

The sampling method, used on selection of the users to be interviewed, is representative and statistically correct with a higher confidence level of 95%.

There are several methods to determine the sample size of the interviewed users:

- 1) Following statistical tools by Six Sigma, manual developed by Caterpillar:

n = Sample size

Z = Confidence Level

p = Positive variability

q = Negative variability

N = Population size

E = Precision or error

$$n = \frac{Z^2 pq N}{NE^2 + Z^2 pq}$$

At 95% confidence level, and a population size of 833, the sample size is n= 67. The 82 interviews carried out go beyond the statistical result; therefore it gets an acceptable confidence level. In fact, 82 interviews correspond to 96% confidence level.

- 2) IAF Guidance on the Application of ISO/IEC Guide 62:1996, Issue 4 (IAF GD 2: 2005)

To define the sampling requirements for multi sites certification based on the information given in Annex 3 of the IAF GD2, the number of samples required for this project is 29 sites. Taking the highest criteria (higher risk activities such a complex process, many manufacturing steps, significant regularity requirements, etc.) the number of samples is 37 sites.

Thus 82 interviews exceed the number of samples defined by the mentioned references.

In conclusion, TÜV SÜD conducted a careful assessment of these parameters and assumptions and therefore confirms that the above mentioned approach is realistic and plausible on the basis of TÜV SÜD's expertise in this sector.

Question 2

The monitoring report stated that 842 solar cookers were implemented while the verification report stated that 833 solar cookers were installed. Further clarification is required.

Response by PP

The number of implemented solar cookers increased in the months of the reporting period, but besides the implementation there is also occasionally a recall and repair. Thus the number of implemented solar cookers can deviate a little from the number of installed, operating solar cookers. At the end of the crediting period the number of implemented solar cookers was 842. For the calculation only the number of solar cookers which have been operated the whole months have been taken into account. This was 833 in the last month.

Response by DOE

The recording frequency used by the project participant gives a most reliable result and reflect in better way the implementation level showing the increasing number of implemented solar cookers over the months.

The audit team corroborated the monitoring procedure for number of solar cookers, the verifier counted one by one the contract signed by the users at the moment to receive the equipment and crosschecked it with the list of users and with the information collected on site (number of equipment and name of user). The emissions reductions always have been calculated using the number of solar cookers in operation over the whole month. For the last month this number was 833. To use this figure is a conservative approach.

Only this figure has been mentioned in the verification report as this is the figure relevant for the issuing of CERs.

In conclusion TÜV SÜD carefully checked the calculation of emission reductions for this project. Calculations have been done correctly on a monthly basis using always the lower number of solar cookers in operation over the whole month instead of the number of implemented/contracted solar cookers. TÜV SÜD confirms that this is a conservative approach.