

**Internal Verification  
Biogas Tanks in Guizhou Province in China**

**ID: GS614**



**INTERNAL VERIFICATION FORM: GS VER MICRO-SCALE PROJECTS**

Title: Biogas Tanks in Guizhou Province in China  
GS ID: GS614  
Submitted by: GoodPlanet Foundation  
Submitted on: 14/08/2011 (date of fee payment)  
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GS Feedback Round I : 24/09/2012  
Date of request Round II : 12/04/2013  
GS Feedback Round II : 15/04/2013  
Date of request Round III : 23/04/2013  
GS Feedback Round III : 26/04/2013

**Monitoring period:** 01/04/2010 to 31/03/2011

**Amount of GS VERs being verified:** 2,977 tCO<sub>2eq</sub> split as follows:

|           |                          |                         |
|-----------|--------------------------|-------------------------|
| Year 2010 | 01/04/2010 to 31/12/2010 | 1,929tCO <sub>2eq</sub> |
| Year 2011 | 01/01/2011 to 31/03/2011 | 1,048tCO <sub>2eq</sub> |

**Previous GS VERs issuance:** 738 tCO<sub>2eq</sub> from the period 01/04/2008 to 31/03/2009 and 1,644 tCO<sub>2eq</sub> from the period 01/04/2009 to 31/03/2010.

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### Summary:

The project activity reduces GHG emissions associated with the use of coal and non-renewable biomass for cooking by promoting biogas utilization in Guizhou's countryside. Beneficiaries save money by reducing the purchase of traditional fuels or save considerable time currently spent on collecting firewood. The project also improves their living conditions (reduction of indoor pollution, enhanced hygiene) and contributes to the mitigation of local deforestation. The proposed project activity does not generate any income for the project coordinator other than revenues from the VER credits.

Implementation started on September 1<sup>st</sup>, 2007. The start date of the first crediting period is defined as April 1<sup>st</sup>, 2008. The chosen crediting period is a fixed period of 10 years. With annual average emission reductions of 4,441 tCO<sub>2</sub>e, the estimated total reductions would be 44,411 t CO<sub>2</sub>e over the whole crediting period.

The project was registered on 6<sup>th</sup> January 2010. This is the third monitoring period, from 1<sup>st</sup> April 2010 to 31<sup>st</sup> March 2011. At the beginning of this monitoring period, there were 548 bio-digesters installed in Weining and 760 installed in Danzhai. Project proponent claims emission reductions of 2,977 tCO<sub>2</sub>e over this period. In Weining, farmers saved an average of RMB 868.2 on their yearly fuel expenses and biogas contributes to 44% of their energy needs. In Danzhai villagers saved RMB 32.8 in average and biogas contributes to 40% of the energy needs. Livelihood of the beneficiaries and their access to clean energy were improved by the project.

### General comments:

The Gold Standard has identified clarification and corrective action requests as outlined in the table below. These issues must be resolved before the project may be submitted for issuance of Gold Standard VERs. Please provide your responses in the table below along with the revised project documentation and any other supporting documents that may be required to resolve the issues.

### Documents reviewed:

#### 1<sup>st</sup> Round:

Monitoring report (19 July 2012, version 1)

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Emission reduction calculations: DZMT\_Year3\_calc\_V3  
Emission reduction calculations: WNMT\_Year3\_calc\_V4

2<sup>nd</sup> Round:

Monitoring report (25 October 2012, version 2)  
Emission reduction calculations: DZMT\_Year3\_calc\_V2  
Emission reduction calculations: WNMT\_Year3\_calc\_V2

Decision:

|  |                                     |
|--|-------------------------------------|
| Rejected   | <input type="checkbox"/>            |
| Request for clarifications and /or corrective action | <input type="checkbox"/>            |
| To be submitted for external verification            | <input type="checkbox"/>            |
| Verified   | <input checked="" type="checkbox"/> |



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Requests for clarifications and/or corrective actions:

| Sections                 | Clarifications and/or corrective action needed  | Reasons for clarification and/or corrective action | Suggestions on how to proceed  | Response by Project Proponent   |
|--------------------------|---|--|--|---|
| <b>Monitoring report</b> |   |  |  |   |
|                          | PP shall use correct name in the title of monitoring report. 'Biogas Tanks in Guizhou Province in China'.                         |  |  | Corrected in the revised monitoring report V2<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b>  |
|                          | The submitted document is version 1 of the Monitoring Report instead of 'V3'. PP shall correct the file title to avoid confusion. | 'GS614_Monitoring Report_Year3_V3.pdf'             | In case the Monitoring Report is indeed in version 3, PP shall update the Version History in page 2. | The submitted report should be version 1, so the revised version should be version 2. The Spreadsheets files also modified both into version 2 to have the consistency with the report..<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b> |

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|----------|---|--|---|---|
|          | PP shall use the same format defining winter in the PDD. i.e. Winter 2010-2011, as winter actually covers two years. Both MR and Spreadsheet are requested to be revised. |  |   | Both MR and Spreadsheet are revised.<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b>   |
|          | PP shall briefly discuss the updates of the Project activity and whether implementation of the project activity over the monitoring period is in line with PDD.           |  | For instance, PP can discuss how many more bio-digesters were installed over the period and whether the expansion is in line with registered PDD. | Added in part III. of revised monitoring report V2. The detailed table was updated in village list sheet of project database V2.<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b> |

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|--|---|--|-------------------------------|--|
|  | PP is requested to provide an analysis on the failure rate and clarify whether due measures were taken in order to reduce the failure rate. | The failure rate of Danzhai seems a bit high since 31% of the bio-digesters were not active. |                               | <p>1. There were some data mistakes in DZ Winter 2010-2011 MT Y3, the failure rate is lower now.</p> <p>2. The reason for summer failure rate is explained in part IV. of revised monitoring report V2.</p> <p>Since this issue will influence the ER amount, a detailed explanation is attached as an Annex at the end of this document.</p> <p>GS 2<sup>nd</sup> round Comment:<br/><b>This Request/Comment is closed.</b></p> |
| <b><i>Monitoring Questionnaires and Spreadsheets</i></b> |   |  |                               |  |

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|----------|--|--|---|---|
|          | <p>The <b>PP</b> is requested to provide the questionnaires from following surveys:</p> <p>DZ area:</p> <ul style="list-style-type: none"> <li>- id_survey no.16</li> <li>- id_survey no.18</li> <li>- id_survey no.11</li> <li>-</li> </ul> <p>WN area:</p> <ul style="list-style-type: none"> <li>- id_survey no.15</li> <li>- id_survey no.19</li> <li>- id_survey no.12</li> </ul> |  | <p><b>PP</b> can provide samples for each of the surveys.</p> | <p>For each survey, 10 samples were randomly chosen and scanned.</p> <p>GS 2<sup>nd</sup> round Comment:<br/><b>This Request/Comment is closed.</b></p> |

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|---|--|--|-------------------------------|--|
| WNMT_Year3_cacl_V3 and DZMT_Year3_cacl_V4 | PP shall provide unit for the parameter Energy Price.<br>PP shall name the monitoring parameters of two spreadsheets in a consistent manner. | Examples of inconsistency:<br><br>Energy used (WN BL) v.s. Calculated Energy Used (WN Winter MT)<br><br>Energy Price (WN BL) v.s Price of Energy (DZ BL) v.s. Calculated Energy Price (WN MT). |                               | Both spreadsheets have been revised into <i>CALCULATED Energy Used (MJ/day)</i> , <i>CALCULATED Cost of Energy (RMB/day)</i> in all relevant columns.<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b> |
| <b>Emission Reductions Calculation</b>    |  |  |                               |  |

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|----------|--|--|-------------------------------|---|
|          | <p>PP is requested to provide ER result for year 2010 and 2011 separately.</p> |  |                               | <p>Added in the Part IV. of the revised monitoring report, see calculation in both spreadsheets.</p> <p>GS 2<sup>nd</sup> round Comment:<br/>ER Result for DZ and WN has been provided separately for year 2010 and 2011, however since GS shall issue ER according to year vintage, PP is requested to add total volume for 2010 and 2011 separately, i.e.1,929t and 1,048t.<br/><b>This Request/Comment is open.</b></p> <p><b>PP's 2<sup>nd</sup> round response:</b><br/>Corrected it accordingly in MR.</p> <p>GS 3<sup>rd</sup> round Comment:<br/><b>This Request/Comment is closed.</b></p> |

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|---|---|--|---|--|
|   | PP shall round down Emission Reduction to the nearest integer. i.e. 2,754 tCO <sub>2</sub> e. |  | The ER value in the Monitoring Report shall be updated too. | <p>Monitoring report has been revised accordingly. The ER is 2.978 tCO<sub>2</sub>e because of correction of mistaken data.</p> <p>GS 2<sup>nd</sup> round Comment:<br/>Since Round down volume for 2010 and 2011 shall be 1,929t and 1,048t, total ER for this monitoring period shall be 2,977t. PP is requested to revise ER throughout the MR.<br/><b>This Request/Comment is open.</b></p> <p><b>PP's 2<sup>nd</sup> round response:</b><br/>Corrected it accordingly in MR.</p> <p>GS 3<sup>rd</sup> round Comment:<br/><b>This Request/Comment is closed.</b></p> |
| <b>Sustainable Development Indicators</b> |   |  |   |  |

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|---------------------|--|---|-------------------------------|---|
| Firewood collection | It seems that in Danzhai area, the time spent in firewood collection is more in project scenario than in baseline. PP is requested to provide clarification in the PDD. (Page 11 of Monitoring Report)                   | The project activity is expected to reduce the time spent in firewood collection. |                               | Explained in page 10 of revised monitoring report.<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b> |
|                     | To avoid confusion, PP shall use the term 'cost of energy' instead of 'price of energy' since the project activity reduces cost associated with energy consumption rather than the price. (Page 11 of Monitoring Report) |   |                               | Monitoring report has been revised accordingly.<br><br>GS 2 <sup>nd</sup> round Comment:<br><b>This Request/Comment is closed.</b>    |

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***Annex. Data correction and its impact on ER result.***

A careful data check was carried out to investigate the high biodigester failure rate in Danzhai area. Finally, several mistakes were found regarding database systematic error and manual operational mistake. These issues and their impact on ER result are detailed below:

1. Database systematic error.

- Manure share

The online database will make empty value into “0”, this leads to lower the mean manure share value.

| <b>In Danzhai area</b>    |                         |           |
|---------------------------|-------------------------|-----------|
|                           | Before                  | Corrected |
| DZ Summer MT Y3           | 28.45%                  | 33.12%    |
| DZ Winter 2010-2011 MT Y3 | 42.7%                   | 45.1%     |
| Average                   | 21% (wrong calculation) | 39%       |

  

| <b>In Weining area</b>    |                            |           |
|---------------------------|----------------------------|-----------|
|                           | Before                     | Corrected |
| DZ Summer MT Y3           | 33.60%                     | 33.56%    |
| DZ Winter 2010-2011 MT Y3 | 36.31%                     | 36.31%    |
| Average                   | No value (wrong reference) | 36%       |