

## ANNEX AM – POA PASSPORT TEMPLATE

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### Annex 1 ODA declarations

## SECTION A. Programme Title

### [See Toolkit 1.6]

Title: Nepal Biogas Support Program-PoA

Date: 11<sup>th</sup> Mar 2015

Version no.: 4

## SECTION B. Programme description

The program of activities (hereinafter referred to as “PoA”) - Nepal Biogas Support Program - is a nation-wide program for the dissemination of household biogas digesters, managed by Alternative Energy Promotion Center (AEPC). It is registered under the Clean Development Mechanism (CDM) in order to allow for the generation of carbon credits since January 31, 2013. Additionally, the PoA is now seeking retroactive registration under the Gold Standard, which implies a particular focus on sustainable development benefits. The PoA consists in several CDM project activities (CPA) that will consist in the dissemination of approx. 20,000 household biogas digesters each; all CPAs will be implemented within the geographical boundary of Nepal. The type of the digesters included will receive the subsidies as governed by the subsidy policy and subsidy delivery mechanism of the Government of Nepal.

### Basic information on the PoA:

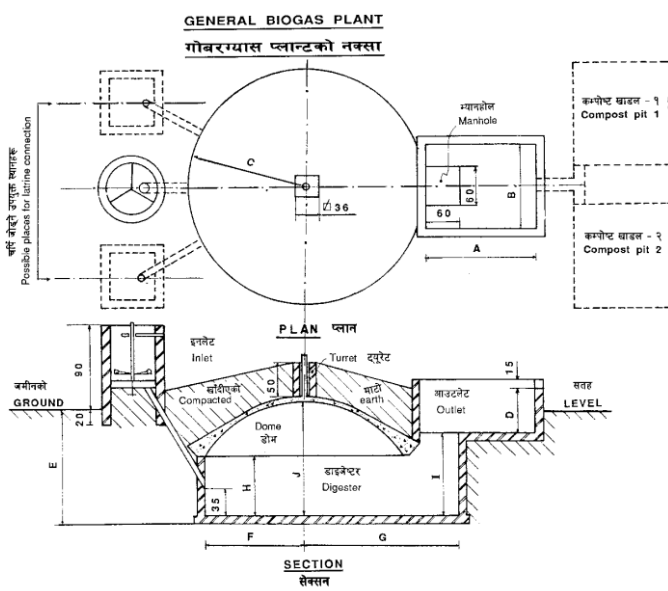
|                                            |                                                                        |
|--------------------------------------------|------------------------------------------------------------------------|
| CDM registration date                      | 31/01/2013                                                             |
| CDM reference no                           | 9572                                                                   |
| Crediting period                           | 7 years renewable (first CPAs crediting period: 31 Jan 13 - 30 Jan 20) |
| Start date of PoA and 1st CPA              | 22/06/2007                                                             |
| CDM LoA                                    | Ref. 838, dated 31/12/2009                                             |
| GS reference No. (PoA)                     | GS3109                                                                 |
| End of PFA for retroactive GS registration | 23/06/2014                                                             |
| Date GS LSC meeting                        | 15/08/2014                                                             |

Large number of Nepalese households depends on firewood to fulfill their basic energy requirements related to cooking. Continuous extraction of firewood leads to deforestation and ultimately interferes with the firewood availability in future. This is the reason that 86% of the firewood used for cooking in Nepal comes from the non-renewable sources. Implementation and use of biogas digesters therefore substitutes the non-renewable biomass from the baseline. Digesters generate biogas from cow manure; the gas can be used for cooking just as LPG. On weighted average basis, each biogas digester can save around 3.3 tons of firewood from each household which prevents around of 3 tons of carbon

dioxide equivalent attributable to the non-renewable biomass to be emitted in the atmosphere. This reduction of emission can be traded to earn revenue that helps in propagating the digester implementation further. For a typical CPA, ER of approximately 60-70,000 tons of CO<sub>2</sub> are expected, from the construction of up to 20,000 digesters (see ER calculation sheets under: [http://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/viewCPAs](http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/viewCPAs)).

The technologies used in the PoA are household biogas digesters with a sludge and gas holding capacity range of up to 8 or 10m<sup>3</sup>. The different sizes of the digesters that would be included in the programme would be of 2, 4, 6, 8 and possibly also 10m<sup>3</sup>. It is likely that no 10m<sup>3</sup> will be constructed anymore in the future.

The programmes uses only one design i.e. GGC 2047 model. The biogas digesters are based on a uniform technical design and are manufactured and installed following established technical standards in Nepal. The digester itself is a closed underground container made of concrete or other materials. The feedstock for digesters is manure (mainly cattle) and human excreta.



**Fig 1: Plan and Section View of Biogas Plant**



**Fig 2: Biogas Digester in Operation**

The PoA contributes towards the sustainable development on following aspects:

1. **1. Environmental Benefits:**
  1. Prevents deforestation and forest soil degradation caused by the harvest of firewood.
  2. Prevents the emission of Greenhouse Gases from non-renewable biomass and that attributable to the anaerobic decomposition of the cattle dung that would have been left over for decay.
  3. The byproduct of the digestion process, bio-slurry, can be used as fertilizer which maintains the soil quality and avoids the possible soil pollution due to use of synthetic fertilizers.
  4. Improves indoor air quality by avoiding the smoky kitchen environment due

to firewood use.

**Social Benefits:**

- Reduces the drudgery in women caused due to tasks related to firewood collection and utensil cleaning and thereby saves time.
- Improves sanitation by triggering the toilet construction at household level as the toilet can also be used as feeding material for the biogas digesters.
- Improves the technical skills of the masons and other construction workers working in the sector.

**Economic Benefits:**

- The use of the bio-digesters at households makes the households self-reliant on the energy for cooking and thereby saves the investment for energy sources in long run.
- The jobs created by the sector help in the increased economic activity locally and nationally.
- The bio-slurry produced from the digestion process saves the investment required to source synthetic fertilizers.

This demonstrates that the PoA contributes positively towards sustainable development.

The digesters implemented from 22<sup>nd</sup> June 2007 onwards are eligible for inclusion in Biogas PoA. Until now, four CPAs are included in the Biogas PoA and the inclusion of the fifth CPA is ongoing. The implementation until FY 2016/17 is already planned. The implementation status and further plan of implementation is presented in table below (see CPA-DDs available on: [http://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/viewCPAs](http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/viewCPAs) )

| Fiscal Year | Target | Remarks | Fiscal Year    | Target | Remarks          |
|-------------|--------|---------|----------------|--------|------------------|
| 2007/08     | 14,884 | Actual  | 2012/13        | 22,112 | Actual (NRREP)   |
| 2008/09     | 19,479 | Actual  | 2013/14        | 26,000 | Planned (NRREP)  |
| 2009/10     | 21,158 | Actual  | 2014/15        | 26,000 | Planned (NRREP)  |
| 2010/11     | 20,056 | Actual  | 2015/16        | 26,000 | Planned (NRREP)  |
| 2011/12     | 18,584 | Actual  | 2016/17        | 26,000 | Planned (NRREP)  |
|             |        |         | 2017/18 onward |        | TBD (Post NRREP) |

The BSP is centrally managed by Alternative Energy Promotion Centre (AEPC) with the support of Biogas Sector Partnership Nepal (BSP-Nepal), the implementing agency of the AEPC. AEPC is a public entity that executes all renewable/alternative energy programs in Nepal including BSP. Its main objectives are disseminating and promoting renewable energy technologies and mitigating environmental degradation. AEPC is responsible for administrating the government subsidy, coordination with all relevant stakeholders and monitoring BSP-Nepal and BSP. AEPC is also the coordinating and managing entity of this PoA.

Under the BSP, four CDM projects have already been registered that cover digesters implemented before the current PoA was developed. These CDM projects contain biogas digesters implemented before 21 June 2007:

| SN | CDM Project No.   | Project Name                               | Registration Date |
|----|-------------------|--------------------------------------------|-------------------|
| 1  | 0136 <sup>5</sup> | Biogas Support Program – Nepal, Activity-1 | 27 December 2005  |
| 2  | 0139 <sup>6</sup> | Biogas Support Program – Nepal, Activity-2 | 27 December 2005  |
| 3  | 5415 <sup>7</sup> | Biogas Support Program – Nepal, Activity-3 | 13 December 2011. |
| 4  | 5416 <sup>8</sup> | Biogas Support Program – Nepal, Activity-4 | 13 December 2011. |

Installations implemented under the BSP from 22 June 2007 and 18 March 2009 are envisioned to be integrated to the first CPA of present PoA. All further digesters will be included to subsequent CPAs of the PoA.



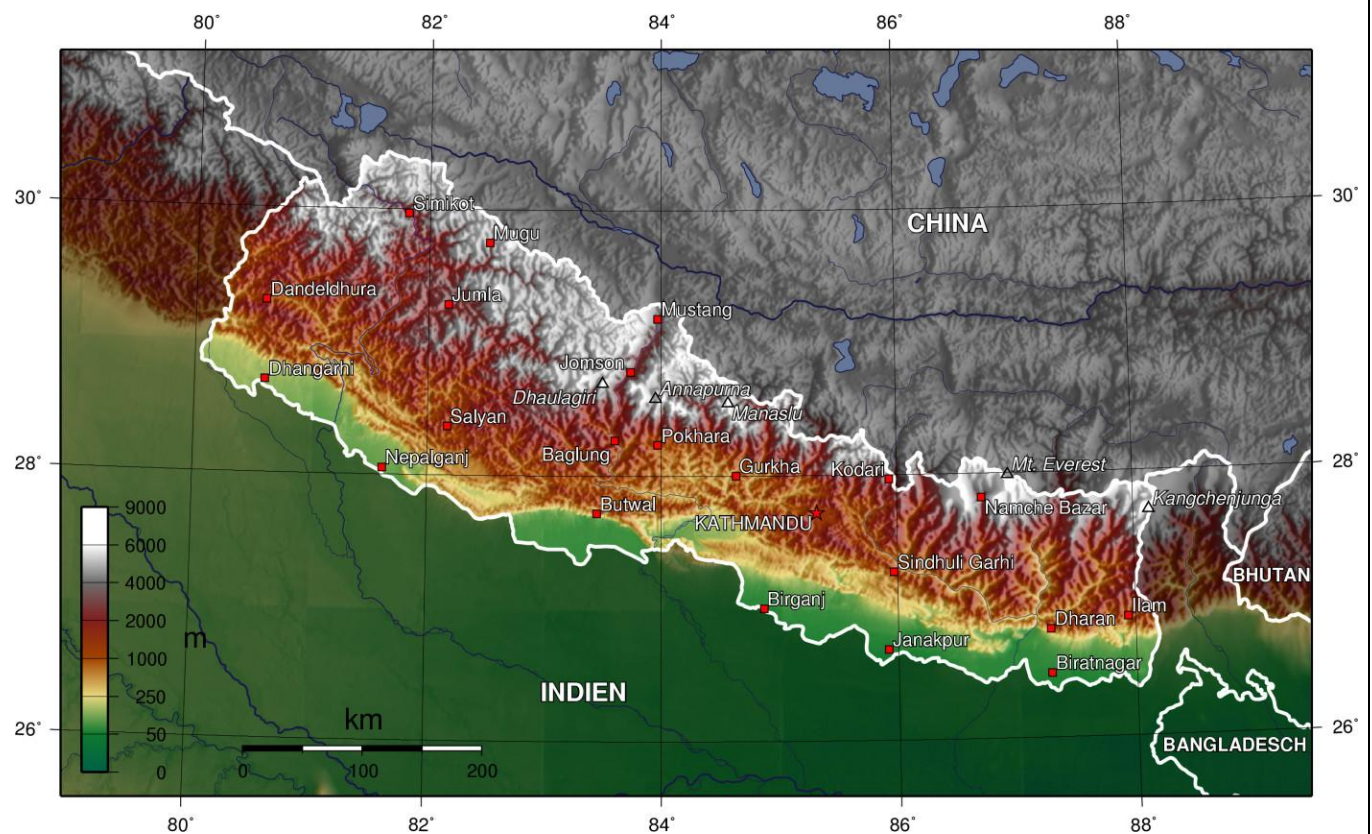
## SECTION C. Proof of programme eligibility

### C.1. Location of the Programme of Activities (Physical/Geographical boundary)

The geographical boundary of the PoA will be the Federal Democratic Republic of Nepal. The PoA can include digesters in all 75 districts of Nepal. The geographical coordinates of Nepal are:

Latitude –North 26.20 degree to North 30.45 degree

Longitude: East 80.07 degree to East 88.20 degree



## C.2. Programme Type

Please tick where applicable<sup>1</sup>:

| Programme type                                                                                     | Yes                        | No                         |
|----------------------------------------------------------------------------------------------------|----------------------------|----------------------------|
| Do the activities within the program, classify as a Renewable Energy project?                      | X <input type="checkbox"/> | <input type="checkbox"/>   |
| Do the activities within the program classify as an End-use Energy Efficiency Improvement project? | <input type="checkbox"/>   | X <input type="checkbox"/> |
| Do the activities within your program classify as a waste handling and disposal project?           | <input type="checkbox"/>   | X <input type="checkbox"/> |

Please justify the eligibility of your programme:

According to the current Gold Standard rules, the PoA is eligible since it supplies renewable energy, i.e. biogas from manure which is renewable biomass. Biogas serves as substitution for non-renewable fuelwood.

End users clearly declare that they agree to transfer the ownership on carbon credits by signing a corresponding agreement with the CME.

Furthermore, the program is a small scale PoA. The optimal CPA size will be determined based on the costs of each inclusion, but the number of digesters will not exceed a maximum of 20,000 digesters, the aggregate of a CPA will not exceed 45MWth. The target group is households who currently use non-renewable woody biomass for cooking purposes.

Hence, the project falls under the Appendix B of the simplified modalities and procedures for small scale CDM project activities. CDM Methodologies: AMS I.E, Version 04: Switch

<sup>1</sup> In case your programme falls under all categories, please check all the 'Yes' boxes.

from non-renewable Biomass for thermal applications by the user.

According to EB 54, Annex 13 a proposed small scale CPA of the PoA is not a debundled component of a large scale activity, if each of the independent subsystems/measures included in the CPA of a PoA is less than 1% of the small-scale thresholds defined by the applied methodology. With an annual natural gas capacity of not more than 1.86 kWth per stove, this value is 0.01233% of the small scale thresholds of 45MWth. – which is lower than the required 1 %.

As per UNFCCC website, the latest version of this methodology is AMS I.E. version 05, but this PoA has applied the most recent version at the time of submission to CDM for registration. This does however not lead to significant changes in the applicability or the project design. The points of the methodology that were updated from version 4 to version 5 are listed below:

As per new version AMS Version 05 (EB 68, Annex 22),

1. Para 5, **fNRB<sub>y</sub>**: Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass using survey methods or government data or approved default country specific fraction of non-renewable woody biomass (fNRB) values available on the CDM website. (In comparison to version 4, the option of using government data or default values is new in version 5.)

In this PoA, a default value of **fNRB** is applied as per "Default values of fraction of non-renewable biomass for Least Developed Countries and Island Developing States (version 01.0)" EB 67 Annex 22; please see CDM registered PoA DD on page 23, under emissions reductions. This is in line with new version also.

2. Para 6, determination of **B<sub>y</sub>** :

Version 5 of the methodology was changed in option (b) for the parameter **HG<sub>p,y</sub>** , but for this PoA **B<sub>y</sub>** is determined by using option (a) which has not been changed; please see registered PoA DD page 24 under "Emission reductions". Hence there is no impact on changed in version.

3. Para 17, representative sampling methods:

In this PoA, the latest version of the "Standard for sampling and survey for CDM project activities and programme of activited" is applied for sampling (EB69, Annex 4, version 03.0); please see registered PoA DD page 29 under "CDM monitoring". This is also in line with version 5.

4. Para 19, "The following further conditions apply for the value of fraction of non-renewable (**fNRB**) applied in a component project activity (CPA) of a POA. The choice between (a) conduct own studies to determine the local **fNRB** value and



then apply those values in the CPAs; and (b) use default national values approved by the Board; shall be made ex ante. A switch from national value i.e. choice (b) to sub-national values i.e. choice (a) is permitted, under the condition that the selected approach is consistently applied to all CPAs. ”

In this PoA, the value of **fNRB** is taken as an ex/ante for all CPA and hence it is in line with new version as well.

Therefore, an update to version 5 of the methodology would not lead to any changes in applicability or PoA design.

| Pre-Announcement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes                      | No                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------|
| Was your programme previously announced?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> | <input checked="" type="checkbox"/> X |
| <p>AEPC has pursued the CDM for the biogas support programme since 2002. The timeline below shows the continuing and real actions that AEPC undertook to secure CDM status for this PoA. Two regular CDM bundles are registered since December 2005 under the UNFCCC references 136 and 139 and include digesters implemented between November 2003 and April 2005. A revision of the applied methodology, AMS-I.C., prevented continued development of the BSP under the CDM. The deadlock was cleared after the thirteenth COP/MOP in 2007 and with the approval of AMS-I.E. at the 37th EB meeting. With the approval of AMS.I.E, two more bundle projects (PA-3 and PA-4) were registered. Both PA-3 and PA-4 were registered on 13 December 2011; however, the construction of the digesters for PA-3 was completed by 8 May 2006 and for PA-4 it was completed by 21 June 2007.</p> |                          |                                       |

| Date       | Activity                                                                                                                                                                                                         | Evidence                                                                                                                                                                      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17/10/2006 | Memorandum of Understanding between AEPC and KfW on Biogas CDM Project for the long term ERPA, a few months after the EB launched guidelines, procedures and templates for the registration of CDM PoA projects. | MOU between AEPC and KfW dated 17/10/2006                                                                                                                                     |
| 01/02/2008 | Approval of New methodology AMS. I. E by UNFCCC during CDM EB-37                                                                                                                                                 | <a href="http://cdm.unfccc.int/methodologies/DB/4AWU125UNQLOC5JAMXQFU60KDCJNUA/view.html">http://cdm.unfccc.int/methodologies/DB/4AWU125UNQLOC5JAMXQFU60KDCJNUA/view.html</a> |
| 04/07/2008 | Singing of a Consultant Contract between Climate Focus, AEPC and KfW to develop the CDM PoA documents                                                                                                            | Contract Letter                                                                                                                                                               |
| 17/07/2008 | Financing agreement between AEPC and KfW for the CDM project from ERPA                                                                                                                                           | Financing Agreement                                                                                                                                                           |
| 15/08/2008 | Local Stakeholders Consultation Meeting                                                                                                                                                                          | Minutes of meeting                                                                                                                                                            |

### C.3. Greenhouse gas

| Greenhouse Gas |                            |
|----------------|----------------------------|
| Carbon dioxide | x <input type="checkbox"/> |
| Methane        | <input type="checkbox"/>   |
| Nitrous oxide  | <input type="checkbox"/>   |

## SECTION D. Stakeholder Consultation and Sustainability Assessment at PoA/ CPA (VPA) level

|                                           | PoA                        | CPA/VPA                  |
|-------------------------------------------|----------------------------|--------------------------|
| At what level is the LSC done?            | X <input type="checkbox"/> | <input type="checkbox"/> |
| At what level is the SD assessment done?  | X <input type="checkbox"/> | <input type="checkbox"/> |
| At what level is the DNH assessment done? | X <input type="checkbox"/> | <input type="checkbox"/> |



*Provide justification if the LSC/SD/DNH assessment is done only at PoA level.*

LSC: The LSC is done only PoA level. Each CPA will employ the same technology as described in the PoA DD (GGC 2047 model) but at different locations throughout Nepal. All CPAs cover all of Nepal. All digesters listed in the CPA shall be household biogas digesters with a sludge and gas holding capacity range of 2 -10m<sup>3</sup>, similar socio-economic situations and identical activity. Furthermore, the key stakeholders of the program both at PoA and CPA level are the same. They are biogas users, biogas companies, banks and micro-finance institutes, local governments, Development Partners, BSP-N, AEPC and Government of Nepal including other indirect stakeholders and are equally applicable.

SD/DNH: The SD/DNH is also done in PoA level. This is because it does not depend on the specific geographical location where Biogas stoves are used. Furthermore, in Nepal EIA is not a regulatory requirement for household biogas digester installation.

*Provide set of Sustainable Development Criteria for inclusion of CPA/VPA if SD assessment is done only at PoA level*

It is planned to use the expected outcome of SD indicators mentioned under section G (SD monitoring) as inclusion criteria. For details please see section G, Sustainability Monitoring Plan.

## **SECTION E. Outcome of the stakeholder consultation process at PoA level**

### **E.1. Assessment of stakeholder comments**

#### **LSC for original CDM registration**

For CDM registration, a stakeholder consultation meeting was held on 15 August 2008 in Kathmandu. After an introduction of the PoA and its CDM background the stakeholder were invited to submit comments.

Further, as per the DNA regulations, the stakeholder discussion on the PIN and PDD of the PoA was held on September 3, 2008 and on November 17, 2009 respectively. The stakeholders included digester users, representatives from different government ministries, NGO's, Development Partners and BSP-Nepal and AEPC.

The comments have been filed and taken into account in the design of the BSP. Since the BSP has been successfully operated for many years, there were little comments on the technical aspects or negative side-effects of the program.

Key recommendations from the stakeholders seemed motivated by concerns over the ability of the program to maintain a certain pace of digester implementation and aimed at the institutional and financial aspect of the program.

The recommendations expressed by the stakeholders were:

1. Carbon revenue should be used for research and further development of the biogas sector.
2. The After Sales Service/Internal Quality Control system should be expanded from the current three-years to at least the length of the first crediting period. Apart from securing PoA performance in terms of reducing emissions, this also allows current digester owners to benefit from CDM funded maintenance of their systems.
3. Provide additional financial support to the individual households covered under the CDM program to ensure timely maintenance and reliable operation of their digesters.
4. Provide additional subsidy to the poor households in remote areas to help them overcome investment barrier and allow them access to the biogas technology.
5. Organize awareness programs about CDM at different levels in Nepal to create further awareness of the CDM and the opportunities it creates in Nepal.
6. Provide incentives from the CER revenues to the companies involved in digester manufacturing, installation and maintenance to secure their long-term commitment to



supply high-quality digesters.

7. Carbon revenue can be used to develop additional carbon projects.

8. Invest in opportunities for household to generate financial revenues from time they save due to the installation of the biogas digester

Some of the recommendations, for example on the further promotion of CDM in Nepal, extend beyond the key objectives of the BSP. Most recommendations relate to use of the CDM revenues. First priority of AEPC is to sustain the BSP and create the financial means needed to increase the pace of implementation. Technical support to digester users are an integrated part of the BSP and CDM revenues will be used to sustain and, if possible, improve that support. CDM revenues will also be allocated to sustain and where possible improve subsidy rates and stimulate further dissemination of digesters.

Of lower priority are measures to further enhance the programs' contribution to sustainable development, for example by implementing programs to create opportunities for household to generate financial revenues from time they save due to the installation of the biogas digester. Another example it support to other CDM projects or promotion of the CDM in Nepal. However, AEPC does support initiatives in these areas.

The remaining recommendations were taken into account as follows.

- AEPC, executive agency of the Biogas Support Program (BSP), has given high importance to the received suggestions and committed to address the suggestions to the benefit of the program and the stakeholders, especially the biogas users.
- AEPC has proposed to utilize 80 percent revenue to increase subsidy for new digesters and thereby stimulate digester adoption by poorer and more remote households. The remaining 20 percent may be allocated to sustain the program and secure continued maintenance and other technical support to existing and future digesters.
- AEPC also agreed to create further incentives to the private companies involved to provide additional technical service to the biogas users and maintain or further improve their quality standards.

### LSC during retroactive GS registration

During the process of retroactive GS registration, another physical LSC meeting was conducted on 15 August 2014. Its outcome is described in detail in the LSC report.

The most important comments are represented as follows:

| Stakeholder comment                                                                                                                                      | Was comment taken into account (Yes/No)? | Explanation (Why? How?)                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AEPC should extend the period of after sales services to be provided by the biogas companies                                                             | Yes, but did not lead to PoA changes     | The period of after sales service has already been extended from 3 years to 4 years.                                                                                                                                                                                                                                                                                                                                       |
| AEPC should introduce new type of digesters in the program based upon the suitability of the digesters according to different ecological zones.          | Yes, but did not lead to PoA changes     | Until now the PoA has recognized only GGC 2047 model as eligible under the PoA. Further under the subsidy policy and delivery mechanism as well it is only the GGC 2047 model that is recognized for subsidy. Hence to consider the comment into account, the government should first define the eligibility of other models of digesters in the subsidy stream, then only there will be scope to include them in the PoA. |
| AEPC should ensure the involvement up to Village Development Committee (VDC) which till now is only restricted up to the District Development Committee. | Yes, but did not lead to PoA changes     | Getting deeper into the administrative units from District to VDC, it is likely that there will not be any further value addition for the program. Since there is no human resource allocation at the VDC level to deal with the matters pertaining to the program it is not likely that involvement of VDC will have same level of impact as of DDC.                                                                      |

Additionally, a design consultation was held from July 15 2014 till August 16 2014. Several comments were received that were all very positive; no changes to the PoA design became necessary.

## E.2. Stakeholder Feedback Round (in case LSC is done at PoA level)

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

The SFR was started after upload of the GS passport on October 9th 2014. Participants of the LSC and DC were asked to comment on the LSC report, draft GS passport and DDs; comments were invited by email and letter. The invitation letters reads:

*"Dear Madam/Sir,*

*Alternative Energy Promotion Centre (AEPC) is a Government institution established with the objective of developing and promoting renewable/alternative energy technologies in Nepal. The aim of AEPC is to make renewable energy mainstream resource through increased access, knowledge and adaptability contributing for the improved living conditions of people in Nepal. AEPC has been promoting biogas technology since its establishment and since 2004/05, the biogas digesters are registered as CDM project activities and CDM Program of activities. The PoA under discussion is seeking the retroactive GS registration and LSC and DC were conducted in mid- August this year. We appreciate for your feedback and comments provided during local and design consultation meeting.*

- After having held the local stakeholder consultation on August 15 2014, we are pleased to invite your comments on the updated documentation of the above mentioned programme. The mission of the PoA is the dissemination of household biogas plants (maximum 20,000 biogas plants under each CPA). It also seeks to encompass other important socio-economic-environmental benefits that are an integral part of the biogas program, such as improved kitchen environment, reduction in drudgery of women, improvement of health and sanitation, and improvement in the quality of the employment etc.*
- This second round of public commenting, called "Stakeholder Feedback Round", is part of the retroactive Gold Standard registration procedure.*

*We hereby invite you to provide your comments on the following documents:*

- Report on the Local Stakeholder held on August 15 2014 in Kavre.*
- PoA-DD and CPA-DDs (Project Design Documents), containing the relevant methodological explanations and calculations on the reductions of CO<sub>2</sub> emission by the project, including monitoring*
- Draft Gold Standard passport, containing relevant information on the evaluation and monitoring of the impacts of the project on sustainable development.*

*Documents are also available online through the Gold Standard website, under*

*<https://www.atmosfair.de/en/nepal-biogas>*

*Hard copies are available at AEPC office.*

*If you have any comment on the project, please provide your input by email to [neelam.rijal@aepec.gov.np](mailto:neelam.rijal@aepec.gov.np), or directly to the AEPC office under the direction indicated above.*

*Please provide your comment not later than two months after receiving this invitation."*

An additional request for feedback was sent out on Jan 12<sup>th</sup> 2015, referring to the initiative PREIP on rehabilitation and maintenance of biogas digesters. This additional request was sent in consequence of a FAR raised during GS validation of the LSC.

In spite of the repeated invitation, no comments were received from the stakeholders.

### E. 3. Discussion on continuous input / grievance mechanism

The continuous input/grievance mechanism was discussed interactively at the physical LSC meeting (see also LSC report). During the presentation of Mr. Uttam Prasad Jha, the users sought the information regarding the steps taken by AEPC for the continuous improvement of the program. Further, the part of quality assurance to be dealt by AEPC was also discussed during the meeting. The major part of the presentation was in an interactive basis where the biogas users asked about the post installation services to be provided by the biogas company, cost of accessories and further improvements to better address the user grievances. The most important questions raised were:

- Q: How can we post our grievances regarding the functioning of our biogas digesters?  
A: This can be done through the contacts in the table, grievance will be recorded by AEPC and forwarded to the responsible companies. contacts in table, toll free phone line
- Q: Are companies liable to provide the service even after the after sales service period is expired?  
A: There are not liable after period of 4 years (extended from 3 to 4 recently), but companies have to provide service against payment.
- Q: Is there a mechanism in place through which we can post our grievance directly to authorities at higher level?  
A: Yes, the toll free service line leads directly to AEPC, AEPC will then deal with the biogas companies or the corresponding units.
- Q: How do you take action on the companies if they are found to be doing some misconduct?  
A: After a complaint is received by AEPC, AEPC will verify and, if misconduct persists, penalize companies. They may even lose license to construct digesters under the program.
- Q: How can we ensure that the digester constructed is of good quality?  
A: All digesters have to be constructed according to the standardized construction manual with corresponding standard drawings. The quality is then regularly monitored, and if companies are found to provide bad services, they can be excluded.

|                                                      | Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)                                                     | Justification                                                         |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Continuous Input / Grievance Expression Process Book | Alternative Energy Promotion Centre (AEPC)<br>Khumaltar Heights, Lalitpur<br>Post Box No.: 14364<br><a href="http://www.aepc.gov.np">www.aepc.gov.np</a> | The CME office is publicly disclosed and opened to all beneficiaries. |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Telephone access                          | <p>Alternative Energy Promotion Centre (AEPC) toll free number:<br/><b>16600144566</b></p> <p>Nepal biogas promoters association<br/>Central Office Kathmandu: 01-5535116</p> <p>Nepal biogas promoters association regional offices:</p> <ol style="list-style-type: none"> <li>1. Pokhara: 061-526785</li> <li>2. Butwal: 071-551514</li> <li>3. Itahari: 025-5817745</li> <li>4. Nepalgunj: 081-528066</li> <li>5. Dhangadi: 091- 527379</li> <li>6. Chitwan: 056- 521749</li> </ol> | These offices directly received the input.                                                                                                                      |
| Internet/email access                     | <a href="mailto:Neelam.rijal@aepec.gov.np">Neelam.rijal@aepec.gov.np</a>                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Neelam Sharma Rijal<br/>Programme officer<br/>Alternative Energy<br/>Promotion Center (AEPC)<br/>Khumaltar Heights,<br/>Lalitpur<br/>Post Box No.: 14364</p> |
| Nominated Independent Mediator (optional) | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                                                                                                                             |



## SECTION F. Outcome Sustainability Assessment<sup>2</sup>

### 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 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------|
| 1. 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. | <p>The project respects human rights, as participation is voluntary. It respects personal freedom and liberty.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Host country commitment to UN conventions on Human Rights:</p> <p>International Covenant on Economic, Social and Cultural Rights<br/>14 May 1991<sup>3</sup></p> <p>International Covenant on Civil and Political Rights<br/>14 May 1991<sup>4</sup></p> | low                                                             | N/A                |
| 2. The project does not involve and is not complicit in involuntary resettlement.                                                                                                              | <p>As the biogas units will be constructed in the households' compound, there will be nobody forced to resettle.</p> <p>Conclusion:</p>                                                                                                                                                                                                                                                                                                                                                               | low                                                             | N/A                |

<sup>2</sup> In case, DNH/SD assessment is done at the Programme level, DNH/SD assessment per technology/practice included in the Programme shall be provided. In case the DNH/SD assessment is done at the activity level this section may not be filled.

<sup>3</sup> [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=IV-3&chapter=4&lang=en](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-3&chapter=4&lang=en)

<sup>4</sup> [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=IV-4&chapter=4&lang=en](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-4&chapter=4&lang=en)

|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                           |     |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
|                                                                                                                                                                          | <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Evidence: PoA-DD A.2, stating that biogas plants will be constructed on household level.</p>                                                                                                                                                                                       |     |     |
| 3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage                                              | <p>As the biogas units will be constructed in the households' compound, there will be no damage of cultural or religious heritage.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Evidence: PoA-DD A.2, stating that biogas plants will be constructed on household level.</p>                             | low | N/A |
| 4. The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights | <p>All employees have freedom of association and right to collective bargaining.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Host country commitment to international conventions on labour standards and child Rights:</p> <p>Nepal is member of the International Labour Organisation<sup>5</sup></p> | low | N/A |
| 5. The project does not involve and                                                                                                                                      | AEPC and the other involved parties do not                                                                                                                                                                                                                                                                                                                                                | low | N/A |

<sup>5</sup> <http://www.ilo.org/kathmandu/lang-en/index.htm>

|                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |     |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| is not complicit in any form of forced or compulsory labour                     | <p>complicit in any form of forced or compulsory labour. All employees offer their services on a voluntary basis and are free to quit the services at any time without a menace or penalty.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Host country commitment to international conventions on labour standards and child Rights:</p> <p>Convention on the Rights of the Child, 26 Jan 1990<sup>6</sup></p> |     |     |
| 6. The project does not employ and is not complicit in any form of child labour | <p>AEPC and the other involved parties do not employ children.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Host country commitment to international conventions on labour standards and child Rights:</p> <p>Convention on the Rights of the Child (see footnote 6)</p> <p>Nepal is member of the International Labour Organisation (see footnote 5)</p>                                                     | low | N/A |
| 7. The project does not involve and is not complicit in any                     | All interested farmers, regardless of gender, race, religion, sexual orientation                                                                                                                                                                                                                                                                                                                                                                                                               | low | N/A |

<sup>6</sup> [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=IV-11&chapter=4&lang=en](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-11&chapter=4&lang=en)

|                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| form of discrimination based on gender, race, religion, sexual orientation or any other basis.                                                              | <p>can participate in the project. The only condition is the possession of at least one cow, for practical reasons.</p> <p>Conclusion:</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p> <p>Host country commitment to international conventions on labour standards and child Rights:</p> <p>Convention on the Rights of the Child (see footnote 6)</p> <p>Nepal is member of the International Labour Organisation (see footnote 5)</p>                                         |        |                                                                                                                                                                      |
| 8. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. | <p>As on any construction site, there is risk of accidents or injuries, but the construction works are simple without specific sources of danger. The operation of the biogas units is safe, during the past years, no incidents have been reported.</p> <p>Conclusion:</p> <p>Mitigation measures will be implemented. Host country commitment to international conventions on labour standards and child Rights:</p> <p>Convention on the Rights of the Child (see footnote 6)</p> <p>Nepal is member of the International Labour</p> | medium | As a mitigation measure to prevent accidents, workers will receive proper training. Protective equipment such as gloves will be distributed. This will be monitored. |

|                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
|                                                                                                                                                                                                                                                                                                                                                                  | organisation (see footnote 5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |     |
| 9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.                                                                                                                                                                                                   | <p>The biogas units will be fed with cow dung and a certain amount of water. There are no other planting or agricultural activities included, as well as no usage of chemicals.</p> <p>The slurry obtained after fermentation is less polluting than the initial manure; moreover it will be used as fertilizer and this usage will be monitored.</p> <p>Safeguarding principle is not relevant to the project; the natural conditions in the project area are suitable for using biogas.</p> <p>Evidence: Monitoring of slurry usage.</p> | low | N/A |
| 10. 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. | <p>The project activity does not lead to any conversion or degradation of natural habits. Contrary the project itself reduces deforestation and contributes to the protection of forestry, water and soil resources. The biogas will be a renewable and clean energy source. No protected areas will be affected since biogas plants will be constructed on the household level.</p> <p>Safeguarding principle is not relevant to the project, no mitigation measures are necessary.</p>                                                   | low | N/A |



|                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                  |                           |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------|
|                                                                      | Evidence: PoA-DD A.2, stating that biogas plants will be constructed on household level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                  |                           |
| 11. The project does not involve and is not complicit in corruption. | <p>The project structures are not sensitive to corruption. Since the project is implemented directly through the local companies, and since local materials are used, the project implementation does not imply a significant risk of corruption.</p> <p>Host country commitment to international conventions on corruption:</p> <p>Nepal has signed the United Nations Convention against corruption on 10 Dec 2003<sup>7</sup></p> <p>Conclusion:</p> <p>Safeguarding principle is relevant to the project, but only at very low level. No mitigation measures are necessary.</p> | low                                                              | N/A                       |
| <b>Additional relevant critical issues for my project type</b>       | <b>Description of relevance to my project</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Assessment of relevance to my project (low, medium, high)</b> | <b>Mitigation measure</b> |
| N/A                                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | N/A                                                              | N/A                       |

<sup>7</sup> [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XVIII-14&chapter=18&lang=en](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-14&chapter=18&lang=en)

## F.2. Sustainable Development matrix

Insert table as in section D3 from your Stakeholder Consultation report (Sustainable Development matrix).

The consolidated SD matrix is shown below.

| 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' assessment, and include mitigation measure used to neutralise a score of '-' | Check <a href="http://www.undp.org/mdg">www.undp.org/mdg</a> and <a href="http://www.mdgmonitor.org">www.mdgmonitor.org</a><br><br>Describe how your indicator is related to local MDG goals                                                                                                                                                          | Defined by Coordinating and Managing Entity                                                       | <u>Negative impact:</u><br>score '-' in case negative impact is not fully mitigated,<br>score '0' in case impact is planned to be fully mitigated<br><br><u>No change in impact:</u> score '0'<br><br><u>Positive impact:</u><br>score '+' |
| Air quality                                         |                                                                                                                                     | Positive impact on MDGs 4.1 (Under-five mortality rate) and 4.2 (Infant mortality rate), since indoor air pollution will be avoided through smokeless biogas, reducing respiratory diseases and thereby mortality.<br><br>Moreover, a positive impact on MDG 5 (reducing maternal mortality rate) can be expected, by improving the health situation. | Reduction of indoor air pollution.<br><br>Parameter:<br>Users' perception on smoke.               | +                                                                                                                                                                                                                                          |
| Water quality and quantity                          |                                                                                                                                     | Positive impact on MDGs 7.8 (use of improved drinking water sources) and 7.9 (use of improved sanitation facilities).                                                                                                                                                                                                                                 | No direct impact, but slightly positive impact through fermentation and use of slurry; but impact | 0                                                                                                                                                                                                                                          |

|                       |                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                     |   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                       |                                                                                                                                                 | <p>The fermentation of animal and human waste will reduce pollution of water bodies; the provision of biogas may enable households to sterilize their water.</p> <p>Sanitation will be improved by the construction of toilets in combination with many of the biogas plants.</p> <p>The daily usage of water with a biogas unit of approx. 30 litres will not have a negative impact since water is not a limited resource in the project area.</p> | too small for a positive score.                                                                                                                     |   |
| Soil condition        |                                                                                                                                                 | <p>Positive impact on MDG target 7 (ensure environmental sustainability):</p> <p>Soil quality improvement through slurry utilization.</p> <p>Nutrient loops are closed by the use of digester effluent, improving soil fertility and avoiding eutrophication of the soil and water bodies.</p>                                                                                                                                                       | <p>Slurry is used as fertilizer.</p> <p>Parameter: Use of slurry as fertilizer by biogas users.</p>                                                 | + |
| Other pollutants      |                                                                                                                                                 | <p>Possibly small positive impact on MDG target 7 (ensure environmental sustainability), due to less use of chemical fertilizer.</p>                                                                                                                                                                                                                                                                                                                 | <p>Possibly a small positive impact by avoiding chemical fertilizer usage. But impact too small to be accounted for, therefore neutral scoring.</p> | 0 |
| Biodiversity          |                                                                                                                                                 | <p>Possible positive impact on MDG 7 (environmental sustainability), by reducing pressure on natural habitats due to reduced deforestation.</p>                                                                                                                                                                                                                                                                                                      | No direct impact.                                                                                                                                   | 0 |
| Quality of employment | <p>Mitigation measure of the safeguarding principle 8, includes training for masons and supervisors, including a manual with special safety</p> | <p>Creation of qualified jobs in biogas plant construction and maintenance.</p> <p>MDG 1: Eradicate extreme poverty and hunger</p>                                                                                                                                                                                                                                                                                                                   | <p>Masons are trained and get qualitatively good jobs.</p> <p>Parameter: Trainings reports.</p>                                                     | + |

|                                                                                                                                                                               |                                                                                                 |                                                                                                                                              |                                                                                                                                                                      |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                                                                                                               | instructions as well as distribution and usage indications for safety equipment such as gloves. |                                                                                                                                              |                                                                                                                                                                      |   |
| Livelihood of the poor                                                                                                                                                        |                                                                                                 | Positive impact on MDG 1 (Eradicate extreme poverty and hunger): Households save time and money otherwise be spent on fuelwood procurement.  | Improved living conditions by offering sanitation services where toilets are constructed together with biogas plants.<br>Parameter: Number of toilets constructed.   | + |
| Access to affordable and clean energy services                                                                                                                                |                                                                                                 | Positive impact on MDG 1 (Eradicate extreme poverty and hunger): Households save time and money otherwise be spent on fuelwood procurement.  | Biogas is clean and its usage is cheaper than burning fuelwood.<br>Parameter: Number of biogas units constructed.                                                    | + |
| Human and institutional capacity                                                                                                                                              |                                                                                                 | Possibly small positive impact on MDG 3 (Promote gender equality and empower women)                                                          | Replacement of fuelwood and quicker cooking may foster empowerment and education of women who will gain time. Since it is not a direct impact, the score is neutral. | 0 |
| Quantitative employment and income generation                                                                                                                                 |                                                                                                 | Positive impact on MDG 1 (Eradicate extreme poverty and hunger): Income through job creation for masons,                                     | A large number of jobs is created.<br>Parameter: Number of jobs created                                                                                              | + |
| Balance of payments and investment                                                                                                                                            |                                                                                                 | May have a small positive impact on MDG 8 (Develop a global partnership for development)                                                     | May foster investment in biogas companies; but impact too small to be measured.                                                                                      | 0 |
| Technology transfer and technological self-reliance                                                                                                                           |                                                                                                 | May have a small positive impact on MDG 8, sub-target F: In cooperation with the private sector, make available benefits of new technologies | May lead to spreading of biogas technology to non-project agents, however impact too small to be measured.                                                           | 0 |
| <b>Justification choices, data source and provision of references</b><br>(A justification paragraph and reference source is required for each indicator, regardless of score) |                                                                                                 |                                                                                                                                              |                                                                                                                                                                      |   |

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air quality                                    | <p>Air quality will improve due to the installation of the biogas digester as it eliminates the solid biomass from kitchen.</p> <p><a href="http://www.sandeeonline.org/uploads/documents/publication/786_PUB_policy_brief_31.pdf">http://www.sandeeonline.org/uploads/documents/publication/786_PUB_policy_brief_31.pdf</a>;</p> <p><a href="http://www.sciencedirect.com/science/article/pii/S0961953414000798">http://www.sciencedirect.com/science/article/pii/S0961953414000798</a>.</p> <p>Hence, a positive score was given to this indicator and it will be monitored from the perceptual survey.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Water quality and quantity                     | <p>Biogas will have small indirect effect in the water quality and quantity. Construction of the biogas digester promotes the construction of toilets at household. Toilet construction reduces the open defecation and this in turn contributes towards improving water quality. However, the impact was considered too small and too difficult to monitor in a direct way; therefore a neutral scoring was given.</p> <p><a href="http://groundwaterindia.blogspot.de/2013/01/groundwater-contamination-effect-of.html">http://groundwaterindia.blogspot.de/2013/01/groundwater-contamination-effect-of.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Soil condition                                 | <p>Bio-slurry resulting from the use of the biogas can be used as fertilizer for agricultural purpose and contributes in improving the soil condition. Hence, a positive score was given to this indicator. It will be monitored during annual surveys seeking the information from the respondent whether they are using bio-slurry in the agriculture field or not.</p> <p>(BSP yearbook 2012, page 3: Use of slurry by 90% of households in the past).</p> <p>Study:</p> <p><a href="http://r.search.yahoo.com/_ylt=A9mSs2b_hbdUrnAA9ykzCQx.;_ylu=X3oDMTBBydWpobjZlBNlYwNzcgRwb3MDMQRjb2xvA2lyMgR2dGlkAw--/RV=2/RE=1421342335/RO=10/RU=http%3a%2f%2fwww.sci-int.com%2fpdf%2f205297553012-Research%2520paper%2520mahmood%2520297-301.pdf/RK=0/RS=nmf0LRc80Tx7_QZ3v5xBX3RxCFU-">http://r.search.yahoo.com/_ylt=A9mSs2b_hbdUrnAA9ykzCQx.;_ylu=X3oDMTBBydWpobjZlBNlYwNzcgRwb3MDMQRjb2xvA2lyMgR2dGlkAw--/RV=2/RE=1421342335/RO=10/RU=http%3a%2f%2fwww.sci-int.com%2fpdf%2f205297553012-Research%2520paper%2520mahmood%2520297-301.pdf/RK=0/RS=nmf0LRc80Tx7_QZ3v5xBX3RxCFU-</a></p> |
| Other pollutants                               | <p>There are only small and indirect impacts of biodigester construction on other pollutants. The use of organic fertilizers from biogas slurry may however reduce the application of chemical fertilizers in some cases. However, the impact is not clear enough to justify a positive score.</p> <p>(BSP yearbook 2012, page 3: Reduction of chemical fertilizer use).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Biodiversity                                   | <p>There is no direct relation between the use of biogas and biodiversity conservation. Use of biogas reduces the consumption of the firewood and hence the reduced firewood consumption improves forest biomass stock and hence the biodiversity. However, this relation cannot be linked directly to the use of the biogas digester hence a neutral score is given.</p> <p><a href="http://www.un.org/esa/sustdev/csd/csd15/lc/GTZ_hem.pdf">www.un.org/esa/sustdev/csd/csd15/lc/GTZ_hem.pdf</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Quality of employment                          | <p>Masons involved in the construction of the biogas digester are provided with proper training. Hence, the training leads to improvement in the quality of employment.</p> <p>Evidence: Will be monitored</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Livelihood of the poor                         | <p>Construction of the biogas digester promotes the construction of toilets at households, offering highly improved sanitation services. This clearly improves living conditions; justifying a positive score for this parameter.</p> <p><a href="http://worldtoilet.org/what-we-do/why-toilets">http://worldtoilet.org/what-we-do/why-toilets</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Access to affordable and clean energy services | <p>Biogas directly contributes to the clean energy service since the biogas is cleaner form of energy. Hence, the score has been assigned as positive and this will be monitored through the annual progress of biogas.</p> <p>Evidence: monitored</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human and institutional capacity                    | <p>It is possible that the support granted by the biogas support program fosters empowerment and education of women who will gain time, since they will not need to gather fuelwood anymore and cooking will be quick and comfortable in comparison to traditional cooking. However, this impact is not a direct impact, therefore the score is neutral.</p> <p><a href="http://www.appropedia.org/Improved_cook_stoves">http://www.appropedia.org/Improved_cook_stoves</a></p> |
| Quantitative employment and income generation       | <p>Biogas digester directly helps in income generation of the masons and supervisors involved in biogas construction. Hence, any progress in biogas plant construction contributes for the income generation and this indicator has been given a positive score. This indicator will be monitored through the number of biogas digesters constructed.</p> <p>Evidence: Monitored</p>                                                                                            |
| Balance of payments and investment                  | <p>Indirectly, the PoA may contribute to national investment into biogas construction companies, since many companies are working for the construction of biogas plants. However this type of decentralized investment cannot be tracked, therefore, a neutral score is given.</p> <p>(for example: <a href="http://mospi.nic.in/press_note_511_30april07.htm">http://mospi.nic.in/press_note_511_30april07.htm</a>)</p>                                                        |
| Technology transfer and technological self-reliance | <p>It is possible that the PoA leads to private construction of biogas plants, for example by third party users not targeted, such as institutions, for example hotels. It will however not be possible to determine if and how such possible constructions have been triggered by the PoA. Therefore, a neutral score is given.</p>                                                                                                                                            |

## SECTION G. Sustainability Monitoring Plan<sup>8</sup>

|                                               |        |                                                                                                                                                                    |
|-----------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                            |        | 01                                                                                                                                                                 |
| Indicator                                     |        | Air quality                                                                                                                                                        |
| Mitigation measure                            |        | N/A                                                                                                                                                                |
| <i>Repeat for each parameter</i>              |        |                                                                                                                                                                    |
| Chosen parameter                              |        | Smoke reduction                                                                                                                                                    |
| Current situation of parameter                |        | Several 1,000 biogas plants under the PoA improve indoor air quality.<br>Evidence: Monitored                                                                       |
| Estimation of baseline situation of parameter |        | No usage of biogas units in the targeted households and therefore no reduction of harming indoor pollution.                                                        |
| Future target for parameter                   |        | Several 10,000 of biogas plants enable clean cooking, avoiding smoke from fuelwood usage.                                                                          |
| Way of monitoring                             | How    | In a representative survey, randomly selected users will be asked about their perception on smoke, by a dedicated monitoring team under responsibility of the CME. |
|                                               | When   | At least biennial                                                                                                                                                  |
|                                               | By who | Dedicated Monitoring team                                                                                                                                          |

|                                               |                                                                                                                              |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| No                                            | 02                                                                                                                           |
| Indicator                                     | Soil condition                                                                                                               |
| Mitigation measure                            |                                                                                                                              |
| <i>Repeat for each parameter</i>              |                                                                                                                              |
| Chosen parameter                              | Use of slurry as fertilizer by biogas users.                                                                                 |
| Current situation of parameter                | Biogas users under the PoA apply slurry after fermentation as fertilizer. Evidence: Monitored                                |
| Estimation of baseline situation of parameter | No or little fertilizer used, possibly chemical fertilizer. Evidence: BSP yearbook 2012, page 3.                             |
| Future target for parameter                   | Several 10,000 of biogas users can improve soils for horticulture and related activities by using slurry from biogas plants. |

<sup>8</sup> In case, DNH/SD assessment is done at the Programme level, SD monitoring parameters pertaining to SD aspects, safeguarding principles per technology/practice shall be provided. In case DNH/SD assessment is done at the activity level this section may not be filled.

|                   |        |                                                                                                                                                                          |
|-------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Way of monitoring | How    | In a representative survey, randomly selected users will be asked about the use of slurry as fertilizer, by a dedicated monitoring team under responsibility of the CME. |
|                   | When   | At least biennial                                                                                                                                                        |
|                   | By who | Dedicated Monitoring team                                                                                                                                                |

|                                               |        |                                                                                                                                                                                                                                                  |
|-----------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                            |        | 03                                                                                                                                                                                                                                               |
| Indicator                                     |        | Quality of employment                                                                                                                                                                                                                            |
| Mitigation measure                            |        | As described under safeguarding principle 8, in order to avoid the risk of accidents, workers will receive proper training. Protective equipment such as gloves will be distributed.                                                             |
| <i>Repeat for each parameter</i>              |        |                                                                                                                                                                                                                                                  |
| Chosen parameter                              |        | Report on trainings for employees of the PoA such as masons who construct biogas plants.<br><br>Trainings will particularly make sure that accidents are avoided. For the same purpose, protective equipment such as gloves will be distributed. |
| Current situation of parameter                |        | Regular trainings conducted. Evidence: Monitored.                                                                                                                                                                                                |
| Estimation of baseline situation of parameter |        | No biogas plants in targeted households and therefore no training for masons regarding the construction of biogas units.                                                                                                                         |
| Future target for parameter                   |        | Several 1,000 workers receive regular trainings.                                                                                                                                                                                                 |
| Way of monitoring                             | How    | Training reports, including numbers and types of trainings, evidence on use of protective equipments such as pictures.                                                                                                                           |
|                                               | When   | At least biennial                                                                                                                                                                                                                                |
|                                               | By who | Dedicated Monitoring team                                                                                                                                                                                                                        |

|                                               |                                                                                                                                                                                                    |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                            | 04                                                                                                                                                                                                 |
| Indicator                                     | Livelihood of the poor                                                                                                                                                                             |
| Mitigation measure                            | N/A                                                                                                                                                                                                |
| <i>Repeat for each parameter</i>              |                                                                                                                                                                                                    |
| Chosen parameter                              | Number of toilets constructed.                                                                                                                                                                     |
| Current situation of parameter                | An important share of biogas plants counts with a connected toilet.<br>Evidence: Monitored                                                                                                         |
| Estimation of baseline situation of parameter | No improved sanitation facilities available. Evidence: BSP yearbook 2012, page 3, showing that toilets are constructed together with biogas plants, which shows that there were no toilets before. |
| Future target for parameter                   | Several 1,000 toilets constructed together with biogas plants improve                                                                                                                              |

|                   |        |                                                                                                                                                                                                                |
|-------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        | sanitation for households.                                                                                                                                                                                     |
| Way of monitoring | How    | In a representative survey, a dedicated monitoring team under responsibility of the CME will checked at randomly selected households of biogas users if toilets have been constructed as part of the digester. |
|                   | When   | At least biennial                                                                                                                                                                                              |
|                   | By who | Dedicated Monitoring team                                                                                                                                                                                      |

|                                               |        |                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No                                            |        | 05                                                                                                                                                                                                                                                                                                 |
| Indicator                                     |        | Access to affordable and clean energy services                                                                                                                                                                                                                                                     |
| Mitigation measure                            |        | N/A                                                                                                                                                                                                                                                                                                |
| <i>Repeat for each parameter</i>              |        |                                                                                                                                                                                                                                                                                                    |
| Chosen parameter                              |        | Number of biogas plants constructed and in operation.                                                                                                                                                                                                                                              |
| Current situation of parameter                |        | Many 1000s of households cook with clean biogas and do not have to buy or collect firewood. Evidence: Monitored                                                                                                                                                                                    |
| Estimation of baseline situation of parameter |        | Targeted households do not use clean energy; they cook with non renewable biomass. Evidence: Baseline description in the PoA-DD section E.4, describing baseline scenario.                                                                                                                         |
| Future target for parameter                   |        | Several 10,000s of households cook with clean biogas and do not have to buy or collect firewood.                                                                                                                                                                                                   |
| Way of monitoring                             | How    | Number of biogas plants constructed taken from central database. Operation of these plants checked on a random sample during monitoring, by a dedicated monitoring team under responsibility of the CME. Reports on possible measures of maintenance to assure a long lifetime of biogas digester. |
|                                               | When   | At least biennial                                                                                                                                                                                                                                                                                  |
|                                               | By who | Dedicated Monitoring team (see PDD)                                                                                                                                                                                                                                                                |

|                                               |  |                                                 |
|-----------------------------------------------|--|-------------------------------------------------|
| No                                            |  | 06                                              |
| Indicator                                     |  | Quantitative employment and income generation   |
| Mitigation measure                            |  | N/A                                             |
| <i>Repeat for each parameter</i>              |  |                                                 |
| Chosen parameter                              |  | Number of jobs created                          |
| Current situation of parameter                |  | Several 1,000 jobs created. Evidence: Monitored |
| Estimation of baseline situation of parameter |  | No project and therefore no jobs created.       |

|                             |        |                                                                           |
|-----------------------------|--------|---------------------------------------------------------------------------|
| Future target for parameter |        | Several 1,000 jobs created, mainly for masons constructing biogas plants. |
| Way of monitoring           | How    | Number of jobs created taken from BSP databases                           |
|                             | When   | At least biennial                                                         |
|                             | By who | Dedicated Monitoring team                                                 |

### Additional remarks monitoring

## SECTION H. Additionality, conservativeness, inclusion criteria and other deviations<sup>9</sup>



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

The choice of baseline follows CDM guidelines recognized under the GS. Additionality is described in section A.4.3 of the PoA-DD available under [http://cdm.unfccc.int/ProgrammeOfActivities/poa\\_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/view](http://cdm.unfccc.int/ProgrammeOfActivities/poa_db/7BSCYZMH2U05TWXFJKELND18PRQ96O/view)

How additionality will be assessed when including a new CPA is described under section A.4.2.2 of the PoA-DD.

[See Toolkit 2.3]

### H.2. Conservativeness

[See Toolkit 2.2]

### H.3 Other deviations from CDM documentation (if applicable)

## ANNEX 1 ODA declaration

[See Toolkit Annex D]

Non-diversion of ODA checked for CDM registration

<sup>9</sup> Only for CDM PoAs





## ANNEX D - OFFICIAL DEVELOPMENT ASSISTANCE DECLARATION

Date: 20 Oct 2014

The Gold Standard Foundation

79 Avenue Louis Casai

Geneva Cointrin, CH-1216

Switzerland

RE: Declaration of Non-Use of Official Development Assistance (ODA) by Project Owner of [GS 3110]  
["Nepal Biogas Support Program- PoA"]

[*Alternative Energy Promotion Center*]

As Project Owner of the above-referenced Project, and acting on behalf of all Project Participants, I now make the following representations:

[*Ram Prasad Dhital*]

I hereby declare that I am duly and fully authorized by the Project Owner of the above-referenced project to act on behalf of all Project Participants and make the following representations:

### I. The Gold Standard Documentation

I am familiar with the provisions of The Gold Standard Documentation relevant to ODA. I understand that the above-referenced Project is not eligible for Gold Standard registration if the Project receives or benefits from ODA with the condition that some, or all, of the carbon credits [CERs, ERUs, or VERs] coming out of the Project are transferred to the ODA donor country. I hereby expressly declare that no financing provided in connection with the above-referenced Project has come from or will come from ODA that has been or will be provided under the condition, whether express or implied, that any or all of the carbon credits issued as a result of the Project's operation will be transferred directly or indirectly to the country of origin of the ODA.

In the event the Project is a Programme of Activities where the CME is also implementing one or more Component Project Activities (CPAs) or Voluntary Project Activities (VPAs), I further acknowledge and understand that this Declaration is applicable to all of the CPAs/VPAs where the CME and the CPA/VPA implementing entity is the same.

### II. Duty to Notify Upon Discovery

If I learn or if I am given any reason to believe at any stage of project design or implementation that ODA has been used to support the development or implementation of the Project covered by this



Declaration, or that an entity providing ODA to the host country may at some point in the future benefit directly or indirectly from the carbon credits generated from the Project as a condition of investment, I will notify The Gold Standard immediately using the Amended ODA Declaration Form provided below.

### III. Investigation

The Gold Standard reserves the right to conduct an investigation into any project it reasonably believes may be receiving ODA with the condition that some or all of the carbon credits from the Project will be transferred to the ODA donor country.

### IV. Sanctions

I am fully aware that the sanctions identified in The Gold Standard Terms and Conditions may be applied to me or the above-referenced Project in the event that any of the information provided above is false or I fail to notify The Gold Standard of any changes to ODA in a timely manner.

I swear that all of the statements contained herein are true to the best of my knowledge.

Signed: \_\_\_\_\_

Name: Ram Prasad Dhital

Title: Executive Director

On behalf of: Alternative Energy Promotion Centre (AEPC)

Place: Khumaltar Lalitpur, Nepal

