



# DEVIATION REQUEST FORM

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PUBLICATION DATE **14.1.2021**

Version **4.0**

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## A. To be completed by Gold Standard

### 1 | Decision

**1.1 | Date** – 01/03/2022

#### **1.2 | Decision**

The applied deviation request is approved for the first crediting period. However, the Project Developer must:

1. Ensure that a minimum of 90% of the total thermal energy needs of the households shall be fulfilled by woodfuel.
2. Ensure that no shift from LPG to woodfuel shall take place in the project scenario due to the implementation of the project. If any shift is identified (during monitoring surveys) or the amount of LPG used in the project scenario and the baseline scenario turns out to be different, appropriate discounting in emission reduction calculations shall be made.
3. Document the deviation request, its implications, and GS' decision in the appropriate section of the GS PDD and Monitoring Report.

FAR for the validating and verifying VVB:

The validating/verifying VVB shall, through appropriate means at its disposal, evaluate the Project's compliance with the above-mentioned conditions and provide its opinion in the Validation/Verification Report.

SustainCert shall review both the PD's response and the VVB's assessment/opinion of the same and take appropriate steps.

**1.3 | Is this decision applicable to other project activities under similar circumstances?**

No

**B. To be completed by the Project Developer/Coordinating and Managing Entity and/or VVB requesting deviation** (Submit deviation request form in Microsoft Word format)

**2| Background information**

Deviation Reference Number	DEV_221	
Date of decision	01/03/2022	
Precedent (YES/NO)	No	
Precedent details	N/A	
Date of submission	06/02/2022	
Project/PoA/VPA	<input checked="" type="checkbox"/> Project	ID - GS7546
	<input type="checkbox"/> PoA	ID - GSXXXX
	<input type="checkbox"/> VPA	ID - GSXXXX
Project/PoA/VPA title	Cerrado Efficient Cookstoves	
Location of project/PoA/VPA	Host country Brazil	
Scale of the project/PoA/VPA	<input checked="" type="checkbox"/> Microscale <input type="checkbox"/> Small scale <input type="checkbox"/> Large scale	
Gold Standard Impact Registry link of the project/PoA/VPA	<a href="https://platform.sustain-cert.com/certification/projects/1805">https://platform.sustain-cert.com/certification/projects/1805</a>	
Status of the project/PoA/VPA	<input type="checkbox"/> New <input checked="" type="checkbox"/> Listed <input type="checkbox"/> Certified design <input type="checkbox"/> Certified project	
Title/subject of deviation	Request for application of Simplified Methodology for Efficient Cookstoves v 1.0	
Specify applicable rule/requirements/methodology and version number	Simplified Methodology for Efficient Cookstoves v 1.0	
Specify the monitoring period for which the request is valid (if applicable)	Start date	End date
Submitted by	Contact person name: Renata Valladares	
	Email ID: renata@perene.org.br	
	Organisation: Instituto Perene	
	Project participant: Yes <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
Validation and Verification body (VVB opinion shall be included, where required by the applicable rules/requirements)	Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>  If yes; VVB name:	

or request is submitted by the VVB).	Auditor name:
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### 3 | Deviation detail

#### 3.1 | Description of the deviation:

*\*Guidance\* Use the space below to describe the deviation and substantiate the reason for requesting deviation from applicable rules/requirements. Please include all relevant information in support of the request. You are requested to follow the principles for requesting deviations, given in the [Deviation Approval Procedure/ Design Change Requirements](#).*

##### 3.1.1 | Deviation detail (to be completed by Project developer):

PD requests permission to use Simplified Methodology for Efficient Cookstove for households using both wood and LPG since the LPG behavior is unchanged in the households as they switch from baseline to project wood cookstoves. The following questions were raised by Gold Standard upon initial review of the Deviation Request, and are answered by Instituto Perene, below.

**1. What are your expected emission reductions in a year?**

Expected emissions, as outlined in the PDD v5, are an average of 6,582 tCO<sub>2</sub>e per year. The project is microscale therefore in any given year emissions reductions are capped at 10,000 tCO<sub>2</sub>e.

**2. Would you be able to demonstrate that out of the total thermal energy need of the household, a minimum of 90% is fulfilled by woodfuel?**

Yes, this can be demonstrated based on the results of the Monitoring Surveys, which contain a series of questions regarding use of fuel, and the calculations presented below. The general calculation for determining percentage of thermal energy provided annually by woodfuel is:

$$\frac{\text{thermal units of wood consumed by HH}}{\text{thermal units of wood consumed by HH} + \text{thermal units of LPG consumed by HH}} \times 100\%$$

Where:

HH = household

thermal units of wood = average annual amount of wood consumed (kg) x thermal energy content of wood (MJ/kg)

thermal units of LPG = average annual amount of LPG consumed (kg) x thermal energy content of LPG (MJ/kg)

Based on values provided in the PDD and preliminary estimates, the *ex-ante* estimate is:

$$\text{Thermal units of wood} = 4000 \text{ kg} \times 14.4 \text{ MJ/kg} = 57,600 \text{ MJ}$$

Note: 4000 kg/household is the *ex-ante* baseline fuelwood consumption presented in the PDD v5 (rounded down to nearest thousand, in order to be conservative).

14.4 MJ/kg is the energy content of firewood, per FAO Wood Fuels Handbook, Table 3 <http://large.stanford.edu/courses/2017/ph240/timcheck1/docs/fao-krajnc-2015.pdf>

Thermal units of LPG = 3 cylinders x 13 kg LPG/cylinder x 46 MJ/kg LPG = 1794 MJ

Note: 3 cylinders per year is the preliminary estimate of LPG consumption among the project population.

46 MJ/kg is the standard thermal energy density of LPG.

<http://www.world-nuclear.org/information-library/facts-and-figures/heat-values-of-various-fuels.aspx>

$$\% \text{ thermal energy need provided by wood} = \frac{57,600 \text{ MJ}}{57,600 \text{ MJ} + 1,794 \text{ MJ}} \times 100\% = 97\%$$

3. Are you expecting the households to shift from LPG to woodfuel due to the implementation of the project? How will you make sure that shift is not taking place?

No, we do not expect households to shift from LPG to woodfuel. The reason is that cooking domestic meals with woodfuel on daily basis is an extremely time-consuming and arduous task, even when an improved biomass stove is used. The LPG stove is vastly more efficient, quick and easy to use. Therefore, for quick meal preparation, such as the traditional coffee in the morning and reheating of cooked foods, it is not worth the time and effort to light up the wood-burning stove. Based on ten years of monitoring in GS832, GS1028 and GS6050, the LPG use remains constant as this fuel stacking behavior is an intrinsic part of household energy consumption patterns.

The means to monitor if a shift is taking place will be the annual Monitoring Surveys, as explained further below in the response to question 4.

Brazil has universal access to LPG distribution networks and IBGE data shows that over 96% of households own an LPG stove (2015). The data is presented in Brazil's Sustainable Development Goal 7, indicator 7-1-2 <https://odsbrasil.gov.br/objetivo7/indicador712#>



Indicador 7.1.2 - Percentagem da população com acesso primário a combustíveis e tecnologias limpos

Ficha Metodológica | Dados | Análise Geográfica

Para explorar os dados disponíveis [clique aqui](#).

Indicador 7.1.2 - Proporção da população com dependência primária em combustíveis e tecnologia limpos - Brasil - 2011-2015		
Ano	(%)	
2011	95.5	
2012	95.7	
2013	96.0	
2014	96.8	
2015	96.1	

Fonte: IBGE, Pesquisa Nacional por Amostra de Domicílio

[Download](#) [Dados](#)

The price of the LPG fuel, however, is the main barrier and leads to high wood consumption among low-income populations. Monitoring surveys of similar Instituto Perene projects in Brazil (GS832, GS1028 and GS6050) show the continued use of the secondary fuel, LPG (90-100% of all households). The sampled households follow their usual pattern of use of secondary fuel (LPG, in this case).

The deviation complies with the methodology as it is the woodfuel consumption that is modified by substitution of the rudimentary, open-air fire (baseline stove), by the improved technology, (project stove). In this situation, LPG is characterized as “subsumed fuel” meaning that its pattern of use does not change. “Subsumed” is a concept explained in the document Methodology for Improved Cook-stoves and Kitchen Regimes V.02 – 08/02/2010

*A subsumed-fuel KT is one which ensures the sampled households follow their usual pattern of use of secondary fuels (for example gas cooking for very light and quick meals such as breakfasts) while measuring only primary fuel consumption for the old and new stove. From: [https://www.goldstandard.org/sites/default/files/v02\\_08-02-10\\_gs\\_cook-stove\\_methodology.pdf](https://www.goldstandard.org/sites/default/files/v02_08-02-10_gs_cook-stove_methodology.pdf)*

All three previous projects have successfully and conservatively applied the Simplified methodology GS832, GS1028 and GS6050.

Objective Observer confirmed this situation is report (attached). From OO report:

*The baseline is still relevant (main fuel is firewood, LPG is used as secondary fuel for re-heat meals or prepare coffe in the morning. The generalized feeling of population interviewed is LPG is still unaffordable to permanently cook with it, an 7-9 kg tanks last 3-5 months). – OO Report, page 3*

*Vast majority of the ICS users reported the use of LPG as secondary fuel. All the users confirmed the limited use of this this fuel explained re-heating meals or preparing coffee in the morning. Also all confirmed LPG is not affordable to cook everything daily, for example, feijoada (beans) that require a lot of time. – OO report, page 23*

**4. How will you monitor the amount of LPG used in the project scenario and ascertain that the LPG usage remains the same between the baseline and project scenario?**

Further questions and information is presented below on the monitoring of LPG use throughout the project duration.

As is reported by the Objective Observer, and documented in Monitoring Reports, the pattern of use is maintained by participating households. The Monitoring Surveys include detailed questions regarding LPG consumption, including:

1. Do you use a gas stove? Yes/No
2. Frequency of gas stove use? Daily, 1-2 times per week, 3-4 times per week, seldom
3. What fuel do you use to cook beans? Gas/Wood
4. For what types of food do you use gas stove? All types of food / Select foods
5. If Select foods, describe.
6. How long does a Cylinder (standard 13kg) of LPG last?
7. How much does a Cylinder cost?

Below is a screenshot of the relevant section of the Monitoring Survey, in the original Portuguese:

The screenshot shows a vertical list of six survey questions in Portuguese. Each question is preceded by a small icon: a checked box, a list icon, a list icon, a list icon with a dropdown arrow, a list icon, and a number '123' in a box. The questions are:

- Usa Gas de Botijão?
- Frequência de uso do fogão a gás
- Para que usa o fogão a gás?
- Usa o fogão a gas para cozinhar...
- Quanto tempo dura um Botijão?
- Quanto custa o Botijão?

These questions enable the identification of exceptional households that may undergo a change in fuel behavior since the project inception. For example, in some instances household income may undergo a significant increase due to a member obtaining a salaried job. Although this is rare in rural Brazil, it is possible. Often in these cases, the household shifts to using only LPG or using primarily LPG. This is easily identified in the Monitoring Surveys through the fuel questions. For example, a household that responds to cooking beans on “gas”, would be counted as a drop-off household, and the Usage Rate would be discounted proportionally.

In answer to the concern raised about participating households moving in the opposite direction, away from LPG, these questions also serve to identify a trend away from LPG and further towards wood. Aggregating the responses to the above questions gives an annual measure of fuel stacking behavior and enables the identification of changes. Below is an excerpt of the table of Monitoring Surveys results from VER II GS6050:

<b>Do you use a gas stove?</b>	Yes	95%
	No	5%
<b>Frequency of gas stove use</b>	Daily	92%
	3-4 times per week	1%
	Rarely	1%

The baseline will establish the percentage of LPG usage among project participants and this will be compared annually to the responses from the Monitoring Surveys.

These questions have successfully and conservatively been used in the Monitoring Surveys of GS832, GS1028 and GS6050, which apply the Simplified Methodology for Efficient Cookstoves v 1.0, and together have completed eight Verifications.



**5. How are you going to determine the annual quantity of primary baseline fuel consumed in the baseline scenario? How will you adjust it for the usage of LPG, if required?**

As described in the PDD v5 Section B.4 Establishment and description of baseline scenario:

The Baseline fuel consumption will be determined according to Option b. Survey of local usage of the methodology, as described on p. 7 p of the Gold Standard Simplified Methodology for Efficient Cookstoves

For option (b), a survey is to be carried out amongst the end users to determine baseline firewood consumption prior to implementation of the project activity. The survey should be conducted following simple random sampling approach and the minimum sample size should be determined as per the guidelines below;

- Project target population < 300: Minimum sample size 30
- Project target population 300 to 1000: Minimum sample size 10% of group size
- Project target population > 1000 Minimum sample size 100

A sample survey questionnaire is provided in Annex A. This provides a guide to what type of information needs to be collected throughout the surveys.

Below is an excerpt from Annex A of the methodology, with the relevant fuels highlighted.

II. End User's fuel consumption pattern prior to the project implementation				
a.	Cooking device	Primary	Secondary	Other
b.	Place for cooking	Indoor	Open	Semi-open
c.	Type of fuel used	Yes/No	Quantity	Unit
	Wood			kg/month or year
	LPG			kg or Cylinders/ month or year
	Kerosene			liters/ month or year
	Charcoal			kg/month or year
	Coal			kg/month or year
	Electricity			kWh/ month or year
	Other fuels			kg or liters or m <sup>3</sup> /month or year

Should the annual Monitoring Surveys demonstrate that LPG use is decreasing due to the project (again, this scenario is highly unlikely for the reasons described earlier and has not occurred in over ten years of monitoring in similar projects throughout rural Brazil), then a proportional amount of emissions reductions will be reduced. This is similar in concept to the current practice of discounting emissions reductions for baseline stove use. Note: the Baseline Study will be submitted in time for Verification 1, in accordance with Forward Action Request # 1 and # 2.

3.1.2 | VVB opinion (to be completed by VVB, if applicable):

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### 3.2 | Assessment of the deviation:

*\*Guidance\* Use the space below to describe how the deviation complies with the requirements, and, where applicable, the accuracy, completeness and conservativeness is ensured. Please include all relevant information in support of the request.*

#### 3.2.1 | Deviation assessment (to be completed by Project developer):

Environmental integrity: this deviation requests is conservative, as no additional impacts are generated by applying the Simplified Methodology. As explained above, households which are detected through the Monitoring process to no longer use fuelwood as primary fuel, are quantified in the drop-off rate and reduce proportionally the emission reductions achieved in the Monitoring Period. Therefore conservativeness is maintained.

– Contribution to the Sustainable Development Goals (SDGs): SDG contributions are not compromised. The Monitoring process ensures that the SDGs impacts are conservatively calculated. For example, as described in the PDD, Section B.7.1. Data and parameters to be monitored, the calculation for the following parameters include the Usage Rate, which is comprised only of households who maintain fuelwood as the primary cooking fuel of the household, as determined by the Monitoring process:

SDG 1 No Poverty – the parameter is “Number of households benefitting by owning an efficient cookstove for each year of operation of the project.”

SDG 3 Good Health and Well-Being – the parameter is “Percentage of HH reporting improvement in household air quality and reduction in health and hygiene problems.

SDG 13 – emissions reductions calculation includes the aforementioned Usage Rate, specifying the adoption rate of the project stoves by project participants and decreasing the ER calculations accordingly.

– Safeguarding principles and requirements: Safeguarding principles and requirements of GS4GG, as outlined by the PDD, are not adversely affected by the application of the methodology.

– Compliance with host country regulations: This project does not conflict with host country regulations in any way.

#### 3.2.2 | VVB opinion (to be completed by VVB, if applicable):

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### 3.3 | Impact of the deviation:

*\*Guidance\* Use the space below to describe the impact of the deviation on project design, safeguarding principles assessment, SDG assessment, emissions reductions, monitoring frequency, data quality, potential risk or any other relevant aspect of the project. Please substantiate the impact assessment with relevant and verifiable data/information.*

#### 3.3.1 | Impact assessment (to be completed by Project developer):

The deviation will not impact emissions reductions or have other SDG impacts. The monitoring frequency, data quality and potential risk are unchanged. This approach has been approved by GS and applied by Instituto Perene in projects GS832, GS1028 and GS6050. The fuel stacking behavior of the low-income, rural households in Brazil has been shown over thousands of monitoring surveys and over the course of 10 years to remain unchanged with the adoption of the project stove, with LPG use remaining constant as measured and reported annually via monitoring survey results.

#### 3.3.2 | VVB opinion (to be completed by VVB, if applicable ):

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### 3.4 | Documents:

*\*Guidance\* List of documents provided (note that once a decision has been made by Gold Standard, this deviation form along with supporting documents will be made public on the Gold Standard website. If any of the supporting documents are confidential, please indicate here to ensure they are omitted.)*

Objective Observer Report for GS1028 (similar project in terms of target low-income, rural population, microscale, with same monitoring methodology and project technology).