

TEMPLATE

DEVIATION REQUEST FORM

PUBLICATION DATE **11.04.2021**

Version **5.0**

A. To be completed by Gold Standard

1| Decision

1.1 | Date – 05/09/2023

1.2 | Decision

Thanks for submitting the deviation request. The request is conditionally approved.

As mentioned in the para 3 of AMS III BL V1.0, "This methodology is applicable in situations where consumers that were not connected to a national/regional grid, prior to project implementation are supplied with electricity generated from the project activity. It is also applicable in situations where a fraction of consumers that were supplied with electricity from a fossil based individual energy system or fossil fuel based mini-grid prior to the implementation of the project, are supplied with electricity from the project activity (e.g. moving from carbon intensive mini-grid to less carbon intensive grid or mini grid)"

The methodology AMS III BL does not define how to handle cases where a consumer is connected to a national/regional power grid and the grid is available for less than 12 hours per day on average annually. The Secretariat would like to clarify that in such cases, the project developer may follow the provisions outlined in Methodological Tool: Demonstrating Additionality of Microscale Project Activities Version 06.0, paragraph 8b, and Small-scale Methodology: AMS IIIAR Substituting Fossil Fuel-based

Lighting with LED/CFL Lighting Systems V7.0, paragraph 27. Therefore, the applicability requirement of AMS IIIBL, as stated in paragraph 3, may include situations where consumers connected to a national/regional grid have less than 12 hours of grid availability per day on average annually, as justified using publicly available evidence.

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

Yes

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_444	
Date of decision	05/09/2023	
Precedent (YES/NO)	Yes	
Precedent details	No	
Date of submission	12/12/2022	
Project/PoA/VPA	Project	
	<input checked="" type="checkbox"/> PoA	ID – GS11598
	<input checked="" type="checkbox"/> VPA	ID – GS11600
Project/PoA/VPA title	Distributed Emission Reductions by Bboxx Energy Solutions	
Date of listing	TBD	
GS Standard version applicable	1.2	
Date of transition to GS4GG (if applicable)	N/A	
Date of transition to Gold Standard from another standard (e.g. CDM) (if applicable)	N/A	
Date of design certification/inclusion (if applicable)	N/A	
Location of project/PoA/VPA	Burkina Faso, Democratic Republic of the Congo (DRC), Kenya, Nigeria, Rwanda and Togo	
Scale of the project/PoA/VPA	<input type="checkbox"/> Microscale <input checked="" type="checkbox"/> Small scale <input type="checkbox"/> Large scale	
Gold Standard Impact Registry link of the project/PoA/VPA	GS11598 PoA / GS11600 VPA	
Status of the project/PoA/VPA	<input checked="" type="checkbox"/> New <input type="checkbox"/> Listed <input type="checkbox"/> Certified design <input type="checkbox"/> Certified project	
Title/subject of deviation	Request deviation of the eligibility and applicability conditions of electrical connectivity to the grid of the methodology: CDM AMS.III-BL Version 1.0	
Specify applicable rule/requirements/methodology,	Eligibility for small-scale CDM meths (AMS) CDM Integrated methodology for electrification of communities Ver 1.0, Section 2.2	

with exact paragraph reference and version number	applicability Paragraph 3
Specify the monitoring period for which the request is valid (if applicable)	Start date 01/04/2021 End date 31/03/2026
Submitted by	<div>Contact person name: Norio Suzuki – Focal Point CME Email ID: n.suzuki@bboxx.co.uk</div> <div>Organisation: Bboxx Ltd</div> <div>Project participant: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></div>
Validation and Verification body (VVB opinion shall be included, where required by the applicable rules/requirements or request is submitted by the VVB).	<div>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></div> <div>If yes; VVB name:</div> <div>VVB Staff name(s):</div>
Any previous deviations approved for the same project activity/PoA/VPA(s)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

3| Deviation detail

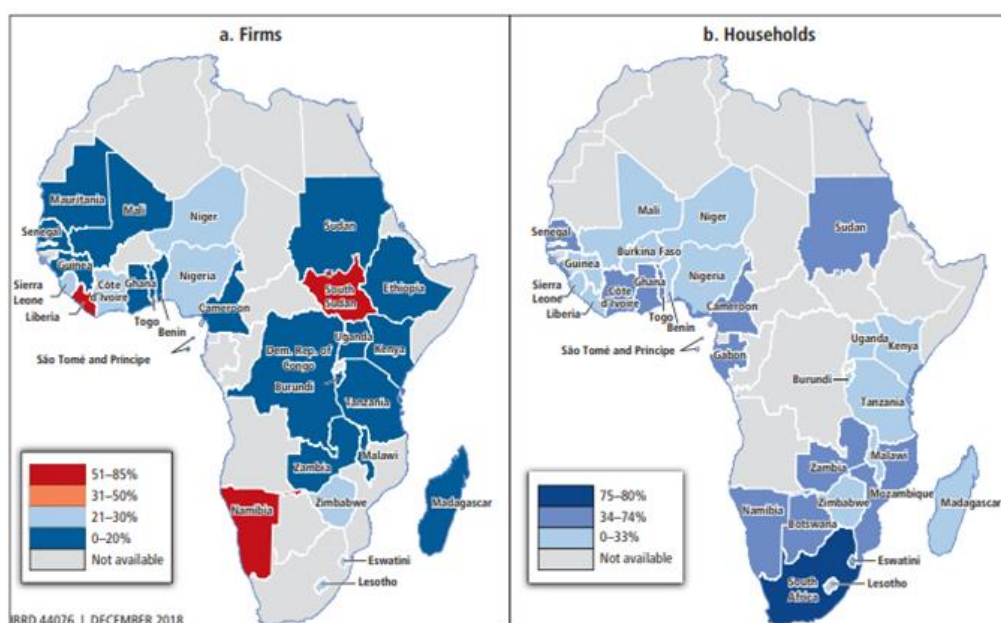
3.1 | Description of the deviation:

3.1.1 | Deviation detail:

Bboxx Ltd is developing the Gold Standard PoA (GS11598) using the Small-scale Methodology AMS-III.BL Integrated methodology for electrification of communities V1.0. This Program of Activities aims to provide affordable, reliable, renewable, and clean energy services to the urban and rural populations in Burkina Faso, the Democratic Republic of the Congo, Kenya, Nigeria, Rwanda, Togo, and potentially other Sub-Saharan African countries. Specifically, the project distributes innovative Solar Home Systems to switch to off-grid renewable solar power from kerosene, diesel, and gas in lighting and other energy services. The project mainly will provide to the end users who are not national grid connected. In many cases, the conditions of users that have access to the grid living without the services face the same condition that the population in an off-grid situation. For example, the share of households that live near the electric grid but that are not connected is high, with a median uptake of only 57 percent for 20 countries in the region (World Bank Group "Electricity Access in Sub-Saharan Africa Uptake, Reliability, and Complementary Factors for Economic Impact," 2019).

The same study, in the Sectoral Electricity assessment in the Sub-Sahara African Countries, found that the reliability of electricity is a major supply constraint in Africa. More than two-thirds of economic activities experience electricity outages, directly affecting domestic, commercial, or industrial activities. The share of households with reliable access is fewer than two-thirds of households. In many countries, more than 50 percent of connected households reported receiving electricity supply not more than 50 percent of the time.

Figure 1. Access to Reliable Electricity by Firms and Households



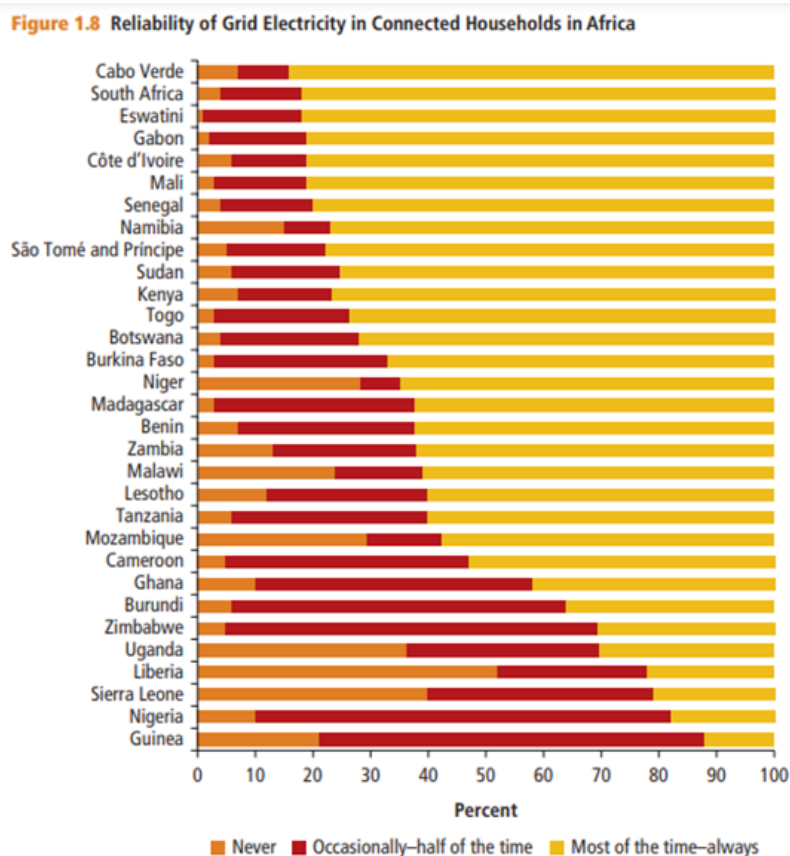
Sources: Firm data from Enterprise Surveys 2013–17; household data from Afrobarometer surveys 2014/15.

Note: Panel a (firms) is derived from the World Bank Enterprise Surveys data portal that reports the share of responding firms reporting electricity outages. The figure represents the complementary percentage (that is, 100 percent minus the percentage from the portal). Panel b (households) shows the share of households that receive electricity supply most of the time.

Source: Firm data from Enterprise Surveys 2013–17; household data from Afrobarometer surveys 2014/15, Electricity Access in Sub-Saharan Africa Uptake, Reliability, and Complementary Factors for Economic Impact, 2019

Figure 2 below shows the proportion of the grid-connected households having unreliable electricity services. Also, although the electricity supplied to households might be sufficient to power a lightbulb, the capacity is insufficient to power a fan or refrigerator. Therefore, the users facing unreliable conditions have similar challenges as the off-grid users.

Figure 2. Reliability of Grid Electricity in Connected Households in Africa



Source: Afrobarometer data 2014/15, Electricity Access in Sub-Saharan Africa Uptake, Reliability, and Complementary Factors for Economic Impact, 2019

Access to electricity in the countries targeted by the PoA is still scarce or with problems of unreliable connections; if grid access was used entirely for household lighting, it would hardly be enough to light a light bulb per person for six hours a day.¹

As another example, data of MINIFRA (Ministry of Infrastructure) of Rwanda shows following:

The average annual cost of each connected customer is around \$50. Currently this would require a consumer to use approximately 130KWh per month to fund a new

¹ Africa Infrastructure Knowledge Program, African Development Bank Group, <https://infrastructureafrica.opendataforafrica.org/kquobdg/africa-s-chronic-power-problems-have-escalated-into-a-crisis-affecting-30-countries-this-tolls-heavy>

connection, whilst in reality roughly half of consumers are using less than 20KWh per month. (ENERGY SECTOR STRATEGIC PLAN, 2017/18 Section 2.1.2 Page 20)

Based on Bboxx data records in Rwanda, we have found that end-users who have access to the grid for less than 12 hours per day consume approximately 35wh per day or 1.0 KWh per month. This is significantly lower than the data provided by MINIFRA and indicates that their power consumption pattern is quite distinct from those who have reliable grid access. In fact, it is almost like the consumption patterns of our customers who do not have any grid access at all. Therefore, we believe there are other reason that customers who have weak grid access should be treated similarly to those who have no access at all.

Taking into consideration the previous, the project developers are requesting the approval of the deviation of applicability conditions of the Methodology AMS. III-BL, version 1.0 to consider as eligible users the households with grid connection, when the electricity service is available less than 12 hours per day on an annual basis.

3.1.2 | VVB opinion:

3.2 | Assessment of the deviation:

3.2.1 | Deviation assessment:

The applicability condition of the methodology determines the following:

“This methodology is applicable in situations where consumers that were not connected to a national/regional grid prior to project implementation, are supplied with electricity generated from the project activity”

The project developer requests a permanent deviation of the applicable methodology to consider the users that are grid-connected or live within the range of the electricity grid, but effectively do not have electricity due to extreme instability manifested as no grid electricity availability for a minimum of 12 hours per day (based on the average over the year).

This deviation will allow to include some potential users in the countries of the project boundary that need reliable electric service. The project developers seek a deviation to ensure that:

- Users with unreliable service are not forced to solve their energy deficit with unsafe, unhealthy, and non-environmentally sound practices (i.e., fossil fuel power generators or fossil fuels lighting or wood energy).
- The off-grid electrification systems with quality and reliability offered by the PoA will contribute to enhancing the economic capabilities of communities as the best way to achieve faster and sustainable development progress (World Bank, 2019).
- The productive uses of off-grid solutions will provide capacity and support to income generation and reduce the inequity between populations, especially in deprived areas.

Furthermore, the criteria of "less than 12 hours grid availability per day" has been considered equivalent to no grid connection in the context of the CDM:

1. AMS.III.AR V7.0 Substituting fossil fuel-based lighting with LED/CFL lighting systems, Para 27, *"the project activity is for off-grid households/communities (defined as no grid access or less than 12 hours grid availability per day on an annual average basis)"*
2. Methodological tool 19 V9.0 Demonstration of additionality of microscale project activities Para 11. (b) *"The project activity is an off-grid activity supplying energy to households/communities (less than 12 hours' grid availability per 24 hours is also considered "off-grid" for this assessment)."*

Bboxx Ltd kindly requests that Gold Standard consider the following new text of the Methodology applicability condition for the PoA GS11598:

2.2. Applicability

3. This methodology is applicable in situations where consumers that were not connected to a national/regional grid (defined as no grid access or less than 12 hours grid availability per day on an annual average basis), prior to project implementation are supplied with electricity generated from the project activity.

5.2.1. Step 1. Classification of consumers

20. The baseline scenario is determined by the type of consumer.

(a) Type I – consumers who were not connected to a national/regional grid (defined as no grid access or less than 12 hours grid availability per day on an annual average basis) or a mini-grid prior to the project implementation and who consume less than 500 kWh per year.

Bboxx Ltd also clarifies that the POA does not consider the AMS.III-BL methodology case of switching or moving from carbon intensive to less carbon intensive as a result of changing individual fossil fuel energy systems (power generators) to another electricity system different from solar systems. The PoA activities applying the AMS.III-BL methodology will only include Solar Home System powered by Solar Panels as the project technology. Please see Section A.3. POA.

3.2.2 | VVB opinion:

Not applicable

3.3 | Impact of the deviation:

3.3.1 | Impact assessment:

Impact on Project Design

The deviation request does not include changes on project design, type of technologies, scopes of work or project boundaries. The population target keeps the same (urban and rural population), with the same methodology defined on the POA document.

Impact on SGDs and Safeguarding Principles

The new project conditions will include a portion of the population that, although they have the opportunity for electricity services, face similar conditions to an off-grid population. This population would be excluded from the programs that could collaborate to improve their quality of life and prevent the users from applying unsafe, unhealthy, and non-environmentally sound practices to cover the energy deficit in all activities.

The deviation does not impact Safeguarding Principles, considering there are no changes on project activity scopes and types of activities. Furthermore, the solar home systems technologies that have the potential for generating hazardous waste in terms of e-waste, are controlled by the CME through waste management and disposal programs applicable for all activities in all areas of implementation.

Impacts on Emission Reduction

Considering that the methodology deviation will allow additional users, the amount of emission reduction will increase in gross terms but will keep the same reduction proportion by installed unit and technology type. The additional units will enable project developers to improve the net benefits for users that without the deviation would be excluded.

Impacts on Monitoring Procedures.

The CME during project implementation will record the exact number of consumers by type and project technology with no grid access or less than 12 hours of grid availability per day as part of the monitoring plan. Therefore, no additional or specific measures should be necessary to consider.

3.3.2 | VVB opinion:

Not applicable

3.4 | Documents:

- Electricity Access in Sub-Saharan Africa, Uptake, Reliability, and Complementary Factors for Economic Impact, Moussa P. Blimpo and Malcolm Cosgrove-Davies, 2019, AFD (Agence Française de Développement) and World Bank Group.pdf
- Energy Sector Strategic Plan 2013/14-2017/18, Republic of Rwanda, 2015, Ministry of Infrastructure.pdf
- AMS.III.AR Substituting fossil fuel-based lighting with LED/CFL lighting systems, small scale, version 7.0, available on:
<https://cdm.unfccc.int/methodologies/DB/1FNBU7JOWRVOD57O4B2OYCL1WE3M7Z>
- Methodological tool 19 Demonstration of additionality of microscale project activities, version 9.0, available on:
https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-19-v1.pdf/history_view
- AMS-III.BL Integrated methodology for electrification of communities, version 1.0, available on:
<https://cdm.unfccc.int/methodologies/DB/XJQ7APPRHQL06VSC3161I5Q8MCMNQ>
- Deviation Approval Requirements and Procedures, Gold Standard, version 1.2.pdf

Version number	Release date	Description
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5	11.04.2022	<p>Additional information added:</p> <ul style="list-style-type: none"> - date of listing, design certification, transition - standard version - specific reference to a requirement deviated from - any previous deviations/design changes approved <p>Guidance on VVB opinion</p>
4	14.01.2021	
3	16.07.2020	
2	03.05.2018	
1	01.07.2017	Initial adoption