GS ID (s)	GS11936
Title of Project	Solar power for rural Regions in Nigeria
Name of VVB	Carbon Check (India) Private Limited
Date and version of the report	version 01.1 dated 06/11/2023
Version number and date of the PDD applicable to this validation report	Version 3.1, dated 05/12/2023
Coordinating/Managing entity (CME)	atmosfair gGmbH
Host Country	Nigeria
Applied methodologies and standardized baselines	CDM Methodology: AMS-I.F.: Renewable electricity generation for captive use and mini-grid --- Version 05.0
Mandatory sectoral scopes	01
Type(s) of Design Change	☐ Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents. ☐ Corrections ☐ Changes to the start date of the crediting period ☐ Inclusion of monitoring plan ☒ Permanent changes ☐ Changes to the project design ☐ Changes specific to afforestation and reforestation activities
Assessment Team	Team Leader/ Technical Expert: Rishi K Raychoudhury Trainee Assessor: J Jeni Miraclin Nifiya Local expert: Toyin Timothy O Technical Reviewer: Indumathi C
Name, position, and signature of the approver of the validation report	Priya Suman Priya Suman, Compliance Officer

SECTION A. Executive summary

The Project Developer (PD) has appointed Carbon Check (India) Private Ltd. (CCIPL) on 20/09/2023 /09/, to perform the validation of the Design Changes to the project activity "Solar Power for rural Regions in Nigeria" herein referred to as Project activity.

The term "UNFCCC criteria" refers to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM Executive Board. The independent Validation by the VVB is required to confirm the Design changes of the project activity. This report summarises the Design changes of the project with respect to requirements of GS Design Change Requirements (version 1.0) /08-a/ and VVS for PAs, version 03.0 /07-a/. This report contains the findings and resolutions from the validation and a validation opinion.

The project activity consists of interconnected mini grid that will offer power at a lower cost than running a diesel or petrol generators to access power. Some installed PV mini grids will be using the national grid and /or diesel generators sets as backup system and other PV mini grids are independent of the national grid and /or diesel generators sets. The interconnected mini grids will support the economic development of the community as businesses will be able to power their operations and run productive uses of energy.

Scope:

The scope of the Design change validation is defined as an independent and objective review of the revised PDD /01/ which include corrections to the registered PDD /11/.

Validation methodology and process

The validation has been performed as described in the GS Design Change Requirements (version 1.0) /08-a/ and VVS for PAs, version 03.0 /07-a/ and constitutes the following steps:

- Review of the Registered PDD /11/.
- Review of the revised PDD (version 3.0; Dated 06/09/2023) /01/
- Desk review of relevant documents.
- Interview with representatives of the project activity

Conclusion

This report is the assessment opinion of the proposed Design Change in the revised PDD /01/. The validation team confirms that the proposed changes to the PDD /01/ are in compliance with the GS Design change requirements /08-a/ Also, the proposed changes meet all relevant requirements of UNFCCC CDM validation and verification for project activities, version 3.0, CDM Project Standard for project activities /07/.

Section B. Means of validation

B.1. Document review

The validation was performed primarily based on the review of the revised PDD /01/ and the supporting documentation. This process included review of data and information presented to

verify their completeness and review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

B.2. On-site inspection

No on-site visit was conducted. Validation team has checked the site visit requirements mentioned in GS requirements and concluded to not conduct a site visit for the validation as per paragraph 3.2 of the Site visit and Remote Audit requirements and procedures, version 2.0. Desk review of the submitted revised PDD (version 3.0, dated 06/09/2023) /01/ and supportive evidence was done by the validation team. Validation team conducted remote interviews with the VVB representatives on different topics as mentioned in section B.3 below.

B.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Erdmann	Nele	atmosfair gGmbH	07/11/2023	Discussion on the revised PDD and the proposed Design change	Rishi K Raychoudhury J Jeni Miraclin Nifiya

SECTION C. Validation findings

C.1. Details of proposed design change

The Project Developer proposes the following design changes in the project:

In the initial project, the project is focused on the Toto region in Nasarawa State, and refurbished and inactive distribution grid, installed a 350kWp photovoltaic (PV) solar plant, 700kWh of battery storage, and 500kVA diesel backup generator. The result is a 24/7 power availability, simulating local economic development and offering cost-effective, clean electricity to over 2,000 customers.
Atmosfair gGmbH, in collaboration with local partners, aims to expand its efforts in rural electrification in Nigeria which is also considered in the design certified PDD.
As part of this expansion, the PD intends to include areas currently relying on the national grid in the baseline within the project scope.
This design change to include a different baseline scenario is rooted in several compelling reasons:

1. Existing Energy Deficit: Numerous regions across Nigeria presently contend with significant electricity shortages from the national grid. PD will conduct an assessment of the existing demand, viability, and feasibility for the prospective area and take appropriate action to address these issues. As an example, consider the Park Road area in Akwa Ibom State, which represents a potential expansion zone. A daily peak load is recorded by the Abuja Disco to indicate peak load and supply to the street, as it is shown in the Fig.1, the Park Road area experiences 13 hours outage. This locality presently grapples with extensive electricity shortages from the national grid, where daily outages surpass 50% of the available hours. This

critical situation emphasizes the pressing demand for a dependable and continuous electricity supply.

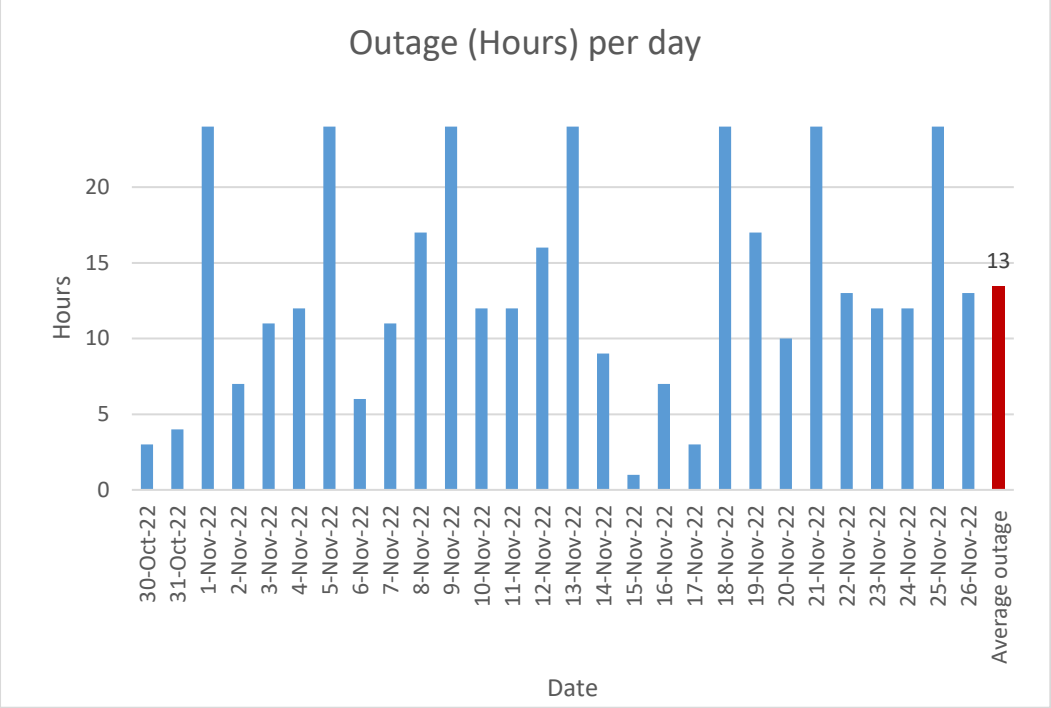

Figure 1: Outage profile in ParkRoad area

2. Economic Potential: Possible project expansions encompass the incorporation of a commercial and industrial hub alongside residential zones. The extension of the mini-grid initiative has the potential to stimulate economic development, entice enterprises, and improve the quality of life for the local populace by mitigating the energy shortfall. Moreover, it is crucial to acknowledge that recurrent power interruptions have a substantial impact on the daily routines of individuals, and this expansion of the project can play a vital role in offering essential support to the community in addressing this issue.

The following permanent changes in the PDD are required:

This strategic move addresses the pressing need for improved electricity access in the region and will inevitably have implications for the applicability (section B2 of the PDD), the additionality (section B5 of the PDD) and calculation methods of baseline emissions (section B6.2 and B6.3 of the PDD).
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Change in section B2:
The additional mini-grid(s), adhering to applicability requirement 2.2.4[1] in the CDM methodology "AMS-I.F. Renewable electricity generation for captive use and mini-grid version 5.0", involves a capacity addition, in so far that the Greenfield plant is connected to an existing national grid source, while in the initial phase the project scope is only limited to the Greenfield plant. This adjustment to the project scope necessitates a revaluation of emissions and emissions reduction calculations.
Design changes will be made to the applicability requirements 2.2.4:

[1] Project displaces grid electricity consumption and/or captive fossil fuel electricity generation at the user end.

2.2.4 The new hybrid mini-grid supplies electricity to a mini-grid system where in the Baseline all generators would use exclusively diesel fuel or displaces grid electricity consumption and/or captive fossil fuel electricity generation at the user end.
The project type will be expanded according to requirements 2.2.4.
For emission reduction, the paragraph 5.2.21 will be added to determine the emission factor for grid emission.

Change in section B5:
The description of additionality will be slightly changed. “It will significantly improve access to electricity for the local communities, households and SMEs, which had no or insufficient electricity supply beforehand or since over 2 years.

Change in section B6.2:
The grid emission factor is included as an ex ante parameter.

Change in section B6.3:
For emission reduction, the paragraph 5.2.21 will be added to determine the emission factor for grid emission.
“Baseline emissions for other systems are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.”
Following sentences will be added:
In the case where the project baseline includes electricity supply through the national grid, the emission factor used will be 0.573 tCO2/MWh for the share of electricity provided by the national grid. The calculation for a 100% share of national grid in the baseline, would look as follow:

$$BE_y = EG_{BL,y} \times EF_{CO2,y} = 10853 \times 0.573 = 6218\ t\ CO2$$

The project portfolio included within the PDD and such the share of projects which are replacing exclusively diesel fuel and the share of the ones displacing national grid electricity is not known yet. So for the estimated emission reduction declared within the PDD we decided to use the case with the highest baseline emissions, which would be that all projects are replacing exclusively diesel fuel.

C.2. VVB Assessment

PD has submitted the facility agreement /04/ to confirm the ownership of the project and VVB has confirmed the ownership for the first interconnected Min-grid as per paragraph 12 of the facility agreement /04/ initially established the project which is focused on the Toto region in Nasarawa State, and installed a 350kWp photovoltaic solar plant, 700kWh of battery storage and 500kVA diesel backup generator. And as a result, PD has supplied a 24/7 power availability, stimulated local economic development and offering cost-effective, clean electricity to over 2000 customers. Also, now PD aims to expand its rural electrification in Nigeria. As a result of this the areas currently relying on the National grid in the baseline within the project scope is included in the project scope.

PD has found that there are numerous region across Nigeria that have electricity shortage from the National grid. PD has conducted an assessment of the existing demand, viability and feasibility for the prospective area and has submitted an example for Park Road area in Akwa Ibom State, which is included in the expansion zone. The energy demand and estimated daily electricity consumption of 37 customers and 2 schools is recorded has been submitted to VVB /06/ and also a excel file which contains the outage profile /05/ and confirms that the Park area experiences 13 hours outage. The data was collected between 22nd February to 16th March 2021 and also confirms that the Park Road receives electricity for a duration averaging of 5 hours/days where the daily outages surpass 50% of the available

hour. The documents were verified and the same has been confirmed by VVB which emphasizes the demand for electricity supply.

The design change also impacts on Economic potential of project as it encompasses the incorporation of commercial and industrial hub alongside residential zones. PD has mentioned that the extension of the project will stimulate economic development, entice enterprises and improve the quality of life for the local populace by mitigating the energy shortfall. VVB has also confirmed that project can play a vital role in offering the essential support to the community through the means of interview.

As per the paragraph 2.2.4 of the CDM Methodology AMS-I.F, version 5.0 "*The new hybrid mini-grid supplies electricity to a mini-grid system where in the Baseline all generators would use exclusively diesel fuel or displaces grid electricity consumption and/or captive fossil fuel electricity generation at the user end.*" Due to the additional mini-grids, adjustment to the project scope and the calculation of emissions reductions has occurred and the same is verified by the VVB. The project scope is expanded as per paragraph 2.2.4 of AMS-I.F, version 5.0 and the emission reduction is determined as per paragraph 5.2.21 which includes the determination of emission factor for grid. The value of the EF $CO_{2,y}$ is 0.573 which has been obtained from the IGES_GRID_EF_v11.1_20230318 /10/ used for the calculation baseline emission which is the latest version 11.1 updated up to February 2023 and the same is confirmed by the VVB. Also, baseline includes electricity supply through national grid. PP has mentioned the calculation for 100% share of national grid in the baseline as 6218 tCO_2 in the revised PDD /01/. VVB has cross checked and found that PP has included the share of projects which are replacing exclusively diesel fuel and the share of ones displacing national grid and considered the highest baseline emissions which would be that all projects are replacing diesel fuel. So, the emission reduction before design change and after design change will remain same and it is found appropriate by VVB.

The VVB has raised Five (05) Clarification requests and zero (00) Correction action request and closed successfully. The detailed validation findings have been added in the appendix 4 of this document.

The validated ER estimation due to this design changes is as below:

Emission Reductions before Design Change (as per PDD)	8,682 tCO_2e/year
Emission Reductions after design Change (as per revised PDD)	8,682 tCO_2e /year

There is no change since the emission reduction as the final installation portfolio covered under the project is not defined yet.

C.3 Assessment the impacts of Design change on the following

a. Additionality

VVB based on review of the revised PDD /01/, confirms that the Design Change will change the aspect of additionality "*Next to customers without electricity, also customers with insufficient electricity supply will benefit from the project.*" The project continues to be considered as deemed additional, as the project activity complies to the section 4.5.4 of the GS Renewable Energy Activity Requirements, version 1.3 /08-b/.

b. Applicability of methodology and other methodological regulatory documents with which the project activity has been certified

VVB based on review of the revised PDD /01/, confirms that the Design Change does not have any impact on the applicability of the methodology. Since the project continues to use the same version of the applied methodology AMS-I.F, version 5.0 and complies with all applicability criteria.

c. Compliance with the monitoring plan and the applied methodology

Based on the review of the revied PDD /01/, it has been observed that the monitoring plan has been revised to include the additional fixed parameter due to baseline addition. The data/ parameter $EFCO_{2,y}$ (Carbon dioxide emission factor for regional/national grid mix) which was earlier not included in the registered PDD /11/. However, the VVB confirms that the change in the monitoring plan is in compliance with the applied methodology AMS-I-F, version 5.0.

d. Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the registered monitoring plan

VVB based on review of the revised PDD /01/, confirms that the Design Change has newly added area in baseline emission and the emission reduction will be conducted when the new installation area are in operation. There can be an impact on the level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the registered monitoring plan and assured that the overall emission reduction generated by the project will be less than 10,000 tCO_2.

e. Project Scale (note suppressed demand rules for large scale)

VVB based on review of the revised PDD /01/ and the Emission Reduction sheet /02/, confirms that the Design Change does not have any impact on the project scale. Since the project had been already registered as micro-scale project and continues as micro-scale project.

f. Stakeholder feedback on design change

VVB based on review of the revised PDD /01/, confirms that the Design Change within the expansion area, stakeholders will receive comprehensive project briefings and their valuable input has to be considered during the decision-making process and the Stakeholder consultation for the design change is yet to be conducted.

g. Sustainable Development Assessment

VVB based on review of the revised PDD /01/, confirms that the design change will make changes in the calculation of the contribution to SDG 13. Since calculation of emission reduction will be added to determine the emission factor for grid emission.

h. Safeguarding Assessment

VVB based on review of the revised PDD /01/, confirms that the Design Change does not have an impact on the Safeguarding Assessment. Since the design of the project itself does not change, the result of the Safeguarding Assessment of the project are expected to be the same.

i. Legislation

VVB based on review of the revised PDD /01/, confirms that the Design Change does not have any impact on the legislation.

SECTION D. Internal quality control

The final validation report passed a technical review and quality review before being submitted to the project developer and Gold standard. A technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification performed the technical review.

SECTION E. Validation opinion

Carbon Check (India) Private Limited has been contracted by atmosfair gGmbH on 20/09/2023 /09/ to perform design change validation for the project activity Solar Power for Rural regions in Nigeria".

The validation was performed in accordance with the GS and UNFCCC /07-08/ requirements and related standards. The team assigned to the validation meets the CCIPL's internal procedures including the all the requirements for the team composition and competence. The validation team has conducted a thorough contract review as per GS/ UNFCCC and Carbon Check's procedures and requirements. The validation team confirms that the design change impacts permanent changes in the PDD compared with the requirements contained in the registered PDD /11/.

This report contains the assessment of Design change memo /03/ including but not limited to document reviews and interviews, also the review of the applicable/ applied methodology and all other applicable tools and guidance.

As a result, it confirms that the design change complies with the relevant requirements related to the permanent changes and corrections are inline with the GS Design Change Requirement, version 1.0 /08-a/. Carbon Check (India) private Limited concluded the validation with a positive opinion and therefore recommends for the approval of "Design change".

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emission
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CPA	Component Project Activity
CL	Clarification Request
CME	Co-ordinating or Managing Entity
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COP/MOP	Conference of Parties/ Meeting of Parties
DR	Document Review
EB	Executive Board
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GWh	Giga Watt Hours
I	Interview
kW	Kilo Watt
kWh	Kilo Watt Hours
MoV	Means of Verification
MoC	Modalities of Communications
MW	Mega Watt
MWh	Mega Watt Hours
OSV	On-Site Visit
PD	Project Developer
PE	Project Emission
PP	Project Participant
PS	Project Standard
t	Tonne
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation team
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Rishi Raychoudhury

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☐ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☐ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date	Expiry Date
1st January 2023	31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

TOYIN TIMOTHY O.

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☐ Validator	☐ Verifier	☐ Team Leader	☐ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	☐ CCB Expert
☐ Financial Expert	☒ Local Expert for Nigeria		

in the following Technical Areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
03rd May 2023

Expiry Date
02nd May 2024

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Ms. Indumathi C

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India and Sri Lanka		

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date

1st January 2023

Expiry Date

31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document
/01/	Project developer	a. Revised PDD b. Revised PDD	Version.3.0 dated 09/06/2023 Version 3.1, dated 05/12/2023
/02/	Project developer	Emission reduction calculation spreadsheet	12/09/2023
/03/	Project developer	Design change Memo	17/11/2023
/04/	Project developer	Facility Agreement- PowerGen Interconnected energy Limited and atmosfair gGmbH	17/12/2020
/05/	Project developer	Data sheet- Power Holding company of Nigeria Plc and Excel for outage profile	30/10/2022-02/11/2022
/06	Project developer	Energy demand Survey of Commercial Customers on Park Road	March 2021
/07/	UNFCCC	a) CDM VVS for PAs (Version 03.0). b) CDM PS for PAs (Version 03.0)	http://cdm.unfccc.int/
/08/	GS	a) GS Design Change Requirements v.1.0 b) GS Renewable Energy Activity Requirements. V.1.3 c) GS PDD template v.1.2 d) GS PDD template guide v.1.2	Standard documents | The Gold Standard
/09/	VVB	Contract between VVB and PD for the Design Change Validation service	20/09/2023
/10/	Project developer	IGES-GRID-EF- version 1.1	18/03/2023
/11/	Project developer	Registered PDD	version.2.0 dated 27/04/2023

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1: Clarification request

CL ID	01	**Section**	NA	**Date:** 07/11/2023
Description of CL				
PD is requested to provide reference for the following: - *Smart meter details* - *Database of the local project partner* - *Proof of Ownership* - *Record for GS confirming the design change request*				
Project developer response				**Date:16/11/2023**
-Smart meter details will be for every installed Mini-Grid different and are not known yet. The smart meter details will be delivered within the Monitoring reports. - Local Project partner for the first Mini-Grid is the project developer PowerGen. Further project developer might be involved in further mini-grids. - The proof of ownership regarding the certificates is included in the loan agreements. Example is given for the first interconnected Mini-Grid Toto - The design change review is booked at SustainCert app and invoice paid.				
Documentation provided by project developer				
nA				
VVB assessment				**Date:** 21/11/2023
PD has mentioned that the proof of ownership is provided for the first interconnected Min-grid. However, it is not traceable by VVB. Hence the CL is open				
Project developer response				**Date:21/11/2023**
PD provided the Facility Agreement, which regulates the ownership in §12.				
Documentation provided by project developer				
Facility Agreement				
VVB assessment				**Date:** 28/11/2023
• *PD is yet to install the smart meter details for the mini-grids. Hence the details will be provided in the monitoring reports. Hence the CL is closed.* • *The details of local partners will be submitted after the start of project. Hence the CL is closed.* • *PD has submitted the Facility Agreement has been submitted by the PD and the same has been cross checked by VVB. Hence the CL is closed* • *PD has booked and paid the invoice for the design change. Hence the CL is closed.*				

CL ID	02	**Section**	Design change memo	**Date: 07/11/2023**
Description of CL				

In the design change memo, PD has mentioned that the project involves capacity addition, which is the deviation from the revised PDD. PD is requested to clarify / justify the deviation from the revised PD.
Project developer response **Date:** 16/11/2023
PD changed the wording in the design change memo. A PV greenfield plant will be installed together with battery capacity and diesel genset and in some cases it will be in addition to an existing grid.
Documentation provided by project developer
Revised design change memo
VVB assessment **Date:** 21/11/2023
PD has mentioned that the "Greenfield plant is connected to an existing national grid source" in the revised design change memo and the same is confirmed from the PDD. Hence the CL is closed.

CL ID	03	**Section**	Design change memo	**Date:** 07/11/2023
Description of CL				
PD shall explain the statement "Within the microscale limit, 20 of those installations are possible" and also clarify how 20 installations are possible within the limit.				
Project developer response				**Date:16/11/2023**
As we don't know how big the different installations will be that will be included in the project, we used for the ex-ante calculations the size of the first Mini-Grid installed (Toto). In this case 20 Toto like Mini-Grids could be installed to be within the microscale limit. In reality it could be more or less depending on the size of the single installations.				
Documentation provided by project developer				
NA				
VVB assessment				**Date:** 21/11/2023
The justification provided by PD for the 20 installations possible within the microscale limit is acceptable by the VVB as there will be different installations for the project activity and it could be more or less the size of single installations. Hence the CL is closed.				

CL ID	04	**Section**	PDD	**Date:** 07/11/2023
Description of CL				
In the section A.1 of the revised PDD, it is mentioned that the existing distribution grid is not in operation since over 2 years, but however, in the section B.4 of the PDD, the same is mentioned as 5 years. PD is requested to clarify the same.				
Project developer response				**Date: 16/11/2023**
For the specific case in Toto it was 5 years not in operation, which is over 2 years. In other cases it might be since over 2 years, which is the defined period to call a region off-grid, and in some cases a grid might be available but without sufficient electricity supply.				
Documentation provided by project developer				
NA				
VVB assessment				**Date:** 21/11/2023
PD has clarified the use of 2 years and 5 years not in operation in the PDD which is to call a region off-grid ans in some cases electricity supply is available not sufficient. Hence the CL is closed.				

CL ID	05	**Section**	PDD	**Date:** 07/11/2023
Description of CL				
In the section B.6.3 of the revised PDD, PD has mentioned the baseline emission for both CO_2 emission factor of power unit diesel generator in year y (FEEL,diesel,y) and for regional/national grid mix ($EFCO_2$,y), but however considered baseline calculated only from CO_2 emission factor of power unit diesel generator in year y (FEEL,diesel,y). PD to clarify. *Also in the ER sheet, PD has mentioned regarding FEEL,diesel,y and $EFCO_2$,y, but has only considered only FEEL,diesel,y value in the baseline calculation. PD to clarify.*				
Project developer response				**Date:16/11/2023**

The project portfolio included within the PDD and such the share of projects which are replacing exclusively diesel fuel and the share of the ones displacing national grid electricity is not known yet. So for the estimated emission reduction declared within the PDD we decided to use the case with the highest baseline emissions, which would be that all projects are replacing exclusively diesel fuel. But both calculations are included in the PDD. PD added clarification in the PDD
Documentation provided by project developer
NA
VVB assessment **Date:** 21/11/2023
PD has justified the use of the CO_2 emission factor of power unit diesel generator in year y (FEEL,diesel,y) in the baseline emission. Hence the CL is closed.

Table 2: Corrective action requests

CAR ID	XX	**Section no.**		**Date:**
Description of CAR				
NA				
Project participant response				**Date:**
Documentation provided by project participant				
VVB assessment				**Date:**
Project participant response				**Date:**
VVB assessment				**Date:**

Revision History

Rev Date	Rev. No.	Brief Details of Changes
08/11/2023	1.0	DVR
28/11/2023	1.0	FVR
	2.0	FVR revised as per technical review comments.