



**Verification and certification report form for
Gold Standard project activities**

BASIC INFORMATION	
Title and GS reference number of the project activity	Title: Namene Solar Light Company: Replacing kerosene lights and paraffin candles by solar lights in Namibia. GS ID: GS7784
Scale of the project activity	<input type="checkbox"/> Large-scale <input checked="" type="checkbox"/> Small-scale
Version number of the verification and certification report	02
Completion date of the verification and certification report	20/05/2024
Monitoring period number and duration of this monitoring period	01 st Monitoring period 01/01/2022-30/06/2023 (including both the days)
Version number of the monitoring report to which this report applies	Version 01.5, dated 09/05/2024
Crediting period of the project activity corresponding to this monitoring period	01/01/2022 to 31/12/2026 (including both the days)
Project representative(s)	Namene Solar Lights Ltd.
Host Party	Namibia
Applied methodologies and standardized baselines	AMS-III A.R- Substituting fossil fuel-based lighting with LED/CFL lighting systems, Version 6.0
Mandatory sectoral scopes	Sectoral Scope 1: Energy Industries (renewable/non-renewable sources)
Conditional sectoral scopes, if applicable	NA
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	44,854 tCO _{2e}
Certified amount of GHG emission reductions or GHG removals for this monitoring period	11,664 tCO _{2e}
SDG Impacts:	1. SDG 1- No Poverty 2. SDG 7- Clean, Affordable Energy for all 3. SDG 13- Climate Action
Name and UNFCCC reference number of the VVB	E-0052: Carbon Check (India) Private Ltd.
Name, position and signature of the approver of the verification and certification report	<i>Priya Suman</i> Priya Suman, Compliance Officer

SECTION A. Executive summary

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Carbon Check (India) Private Ltd. (CC IPL) is performing the first periodic verification of the GS project "GS7784 Namene Solar Light Company: Replacing Kerosene lights and paraffin candles by solar lights in Namibia" (GS project id: GS 7784) for the period 01/01/2022 - 30/06/2023 (inclusive of both the dates). The project activity aim is to distribute lighting global quality certified, pico-solar lights to the households that do not have access to the electricity grid in Namibia. The project activity reduces the emitted GHG and climate forcing black carbon generated from burning fossil-fuel based sources for lighting. The start date of the project activity is 27/05/2021 /03/.

According to the PDD /09/ & MR /01/, the project activity " GS7784 Namene Solar Light Company: Replacing Kerosene lights and paraffin candles by solar lights in Namibia" the overall objective of the project activity is to contribute to the achievement of the Sustainable Development Goals (SDGs) under SDG 1, SDG 7, and SDG 13 by providing lighting systems, the project will ensure that individuals, households and communities consuming kerosene lamps and paraffin candles will be replaced with the pico-solar lights and as a result there shall be a mitigation of CO₂ emissions.

This report summarises the findings of the verification of the project, performed on the basis of Gold standard for global goals (GS4GG)/ UNFCCC, as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the Gold Standard. Verification is required for all registered GS project activities intending to confirm their achieved emission reductions and proceed with request for issuance of VERs. This report contains the findings and resolutions from the verification and a certification statement for the verified emission reductions.

Verification is the periodic independent review and ex-post determination of both quantitative and qualitative information by a Validation & verification body (VVB), of the monitored reductions in GHG emissions under SDG 13 including the achievement of other SDGs mentioned above that have occurred as a result of the project activity during a defined monitoring period.

Certification is the written assurance by a validation & verification body (VVB) that, during a specific period, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify achievement of SDGs reported for the "GS7784 Namene Solar Light Company: Replacing Kerosene lights and paraffin candles by solar lights in Namibia" in the host country "Namibia " for the period 01/01/2022 - 30/06/2023 (including both the days).

The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in anthropogenic emissions by sources, is sufficient, definitive, and presented in a concise and transparent manner. CC IPL's objective is to perform a thorough, independent assessment of the registered project activity.

In particular, the monitoring plan, monitoring report and the project's compliance with relevant GS and Host Party criteria are verified in order to confirm that the component project/s has/have been implemented in accordance with the previously registered project design and conservative assumptions, as documented. It is also confirmed if the monitoring plan is in compliance with the registered PDD /09/ and the approved monitoring methodology /B05/.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered PDD/09/

- To verify the implemented monitoring plan with the registered PDD /09/ and applied baseline and monitoring methodology /B05/.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

Verification process:

The verification comprises a review of the monitoring report /01/ over the monitoring period from 01/01/2022 - 30/06/2023 and based on the registered PDD /09/ as part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology, and all related evidence provided by project participants.

On-site interviews and inspections are also performed as part of the verification process.

Conclusion:

The verification team assigned by the Validation & Verification body (VVB) concludes that the monitoring report /01/, meet all relevant requirements of the Gold Standard as per the requirements of GS4GG/ UNFCCC. The verification has been conducted in-line with the GS4GG/ UNFCCC requirements.

The project activity was correctly implemented according to the selected monitoring methodology /B05/, monitoring plan and the registered PDD /09/. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. The following table provides the resulted emission reduction from the project as verified through the document review and on-site interviews by the verification team. s

Vintage	VER (tCO₂e)
01/01/2022 – 31/12/2022	4928 tCO ₂ e
01/01/2023– 30/06/2023	6736 tCO ₂ e
Total for the monitoring period	11,664 tCO₂e

CC IPL as a Validation & verification body (VVB) is therefore pleased to issue a positive verification opinion expressed in the section F of this report.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader / /Technical Expert	IR	Raychoudhury	Rishi Kishore	CC IPL	X	X	X	X
2.	Trainee Assessor	IR	Nifiya J	Jeni Mirasclin	CC IPL	X	X	X	X
3.	Local Expert	ER	Amutenya	Josephine	CC IPL	NA	X	X	NA

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	C	Indumathi	CC IPL
2.	Approver	IR	Suman	Priya	CC IPL

Audit Team Experience:

The team composition is linked to the methodology and local experience in the host country.

Rishi K. Raychoudhury: Qualified lead assessor for validations and verifications GHG mitigation projects under CDM, VCS, GS4GG and GCC and actively been involved in the validation and verification of GHG mitigation projects. He is qualified as technical expert for TA 1.2 & 3.1 under CDM SS categorization. He has undergone extensive training in the validation and verification of carbon offset projects including the accreditation requirements for the VVBs. Currently, he is employed with Carbon Check in the capacity of lead assessor. He has extensive work experience on working on Energy industry and Energy demand projects under CDM, VCS, GS4GG and GCC projects in Africa, particularly in Malawi, Uganda, Zambia and Namibia.

Jeni Miraclin Nifiya J: She is a trainee assessor. She has done various validation and verification projects under CDM, VCS, GS4GG and GCC and other GHG schemes. She is a trainee assessor as per the Validation/Verification training in ISO 14064-1, ISO-14065-2 and ISO 14064-3 and attended GS4GG webinars.

Josephine Amutenya: She is appointed as a Local Expert for Namibia who is proficient in speaking the native language of the residence in Namibia. She has been involved in various projects as local expert. Furthermore, she has been also involved as Junior Councillor, School, Board Vice Chairperson.

Indumathi C: She is a qualified internal technical reviewer for validation and verification of GHG emission reduction projects under CDM, VCS and GS. She is an appointed Team Leader and Technical Expert for technical areas TA 1.1, 1.2, 3.1, 13.1 & 13.2. She has more than 13 years of

work experience in climate change mitigation, renewable energy, energy efficiency and energy access. She has worked with various Designated Operational Entities like TUV NORD, TUV Rheinland and 4KES for more than 250 GHG emission reduction projects under different carbon crediting mechanisms. She is a certified GHG Auditor and Energy Manager (Bureau of Energy Efficiency, Government of India).

SECTION C. Means of verification

C.1. Desk/document review

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The verification was performed primarily based on the review of the Monitoring report /01/ and the supporting documentation /01-18/. 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.

C.2. On-site inspection

Onsite physical audit has been performed. The Team leader along with the team has conducted the on-site inspection and in particular the acceptance sampling.

Furthermore, VVB has considered the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B02/ for conducting the onsite visit. In accordance with the requirements provided in the paragraph 3.1.1(b) of the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B02/.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
/01/	Mutesi	John	Namene Solar lights Ltd.	16/10/2023 & 17/10/2023	Project Design, ownership details, carbon credit sharing arrangements, monitoring and reporting arrangements, QA/QC procedures, baseline assessment, project technology, double counting.	Rishi Kishore Raychoudhury J Jeni Miraclin Nifiya
/02/	Namwandi	Jacobina	End user-220308300438, 210513302866, 220816305358	16/10/2023	Commissioning details, Agreement with project developers, Functioning of solar lights, sustainability issues, baseline fuel. Post project benefits, Impact on health and livelihood.	Josephine Amutenya
/03/	Nelongo	Agripine	End user-220825301821	16/10/2023		
/04/	Inkona	Helaria	End user-220824302879, 220816305173.	16/10/2023		
/05/	Angala	Christian	End user-220826300668, 220817300319	16/10/2023		

/06/	Hango	Benonia	End user- 2208263006 70, 2203063049 89.	16/10/2023		
/07/	Johannes	Demetilie	End user- 2208263006 65	16/10/2023		
/08/	Maishele	Veilco	End user- 2208263006 66	16/10/2023		
/09/	Namadhite	Papafrans	End user- 2203111301 627, 2208163038 18, 2208203007 22	17/10/2023		
/10/	Nepolo	Simon	End user- 2109163038 93, 2203083009 62.	17/10/2023		
/11/	Itana	Martha	End user- 2208213018 04, 2106013021 54	17/10/2023		
/12/	Samuel	Halena	End user- 2105313035 75, 2203093049 03, 2208629301 217, 2106023031 09.	17/10/2023		
/13/	Kuti	Martin	End user- 2105303053 37, 2208153006 24, 2207073004 24, 2106023027 76, 2106023036 68, 2203053014 81	17/10/2023		
/14/	Nilong	Wilka	End user- 2106023050 57	17/10/2023		
/15/	Uupindi	Hilma	End user- 2106013020 28, 2203053016 28	17/10/2023		

VVB has interviewed the beneficiaries with the help of local expert only after confirmation of willingness to participate in the interview. Hence, the interview conducted by VVB complies with the paragraph 7.16.6 (e) of GS4GG Validation and Verification Standard, version 1.0 /B01/.

C.4. Sampling approach

The project activity involves distribution of solar powered light to replace kerosene and paraffin candles. The output of the solar lights is homogeneous in nature and in line with the requirement of the applied methodology AMS III A.R V.6.0, hence, PP has considered simple random sampling plan using 90/10 as confidence / precision. This is in line with the applied methodology /B05/. The sample size for each parameter is determined following guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Version 4.0 (EB86, Annex 4) /B07/.

In line with paragraph 26 of the Standard for Sampling and surveys for CDM Project activities and Programme of Activities Version 9.0, the verification team has applied acceptance sampling approach through on-site interviews on the monitoring survey as part of verification. The project participant had applied sampling approach to the monitoring survey /05/, conducted by the representatives of project participant. The verification team has chosen acceptance sampling in accordance with paragraph 28 of the sampling standard /B08/.

Applying paragraph 39 (c) of the Standard for Sampling and surveys for CDM Project activities and Programme of Activities Version 9.0 /B08/, a sample size of 14 households was chosen (with no discrepant records).

With reference to the paragraph 32 and 36 of the applied methodology AMS III-AR version 6, the percentage of project lamps that are operating and in service can be assumed to equal 100 per cent in year 1, 2, and 3, the result of ex post monitoring survey undertaken during the third year shall be used in years 4, 5, 6 and 7. In line with this PD has conducted the monitoring survey to monitor only the current expenditure of the end users on lighting (project scenario expenditure for SDG 1 scenario). Initially, VVB has selected sample size of 11, based on an AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 10 % each with Acceptance number (c) equals to 0. However, during onsite visit it was found that out of 11 samples selected, 8 samples were not available or could not be contacted for in-person interview due to logistical limitations and network issue. Therefore, to establish the confidence on the monitoring survey conducted for SDG 1, VVB has randomly selected additional 11 samples. Therefore, the total samples selected by VVB for acceptance sampling is 14 samples (3 from initial MS+ 11 additional samples) with AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 5% and the acceptance number (c) thus determined for the sample is 0.

The information provided in the monitoring survey /05/, has been cross checked during the Onsite visit. As a part of acceptance sampling, the Verification team could confirm the monitoring survey data /05/. Thus, PP's set of records has been accepted in line with paragraph 33 of the Standard for Sampling and surveys for CDM Project activities and Programme of Activities Version 9.0 /B08/.

Parameter	Verification approach	Population (for VVB's sample)	VVB's Sample Size
Monitoring surveys	ASP	141	14

The details of the sample interviewed are listed in section C.3 (under the list of interviewed persons). No discrepancy was found in any of the 14 samples and thus $c=0$, i.e., no discrepant records were observed. Thus, PP's set of records has been accepted in line with paragraph 33 of the sampling standard (version 09.0) /B08/. For the impact parameters, questionnaire was prepared and was used during the survey by the PP. During the on-site interviews, the verification team cross-checked these sample documents, and no discrepancies were found in the impact parameters as well. The sampling technique to draw such samples were found adequate and the sample collectors were found competent to perform such task.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

The VVB has raised 07 clarifications (CLs), 05 corrective action requests (CARs) are raised and closed successfully, and 02 Forward Action Request (FAR) raised during validation are closed successfully. .

C.6. Application of Materiality

The project activity is registered as small scale project under project under GS4GG is verified from registered PDD /09/. Further, in-line with the provisions of footnote 21 of paragraph 9.6.2 and 9.6.3 of GS4GG Validation and Verification Standard, version 1.0 /B01-b/, VVB has considered additional guidance and examples of the application of materiality in the verification, refer to the "Guideline: Application of materiality in verifications, version 2.0" of CDM /B10/.

The threshold of materiality was evaluated based on "Guideline: Application of materiality in verifications" (version 02.0) /B10/. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 5% of 11,664 tCO_{2e} which is equal to 583 tCO_{2e} because the project activity is registered as small scale and as per paragraph 13 (a) 5% materiality would be applicable to the project activity.

In planning the verification, verification team took cognizance of paragraph 11, 12 and 13 of the "Guideline: Application of materiality in verifications" (version 02.0) /B10/ and a materiality threshold of 583 tCO_{2e} is determined for the current verification of the project activity.

C.7. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/ mitigation measures
		Risk level	Justification	
1.	Human Error: Recording and reporting of the information in the ER spreadsheet.	Medium	All the ER spreadsheet data of the pico-solar lights including sales database, determination of parameters for operation percentage including data calculation. This includes all the parameters to be monitored ex-post as per the PDD.	The risk was mitigated by reviewing the training records of the personnel involved in the data capture and calculations. The monitoring responsibilities will be reviewed. Also, the ER data/calculations was cross-checked to insure error-free data.
2.	Information System: Use of spreadsheets without adequate	Medium	The data is recorded in Spreadsheets based on the raw data	The identified risk was mitigated by reviewing the management of access to the records. It was

	controls related to data changes/updates, version tracking, traceability, security		collected during the field visits. Access to the spreadsheets for calculation of ERs, monitoring and sales database and baseline project & baseline, and other test records.	confirmed through interviews whether the raw data is collected by the field personnel and then transmitted and stored electronically to the PD's office. The data quality control to be checked.
3.	Sample	Medium	The sample size is not suitable, or the surveyed plants are not random.	Cross-check the procedure to identify the sample size against the sampling guideline and standard and confirm the sample size is calculated correctly

C.8. Consideration of materiality in conducting the verification

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In line with the Guidelines for Application of materiality in verification, version 2.0 /B10/, a reasonable level of assurance is defined for the verification of the project by complete verification of all the monitoring records was done by the verification team and compared with the values indicated in the emission reduction spreadsheet.

Some inconsistencies were identified and subsequently finding was raised in the form of Clarification Request (CL), Corrective Action Request (CAR) and Forward Action Request (FAR). These findings are detailed in Appendix 4 and (CARs & CLs) are successfully closed and the FAR raised during validation are closed successfully.. Therefore, related identified mistakes as listed in findings in Appendix 4 to this report have been determined to be immaterial. And thus, it is confirmed that there are no material errors, omissions or misstatements and a reasonable level of assurance is established.

SECTION D. Verification findings

D.1. Remaining forward action requests from validation and/or previous verifications

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Forward Action Request #1: The process for collecting and recycling/ safety disposing of spent batteries shall be further developed. This shall be evaluated at the time of first verification.

D.2. Compliance of the project implementation and operation with the registered project design document

Means of verification	Document Review, Interview
Findings	CL 01, CL 03, CL 04, CAR 01, CAR 02 was raised and closed successfully. Please refer to Appendix 4 for further information.

Conclusion

Verification team confirms that the latest available version of the monitoring report template has been used and the MR is in compliance with the monitoring report form and related monitoring report template guide /B03/.

As verified from on-site interview the audit team confirm the project implementation and operation complies with the project design document /09/. The starting date of operation is 27/05/2021 (date of distribution of the first project solar lights distributed) which is confirmed from the registered PDD/09/, validation report /08/ and evidence for start date /03/. The project boundary in the registered PDD /09/ is in line with the actual project boundary.

VVB has reviewed the MR /01/ and found that the implementation and operation is in line with the registered PDD /09/. This was also verified from on-site and survey report /05/. The audit team confirm the project implementation and operation complies with the project design document /09/.

The solar LED are distributed and commissioned by Namene Solar Lights Ltd. End users transfer the ownership of carbon credit via end user agreement /07/ as validated in the validation report /08/. Namene Solar Lights Ltd. is owning for sale of carbon credit generated /07/ from the project activity. The operational and management structured is verified from document review and on-site interview. Each solar lamp replaces one kerosene lamp or paraffin candle in each household. The project activity has distributed two types of solar light models during the current monitoring period i.e SM100 and SM200. The total SM 100 lights distributed in this MP are 196,628 and total SM 200 lights distributed in this MP are 48,273. The project considers a total of 244,901 pico-solar LED lights which distributed in between 27/05/2021 – 30/06/2023¹ in the provinces of Namibia.

Batch	Number of Lights
1 st (27/05/2021 – 26/05/2022)	40,240
2 nd (27/05/2022 – 26/05/2023)	178,765
3 rd (27/05/2023 – 30/06/2023 ²)	25,896
Total number of lights	244,901

At each project location (end user point) the solar LED replaces emitted GHG emission and black carbon from burning fossil fuel based (paraffin candles and kerosene lamps) sources of lighting from rural households. The operational status of all 244,901 pico-solar lights is assessed during the monitoring period as per monitoring survey report and on-site audit in some sample pico-solar lights /12/.

VVB has considered 14 pico-solar lights as explained in section D.4 above to ascertain accuracy of information. VVB confirms the project pico-solar lights are operational in all samples verified during on-site audit, each pico-solar light has unique identification number which has been provided in the end user agreement and are correct as per project database. The unique identification is also marked at each pico-solar light physically. Along with the serial number, the pico-solar lights technology, end username, address, commissioning date etc. had also been noted which were found to be consistent during on-site audit.

It is noted that no changes have been observed or identified which may impact the additionality, no addition of component nor extension of technology, no addition nor removal of project sites, no change of values of the actual operational parameter relevant to determination of emission reductions which are within the control of the CME; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology AMS-III A version 6.0 /B05/. The operational status of all projects pico-solar lights, impact on identified SDGs from 01/01/2022 to 30/06/2023 has been taken into consideration.

¹ Since the current MP ends on 30/06/2023, so only lights distributed till 30/06/2023 is considered.

² Since the current MP ends on 30/06/2023, so only lights distributed till 30/06/2023 is included in the database for ER calculations.

During on-site visit it is observed that each solar lamp replaces one kerosene lamp or paraffin candle in each household. Also, during on-site visit it is identified that each lights are marked with GS registration number i.e 7784 and each lights have a unique serial number /03/ so that it is confirmed to the VVB that lights cannot be double counted with another project in GS or any other carbon scheme.

A well setup feedback mechanism is available for each pico-solar lights. PP has maintained grievance logbooks and take feedback from end user user during the monitoring period. This has been verified with the grievance log- book /14/. A final stakeholder consultation was conducted on 12/07/2019. PP has submitted SCR /14/ and it was verified by the VVB and confirms that there is no legal contests or disputes to any aspect of the project through the available ongoing grievance input mechanisms or any other direct means.

PD has provided additional avenues to the beneficiaries beyond the GS4GG requirements i.e. accessibility to hotline numbers and text channel so that any grievances received can be resolved in a more efficient manner. The hotline number is +264 81 380 5062 which is an active number and available to all beneficiaries. Hence VVB has confirmed that no grievance was raised by household during this monitoring period either from grievance books or through the hotline channel.

VVB has cross checked the test report accredited lab for each LED implemented in the project activity for their life report and lumen output /11/ which confirms the lifetime and lumen output for the project activity. PP has submitted the quality standard of Pico-PV, version 8.0, December 2018 /17/ and confirms that the project lamps based on IEC/TS 62257-9-5 and IEC 60529 shall meet the applicable Lighting Global Minimum Quality Standards as per paragraph 19 of the applied methodology AMS-III-AR, version 6.0 /B05/. The same has been confirmed and verified by the VVB. PP has submitted the distribution agreement signed between Namene Solar Lights Limited and Development Workshop Namibia Trust, dated on 20/04/2022 /18/ to confirm the distribution partner of the project activity.

Verification team has checked the information in the monitoring report /01/ and compared it against the registered PDD /09/ and found to be consistent.

Verification team confirms that:

- a) The project activity is implemented as per registered PDD/09/.
- b) The actual operation of the proposed project activity is in line with the registered/revised PDD /09/.
- c) It has reviewed the registered PDD /09/ including the monitoring plan, the applied monitoring methodology and found that the final MR /01/ for this monitoring period is in line with all the above-mentioned documents.

Verification team of CCIPL based on review of records and on-site interviews confirms that a robust and effective grievance addressal mechanism is in place and however, no grievances were reported during the monitoring period.

In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered PDD /09/.

D.3. Post-registration changes

D.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents³

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Not applicable

D.3.2. Corrections

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Not applicable

D.3.3. Changes to the start date of the crediting period

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Not applicable

D.3.4. Inclusion of a monitoring plan

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Not applicable

D.3.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

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Not applicable

D.3.6. Changes to the project design

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Not applicable

D.3.7. Changes specific to afforestation and reforestation project activities

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Not applicable

D.4. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	Document Review, Interview
Findings	No findings are raised.
Conclusion	The verification team has checked the actual monitoring plan against the registered monitoring plan and monitoring methodology /B05/. Furthermore, the verification team has checked monitoring system by means of comparison with the information given in the monitoring plan and monitoring methodology. The monitoring plan is completely in accordance with the approved methodology /B05/ applied by the registered PDD/09/.

D.5. Compliance of monitoring activities with the registered monitoring plan

D.5.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Document Review, Interview
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³ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

Findings	No findings are raised.
Conclusion	Verification team confirms that the data and parameters fixed ex ante are in compliance with the registered PDD /09/ and monitoring plan. Please refer to the Annex 1. The verification took cognizance of para. 17.2 of GS4GG Validation and Verification Standard, version 1.0 /B01-b/.

D.5.2. Data and parameters monitored

Means of verification	Document Review, Interview
Findings	CAR 03 was raised and closed successfully. Please refer to Appendix 4 for further information.
Conclusion	<p>The verification team confirms that the data and parameters monitored are in compliance with the registered PDD /09/ and the monitoring plan.</p> <p>It is confirmed that the verification team assessed the data / information flow from the point of monitoring to emission reduction calculation and found no gap in the same. Please refer to the Annex 2. The verification took cognizance of para. 17.2 of GS4GG Validation and Verification Standard, version 1.0 /B01-b/.</p>

D.5.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Findings	CL 06 was raised and closed successfully. Please refer to Appendix 4 for further information.
Conclusion	<p>According to the Sampling and surveys for CDM project activities and programmes of activities /B08/ and related guidelines /B07/ the sampling plan was determined at the time of project registration and applied during the monitoring period. Sampling method: Simple random sampling method is adopted as the population of light is homogeneous in nature. The sample size is determined by the requirement to achieve 90/10 precision. In accordance with this PD has randomly selected 141 samples from the project database. Sampling approaches may follow the Guideline “Sampling and surveys for CDM project activities and programme of activities” /B07/ for calculation of sample size. Data to be collected: Annual Expenditure on lighting per household in the project scenario i.e SDG 1 of the project activity to determine the value of the parameter $Ex_{h,p,\\$}$. Implementation plan: Once during the crediting period. Actual implementation: - Sampling method: Acceptance sampling method has been adopted by the VVB during the onsite verification audit. The sample size included all end user and was randomly sampled from a list in the project. The sampling frame is homogenous within itself, with respect to service level, established ex-ante baseline and user characteristics. The total sample size has been derived using equation para 12 of appendix 1, EB 86 Annex 4, Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0. /B07/. Initially, VVB has selected sample size of 11, based on an AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 10 % each with Acceptance number (c) equals to 0. However, during onsite visit it was found that out of 11 samples selected, 8 samples were not available or could not be contacted for in-person interview due to logistical limitations and network issue. Therefore, to establish the confidence on the monitoring survey conducted for SDG 1, VVB has randomly selected additional 11 samples. Therefore, the total samples selected by VVB for acceptance sampling is 14 samples (3 from initial MS+ 11 additional samples) with AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 5% and the acceptance number (c) thus determined for the sample is 0. The expected parameter values (mean, standard deviation and proportion) have been taken as per para 12 of appendix 1, EB 86 Annex 4 Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0. /B07/.</p>

D.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document Review, Interview
Findings	NA
Conclusion	N/A since there is no monitoring equipment which require calibration as per the monitoring plan. The equipment’s used for the monitoring consists of reviewing the

documents and on-site interviews.

D.7. Assessment of data and calculation of emission reductions or net removals

D.7.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	Document Review, Interview																				
Findings	No findings are raised.																				
Conclusion	<p>As per the PDD /09/ and the applied methodology /B05/, baseline emission is calculated as below:</p> <p>Baseline emissions are calculated per equation (3): $BEy = DV \times GFy \times DBy$ Equation (3) Where: BEy = Baseline emissions per project lamp in year y (t CO₂e) GFy = Grid Factor in year y, DBy = Dynamic Baseline Factor (change in baseline fuel, fuel use rate, and/or utilization during crediting period) in year y.</p> <p>This methodology provides for a default annual baseline emissions factor for the project lamps. The following assumptions are made about the equivalent baseline lighting system: $DV = FUR \times O \times U \times EF \div 1000 \times LF \times n \times NTG$ Equation (2) Where: DV = Lamp Emission Factor (default is 0.092 t CO₂e per project lamp) FUR = Fuel use rate (0.03 liters/hour) O = Utilization rate (3.5 hours/day) U = Annual utilization (365 days/year) EF = Fuel emissions factor (2.4 kgCO₂/liter) LF = Leakage factor (1.0) n = Number of fuel-based lamps replaced per project lamp (1.0) NTG = Net-to-gross adjustment factor (1.0)</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Registered PDD Value</th> </tr> </thead> <tbody> <tr> <td>DV</td> <td>0.092tCO₂</td> </tr> <tr> <td>FUR</td> <td>0.03 litres/hour</td> </tr> <tr> <td>O</td> <td>3.5 hours/day</td> </tr> <tr> <td>U</td> <td>365 days/year</td> </tr> <tr> <td>EF</td> <td>2.4kgCO₂/litre</td> </tr> <tr> <td>n</td> <td>1.0</td> </tr> <tr> <td>NTG</td> <td>1.0</td> </tr> <tr> <td>GFy</td> <td>1.0</td> </tr> <tr> <td>DBy</td> <td>1.0</td> </tr> </tbody> </table>	Parameter	Registered PDD Value	DV	0.092tCO ₂	FUR	0.03 litres/hour	O	3.5 hours/day	U	365 days/year	EF	2.4kgCO ₂ /litre	n	1.0	NTG	1.0	GFy	1.0	DBy	1.0
Parameter	Registered PDD Value																				
DV	0.092tCO ₂																				
FUR	0.03 litres/hour																				
O	3.5 hours/day																				
U	365 days/year																				
EF	2.4kgCO ₂ /litre																				
n	1.0																				
NTG	1.0																				
GFy	1.0																				
DBy	1.0																				

D.7.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	Document Review, Interview
Findings	CL 07 was raised and closed successfully. Please refer to Appendix 4 for further information.
Conclusion	<p>Project emissions are already discussed in above section E.7.1.</p> <p>VVB confirms that project emissions have been appropriately calculated and are consistent with on-site assessment /12/, the applied methodology /B05/ and registered PDD /09/.</p>

D.7.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Findings	No findings are raised.

Conclusion	<p>The Net to Gross Leakage Adjustment Factor has been included in the emission reduction calculations applying adjustment factor 1.0 as per paragraph 26 of the applied methodology is considered of DV value or lamp emission factor which is fixed ex-ante in methodology. Hence the leakage considered is 0.</p> <p>VVB confirms that leakage emissions are accounted corrected in the estimation of emission reduction as per the applied methodology /B05/.</p>
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D.7.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	Document Review, Interview
Findings	CL 02, CL 05, CL 07 was raised and closed successfully. Please refer to Appendix 4 for further information.
Conclusion	<p>The emission reductions in this monitoring period are: $ER_y = BE_y - PE_y - LE_y$ Where, ER_y is the total emission reductions of the project activity during the year y in tCO_{2e}; BE_y is the baseline emissions for the project activity during the year y in tCO_{2e}; PE_y is the emissions for the project activity during the year y in tCO_{2e}; LE_y is the leakage emissions for the project activity during the year y in tCO_{2e}.</p> <p>As explained in section E.7.1 above, the resulted Baseline emissions (BE_y) for the monitoring period is 11,664 tCO₂. Similarly, as explained in section E.7.2 and section E.7.3 project emission is zero for the monitoring period and leakage emissions is zero for the monitoring period.</p> <p>Therefore, resulted emission reduction for the monitoring period is 11,664 tCO_{2e}.</p> <p>The data presented in the monitoring report /01/ and emission reduction worksheet /02/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidence were presented and verified by VVB for the reported emission reductions as listed above.</p>

D.7.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	Document Review, Interview													
Findings	No findings are raised.													
Conclusion	<p>The ex-ante estimates value of the emission reductions for the monitoring period as per the registered PDD /09/ is 44,854 tCO_{2e} and the actual emission reductions achieved for the monitoring period is 11,664 tCO_{2e}.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #00A0A0; color: white;"> <th style="width: 15%;">SDG</th> <th style="width: 45%;">Values estimated in ex ante calculation of approved PDD</th> <th style="width: 40%;">Actual values achieved during this monitoring period</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">13</td> <td style="text-align: center;">44,854 tCO_{2e}</td> <td style="text-align: center;">11,664 tCO_{2e}</td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">950,937 number of people</td> <td style="text-align: center;">768,994 number of people</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">\$ 24,494,433 saved</td> <td style="text-align: center;">\$ 19,758,531 saved</td> </tr> </tbody> </table> <p>The emission reduction calculations provided in the spreadsheet /02/ have been verified to be correct and in line with the registered PDD/09/.</p>		SDG	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period	13	44,854 tCO _{2e}	11,664 tCO _{2e}	7	950,937 number of people	768,994 number of people	1	\$ 24,494,433 saved	\$ 19,758,531 saved
SDG	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period												
13	44,854 tCO _{2e}	11,664 tCO _{2e}												
7	950,937 number of people	768,994 number of people												
1	\$ 24,494,433 saved	\$ 19,758,531 saved												

D.7.6. Remarks on difference from estimated value in registered PDD

Means of verification	Document Review, Interview
Findings	No findings are raised.
Conclusion	<p>The ex-ante estimates value of the emission reductions for the monitoring period as per the PDD /09/ is 44,854 tCO₂e and the actual emission reductions achieved for the monitoring period is 11,664 tCO₂e. For SDG 13, since actual emission reduction is lower than the estimated value and so no analysis has been done, this is acceptable to the verification team.</p> <p>For other SDG parameters, assessment is provided below:</p> <ul style="list-style-type: none"> • SDG 1: The actual value does not exceed the estimated value, which is deemed appropriate and thus acceptable to the VVB. • SDG 7: The actual value does not exceed the estimated value, which is deemed appropriate and thus acceptable to the VVB.

D.7.7. Assessment of reported sustainable development co-benefits

Means of verification	Document Review, Interview																													
Findings	CAR 04 was raised and closed successfully. Please refer to Appendix 4 for further information.																													
Conclusion	<p>The verification team verified that whether the Sustainable development co-benefits are reported in MR /01/. Further, it is also confirmed that Project Developer has monitored the sustainable development co-benefits.</p> <table border="1" data-bbox="472 891 1461 2051"> <thead> <tr> <th>SDG</th> <th>SDG Impact</th> <th>Baseline estimate</th> <th>Project estimate</th> <th>Net Benefit</th> <th>VVB Assessment</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>GHG emission reductions (tCO₂e)</td> <td>11,664</td> <td>0</td> <td>11,664</td> <td>VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.</td> </tr> <tr> <td>7</td> <td>Population accessing clean lights</td> <td>0</td> <td>768,994</td> <td>768,994</td> <td>VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.</td> </tr> <tr> <td>1</td> <td>Savings in lighting expenditure (\$USD)</td> <td>25,992,249</td> <td>6,233,717</td> <td>19,758,531</td> <td>VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/, SDG contribution calculation /13/ and evidence of price of light /20/.The price of</td> </tr> </tbody> </table>						SDG	SDG Impact	Baseline estimate	Project estimate	Net Benefit	VVB Assessment	13	GHG emission reductions (tCO ₂ e)	11,664	0	11,664	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.	7	Population accessing clean lights	0	768,994	768,994	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.	1	Savings in lighting expenditure (\$USD)	25,992,249	6,233,717	19,758,531	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/, SDG contribution calculation /13/ and evidence of price of light /20/.The price of
SDG	SDG Impact	Baseline estimate	Project estimate	Net Benefit	VVB Assessment																									
13	GHG emission reductions (tCO ₂ e)	11,664	0	11,664	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.																									
7	Population accessing clean lights	0	768,994	768,994	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.																									
1	Savings in lighting expenditure (\$USD)	25,992,249	6,233,717	19,758,531	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/, SDG contribution calculation /13/ and evidence of price of light /20/.The price of																									

						<p>the light varies from NAD 50 TO NAD 70, However PD has considered NAD 70 for the calculation of the SDG 1 which is found to be more conservative. The same has been verified during on-site audit /12/ and found the value is appropriate.</p>
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SECTION E. Internal quality control

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The verification report passed a technical review before being submitted to the Gold Standard. The technical review is performed by a technical reviewer qualified in accordance with CCIPL’s qualification scheme for GS validation and verification.

SECTION F. Verification/Certification opinion

>>

Carbon Check (India) Private Ltd. (CC IPL) has performed the 1st periodic verification of the registered GS Project Activity “Namene Solar Light Company: Replacing Kerosene lights and paraffins candles by solar light in Namibia” having GS reference number GS 7784.

The verification team assigned by the VVB concludes that the project activity as described in the PDD /09/ and the Monitoring report /01/, meets all relevant requirements of the Gold Standard/ UNFCCC. The verification has been conducted in-line with the GS4GG requirements project activities /B01/.

Verification methodology and process

The Verification team confirms the contractual relationship signed /10/ signed on 21/06/2023 between the VVB, Carbon Check (India) Private Ltd. and the Project developer. The team assigned to the verification meets the CCIPL’s internal procedures including the UNFCCC/GS requirements for the team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC/GS4GG and CCIPL’s procedures and requirements.

The verification has been performed as per the requirements described in the GS4GG and constitutes the review and completion of the following steps:

- Reviewing the PDD /09/, including the monitoring plan and the corresponding validation report /08/;
- Desk review of the MR /01/ and other relevant documents including documents related to the project activities;
- Review of the applied monitoring methodology (AMS-III A.R, version 6.0) /B05/;
- On-site inspection (16/10/2023- and 17/10/2023)
- Resolution of CARs and CLs raised during verification;
- Resolution of FARs raised during previous validation

- Issuance of Verification Report

The project activity was correctly implemented according to selected monitoring methodology /B05/, monitoring plan and the registered PDD /09/. Through the document review, the verification team confirms that the project activity has resulted in the 11,664 tCO₂e emission reductions during the reported monitoring period /01/.

This statement covers verification period from 01/01/2022-30/06/2023 (including both the dates).

The VVB has raised 07 clarifications and 05 corrective action requests, all of which are raised and closed successfully and 02 Forward Action Request raised during validation are successfully closed..

The VVB considers necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and the monitoring plan contained in the registered PDD /09/ are fairly stated.


The VVB, hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 11,664 tCO₂e equivalent and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

Vintage	VERs (tCO₂)
01/01/2022 – 31/12/2022	4928 tCO ₂ e
01/01/2023– 30/06/2023	6736 tCO ₂ e
Total for the monitoring period	11,664 tCO₂e

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
DR	Desk Review
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
ER	Emission Reduction
FA	Final Approval
FAR	Forward Action Request
FVR	Final Validation Report
GHG	Greenhouse gas(es)
GSF	Gold Standard Foundation
GS4GG	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
IR	Internal Resource
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
MWh	Mega Watt Hour
OSV	On Site Visit
PD	Project Developer
PDD	Project Design Document
PE	Project Emissions
PP(s)	Project Participant(s)
PRC	Post registration change
QC/QA	Quality Control/ Quality Assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
VVB	Validation & verification body
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Rishi K Raychoudhury

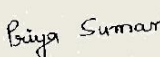
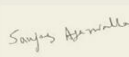
has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

<input checked="" type="checkbox"/> Validator	<input checked="" type="checkbox"/> Verifier	<input checked="" type="checkbox"/> Team Leader	<input checked="" type="checkbox"/> Technical Expert
<input type="checkbox"/> Technical Reviewer	<input type="checkbox"/> Health Expert	<input type="checkbox"/> Gender Expert	<input type="checkbox"/> Plastic Waste Expert
<input type="checkbox"/> CCB Expert	<input type="checkbox"/> Legal Expert	<input checked="" type="checkbox"/> Financial Expert	<input type="checkbox"/> Environmental, Health and Safety financial matters
<input checked="" type="checkbox"/> SDG+	<input checked="" type="checkbox"/> Social no-harm(S+)	<input checked="" type="checkbox"/> Environment no-harm(E+)	
<input checked="" type="checkbox"/> Local Expert for India			

in the following Technical Areas:

<input type="checkbox"/> TA 1.1	<input checked="" type="checkbox"/> TA 1.2	<input type="checkbox"/> TA 2.1	<input checked="" type="checkbox"/> TA 3.1	<input type="checkbox"/> TA 4.1
<input type="checkbox"/> TA 4. n	<input type="checkbox"/> TA 5.1	<input type="checkbox"/> TA 5.2	<input type="checkbox"/> TA 7.1	<input type="checkbox"/> TA 8.1
<input type="checkbox"/> TA 9.1	<input type="checkbox"/> TA 9.2	<input type="checkbox"/> TA 10.1	<input type="checkbox"/> TA 13.1	<input type="checkbox"/> TA 13.2
<input type="checkbox"/> TA 14.1	<input type="checkbox"/> TA 15.1	<input type="checkbox"/> TA 16.1		

Issue Date 5th December 2023	Expiry Date 31st December 2024
 <hr/> Ms. Priya Suman Compliance Officer	 <hr/> Mr. Sanjay Kumar Agarwalla Technical Director

Revision History of the document:

Revision date	Summary of changes
2022	Initial Adoption
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CC IPL FM 7.9 Certificate of Competency_V4.0_112023
¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Josephine Tukaleni Amutenya

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, 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
- CCB Expert
- Legal Expert
- Financial Expert
- Environmental, Health and Safety financial matters
- SDG+
- Social no-harm(S+)
- Environment no-harm(E+)
- Local Expert for Namibia

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
- TA 16.1

Issue Date

1st December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
Oct 2023	Initial Adoption
Dec 2023	Template changes to include additional functions and TA

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



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:

- | | | | |
|--|--|---|---|
| <input checked="" type="checkbox"/> Validator | <input checked="" type="checkbox"/> Verifier | <input checked="" type="checkbox"/> Team Leader | <input checked="" type="checkbox"/> Technical Expert |
| <input checked="" type="checkbox"/> Technical Reviewer | <input type="checkbox"/> Health Expert | <input type="checkbox"/> Gender Expert | <input checked="" type="checkbox"/> Plastic Waste Expert |
| <input type="checkbox"/> CCB Expert | <input type="checkbox"/> Legal Expert | <input checked="" type="checkbox"/> Financial Expert | <input type="checkbox"/> Environmental, Health and Safety financial matters |
| <input checked="" type="checkbox"/> SDG+ | <input checked="" type="checkbox"/> Social no-harm(S+) | <input checked="" type="checkbox"/> Environment no-harm(E+) | |
| <input checked="" type="checkbox"/> Local Expert for India and Sri Lanka | | | |

in the following Technical Areas:

- | | | | | |
|--|--|----------------------------------|---|---|
| <input checked="" type="checkbox"/> TA 1.1 | <input checked="" type="checkbox"/> TA 1.2 | <input type="checkbox"/> TA 2.1 | <input checked="" type="checkbox"/> TA 3.1 | <input type="checkbox"/> TA 4.1 |
| <input type="checkbox"/> TA 4. n | <input type="checkbox"/> TA 5.1 | <input type="checkbox"/> TA 5.2 | <input type="checkbox"/> TA 7.1 | <input type="checkbox"/> TA 8.1 |
| <input type="checkbox"/> TA 9.1 | <input type="checkbox"/> TA 9.2 | <input type="checkbox"/> TA 10.1 | <input checked="" type="checkbox"/> TA 13.1 | <input checked="" type="checkbox"/> TA 13.2 |
| <input type="checkbox"/> TA 14.1 | <input type="checkbox"/> TA 15.1 | <input type="checkbox"/> TA 16.1 | | |

Issue Date
5th December 2023

Expiry Date
31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022 ¹	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provided by
01	Namene Solar Lights Ltd.	<ul style="list-style-type: none"> a) Initial Monitoring report for the project activity. b) Revised Monitoring report for the project activity. c) Revised Monitoring report for the project activity. d) Revised Monitoring report for the project activity. e) Revised Monitoring report for the project activity. f) Final Monitoring report for the project activity. 	<p>Version 01 dated-15/09/2023.</p> <p>Version 01.1 dated-28/11/2023.</p> <p>Version 01.2 dated-03/04/2024.</p> <p>Version 01.3 dated-15/04/2024.</p> <p>Version 01.4 dated-30/04/2024.</p> <p>Version 01.5 dated-09/05/2024.</p>	PD
02	Namene Solar Lights Ltd.	<ul style="list-style-type: none"> a) Initial ER calculation spreadsheet for the project activity. b) Revised ER calculation spreadsheet for the project activity c) Revised ER calculation spreadsheet for the project activity d) Revised ER calculation spreadsheet for the project activity e) Revised ER calculation spreadsheet for the project activity f) Final ER calculation spreadsheet for the project activity 	<p>Version 01 dated-15/09/2023.</p> <p>Version 01.1 dated-04/12/2023.</p> <p>Version 01.2 dated-02/04/2024.</p> <p>Version 01.3 dated-15/04/2024.</p> <p>Version 01.4 dated-30/04/2024.</p> <p>Version 01.5 dated-09/05/2024.</p>	PD
03	Namene Solar Lights Ltd.	Solar Lights Database/Evidence for Unique Identification	27/05/2021	PD
04	Namene Solar Lights Ltd.	Technical Specification	SM 100 SM 200	PD
05	Namene Solar Lights Ltd.	Monitoring Survey Records	August 2023	PD
06	Namene Solar Lights Ltd.	Waste Management	2023	PD

07	Namene Solar Lights Ltd.	Proof of Carbon credit waiver	27/05/2021	PD
08	Namene Solar Lights Ltd.	Validation Report	Version 2.1, dated 28/10/2020	PD
09	Namene Solar Lights Ltd.	Registered PDD	Version 1.5, dated 19/11/2020 Version 1.6, dated 03/05/2024	PD
10	Namene Solar Lights Ltd.	Contract (CC IPL & PD)	21/06/2023	CC IPL
11	VersSol	Product Certificate (Third Party)	2021	PD
12	CC IPL	On-site Audit Records	16/10/2023 and 17/10/2023	CC IPL
13	Namene Solar Lights Ltd.	SDG Contribution	05/07/2022	PD
14	Namene Solar Lights Ltd.	Stakeholder Consultation Report and Grievance records	2019 2023	PD
15	Namibia Statistics Agency	Namibia Inter-censal Demographic Survey	2016 report	PD
16	Namene Solar Lights Ltd.	Preliminary Review Document	2020	PD
17	Lighting Global	Pico-PV Quality Standards	Version 8.0, December 2018	PD
18	Namene Solar Lights Ltd.	Distribution Agreement-Solar Light	20/04/2022	PD
19	Namene Solar Lights Ltd.	Evidence of QA/ QC	2023	PD
20	Namene Solar Lights Ltd.	Proof of price of light	2021, 2022, 2023	PD

Background Documents

No.	Author	Title	References to the document	Provided by
/B01/	GS4GG	a) GS4GG "Principles & Requirements", version 1.2 b) GS4GG "Validation and Verification standard", version 1.0	www.goldstandard.org	Publicly Available
/B02/	GS4GG	Gold Standard and Site visit and remote audit requirements & procedures v2.0	www.goldstandard.org	Publicly Available
/B03/	GS4GG	GS Monitoring Template v1.1	www.goldstandard.org	Publicly Available
/B04/	GS4GG	GS Community Activity Requirements v1.2	www.goldstandard.org	Publicly Available
/B05/	UNFCCC	AMS-III AR: Substituting fossil fuel-based lighting with LED/CFL lighting systems (version 6.0)	http://cdm.unfccc.int/	Publicly Available
/B06/	Web sites	Websites: http://cdm.unfccc.int/ http://www.ipcc-ngqip.iges.or.jp/		Publicly Available

		http://www.pciaonline.org/testing http://circodu.org.ug/		
/B07/	UNFCCC	Guidelines: Sampling and surveys for CDM project activities and programmes of activities (version 04.0)	http://cdm.unfccc.int/	Publicly Available
/B08/	UNFCCC	Standard: Standard for sampling and surveys for CDM project activities and Programme of Activities (version 09.0)	http://cdm.unfccc.int/	Publicly Available
/B09/	GS4GG	Renewable Energy Activity Requirements. V1.4	www.goldstandard.org	Publicly Available
/B10/	UNFCCC	Guideline: Application of materiality in verifications, Version 02.0	http://cdm.unfccc.int/	Publicly Available

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

Table 1. FARs from this verification

FAR ID	XX	Section no.	Design Certification	Date:
Description of FAR				
NA				
PD response				Date:
Documentation provided by the PD				
VVB assessment				Date:

Table 2. CARs from this verification

CAR ID	01	Section no.	D.2	Date: 29/09/2023						
Description of CAR										
<i>In the section A.4 of the MR, the crediting period is not in line with the registered PDD.</i>										
PD response				Date: 04/12/2023						
<p>The PD has decided to change the crediting period start date from 31/12/2021 to 01/01/2022 and as per GS design change rules, no approval is required for the same. Please see screenshot below-</p> <p>3.1.3 Changes to the start date of the registered crediting period: the project developer may make the following changes to the start date of the registered crediting period:</p> <ol style="list-style-type: none"> Bringing forward the crediting period start date up to one year earlier than that indicated in the registered PDD, taking into account that the start date shall not be earlier than two years⁵ from date of registration and/or start date of the project, whichever occurs later; In case the start date of the Crediting Period is after the date of Project Design Certification, a certified project activity is not required to request approval for the changes summarised in the table below, but shall instead notify SustainCERT of the changes; <p>Table: 1</p> <table border="1"> <thead> <tr> <th>Change from registered crediting period start date</th> <th>Project location</th> <th>Requirements⁶</th> </tr> </thead> <tbody> <tr> <td>Up to one year</td> <td>All locations</td> <td>No Justification and/or approval is required</td> </tr> </tbody> </table>					Change from registered crediting period start date	Project location	Requirements ⁶	Up to one year	All locations	No Justification and/or approval is required
Change from registered crediting period start date	Project location	Requirements ⁶								
Up to one year	All locations	No Justification and/or approval is required								
Documentation provided by PD										
VVB assessment				Date: 05/12/2023						
<p>As per paragraph 3.3.1 and table 1 of the design change requirement, version 1.1, there is no need for justification and/ or approval if the change in crediting period start date is within one year. Hence in the MR, the change of crediting period from 31/12/2021 to 01/01/2022 is acceptable by the VVB. Hence the CAR is closed⁴.</p>										

⁴ However, as per the revised PDD submitted by PD (version 1.6, dated 03/05/2024) to VVB, PD has revised the start date of crediting period to 01/01/2022.

CAR ID	02	Section no.	D.2	Date: 29/09/2023
Description of CAR				
<ol style="list-style-type: none"> 1. PD to delete the blank pages in section A.4 and section B.2.5 of the MR. 2. PD to use subscript wherever necessary throughout the document. 				
PD response				Date: 04/12/2023
<ol style="list-style-type: none"> (1) Blank pages are now removed from section A.4 and section B.2.5 of the MR. (2) Subscripts are now used wherever necessary. 				
Documentation provided by PD				
VVB assessment				Date: 05/12/2023
<ol style="list-style-type: none"> 1. PD has removed all the blank pages from the revised MR. 2. PD has used subscripts wherever necessary throughout the document. 				
Hence the CAR is closed.				

CAR ID	03	Section no.	D.5.2	Date: 29/09/2023
Description of CAR				
In the section D.2 of the MR:				
<ol style="list-style-type: none"> 1. PD incorporate a separate table for the data/parameter $EX_{h,p,\\$}$ 2. PD to incorporate all the monitoring parameter inline to the methodology 				
PD response				Date: 04/12/2023
<ol style="list-style-type: none"> (1) A separate table for the parameter $EX_{h,p,\\$}$ is now included in section D.2 of the MR. (2) The missing parameter i.e. Community exposure to increased health risks is now included in the MR but the value is reported as zero since there were no COVID related trainings carried out in the current MP i.e. 01/01/2022 to 30/06/2023. 				
Documentation provided by PD				
VVB assessment				Date: 05/12/2023
In the section D.2 of the revised MR,				
<ol style="list-style-type: none"> 1. PD has incorporated the data/parameter $EX_{h,p,\\$}$ as separate table. 2. PD has incorporated the parameter Community exposure to increased health risks. 				
Hence the CAR is closed.				

CAR ID	04	Section no.	D.7.7	Date: 29/09/2023
Description of CAR				
PD to provide the baseline expenditure calculation of SDG 1 in the section E.1 of the MR.				
PD response				Date: 04/12/2023
There is no calculation involved in computing the baseline expenditure. It is a surveyed value which was cross-checked during the validation of the project. The SDG1 tab in the ER sheet submitted at the time of validation is submitted for your perusal. The value of baseline expenditure reported in Namibian dollars is 2429.36 and the same value corresponds to 131.82 USD which is a value reported in the MR. Please see SDG 1 tab cell E47.				
Documentation provided by PD				
ER sheet submitted during registration				
VVB assessment				Date: 05/12/2023
Since the value for the SDG 1 is fixed during the validation of project, PD has submitted the ER sheet submitted during registration to cross check the baseline expenditure. Hence the CAR is closed.				

CAR ID	05	Section no.	D.7	Date: 29/09/2023
Description of CAR				
In the section E.2 of the MR:				
<ol style="list-style-type: none"> 1. PD has mentioned there is emission in the project scenario in SDG 13 which is not in line with the methodology. 2. PD to provide the value of project expenditure for SDG 1. 				
PD response				Date: 04/12/2023

1. It was a typographical error. The statement is corrected now.
2. The value of project expenditure was already stated in section E.2 of the MR.

“The project expenditure per year per household on lighting was recorded during the project survey carried out in July/Aug 2023 and it was observed to be 25.05 USD or 468.52 (\$N).”

During the SDG survey carried out in August this year, the users were asked their weekly expenditure on lighting which was found to be 9.01 \$N (average) as reported in the SDG survey sheet. This translated to an annual value of 25.05 USD or 468.52 (\$N).”

Documentation provided by PD

VVB assessment

Date: 05/12/2023

In the section E.2 of the revised MR,

1. PD has revised the project scenario in SDG 13 inline to the methodology.
2. PD has submitted the survey records for the SDG 1 and VVB has cross checked and found the weekly expenditure on lighting was 9.01 \$N (average) and has mentioned the value per year in the MR.

Hence the CAR is closed.

Table 3. CL from this verification

CL ID	01	Section no.	D.2	Date: 29/09/2023
Description of CL				
PD to submit the following documents:				
<ol style="list-style-type: none"> 1. Evidence for start date of project activity. 2. Registered PDD 3. Training records (if any) 4. Ownership details 5. Warranty card 6. Project database/ Sales records 7. Faulty rights records 8. E-waste Management policy 9. Records of hazardous and non-hazardous waste 10. Grievance register & End user agreement. 11. Monitoring survey records 12. Baseline survey records 13. Employment records (if any) 14. Technical specification 15. Stakeholder meeting report 16. GS preliminary review document for design certification 17. Test report from accredited lab for each LED batch implemented in the PA for their life test report and lumen output. 18. Quality standard document of LEDs as per applicable methodology para 19 19. Contract between PD and distribution partners 				
PD response				Date: 04/12/2023
All the documents applicable to the PD are submitted now.				
Documentation provided by PD				
<ol style="list-style-type: none"> 1. Evidence for start date of project activity – Sales form is submitted titled – 				

Evidenceofstartdate_Salesform i.e. 27/05/2021

2. Registered PDD –

AJ_GS7784_PDD_FINALv_18072022

3. Training records (if any)

N/A

4. Ownership details

Evidenceofstartdate_Salesform includes carbon waiver info plus user signature.

5. Warranty card

Included in page 23 of registered PDD.

6. Project database/ Sales records

Included in the ER sheet.

7. Faulty rights records

Included in the ER sheet. In the tab Eradjustment_Faultylights

8. E-waste Management policy

Not applicable. The statement has been removed from the MR now.

9. Records of hazardous and non-hazardous waste

E-waste disposal record submitted.

10. Grievance register & End user agreement.

End user agreement and end user signature submitted as sales form. No grievances were received during the MP and a sample blank grievance book is submitted.

Grievances – Oshikoto

11. Monitoring survey records

Monitoring was carried out only to record info with respect to SDG 1. Since OF survey is not applicable for us now.

SDG1MonitoringSurvey_August2023

12. Baseline survey records

Its included in the ER sheet submitted during validation. File titled "AJ_GS7784_ERSHEET_FINALv_05072022"

13. Employment records (if any)

Not applicable.

14. Technical specification

Submitted. Namene_SM100Datasheet and Namene_SM200Datasheet

15. Stakeholder meeting report

AJ_GS7784_SCR_FINALv_08072022

16. GS preliminary review document for design certification

_Preliminary_Review_GS7784_FINAL_30032020	
SC_GS7784_DESIGNREVIEW_FINALv_28102020	
17. Test report from accredited lab for each LED batch implemented in the PA for their life test report and lumen output.	
VSCertificate_yl-sm100-v4.0-231101	
VSCertificate_yl-sm200-231101	
18. Quality standard document of LEDs as per applicable methodology para 19	
Pico_MQS_v8_0	
19. Contract between PD and distribution partners	
20. NSL_Distribution_Agreement_DW_Namibia_GS7784_signed DWN	
VVB assessment	Date: 05/12/2023
<ol style="list-style-type: none"> 1. It is confirmed the start date of the project activity is 27/05/2021 from the sales form submitted by PD. 2. PD as submitted the registered PDD. 3. Training records are not applicable for the project activity. 4. PD has provided the ownership details for the project activity. 5. Warranty card ahs been submitted by PD. 6. PD has submitted the ER sheet which includes the sales records/ project records. 7. PD has submitted the ER sheet which contains the records of Faulty right record in the tab ER adjustment faulty lights. 8. PD has made necessary changes in the revised MR. 9. PD has submitted the disposal certificate to the verifier. 10. PD has submitted the sales form for end user agreement and signature. Grievance records has also been submitted by the PD. 11. PD has submitted the SDG 1 monitoring survey. 12. PD has submitted the baseline survey records. 13. Employment records is not applicable for this project activity. 14. PD has submitted the technical specification for SM100 and SM200. 15. PD has submitted stakeholder meeting report to the VVB. 16. PD has submitted GS preliminary review document. 17. PD has submitted the test report. 18. PD has submitted the quality standard document of LEDs as per applicable methodology para 19. 19. PD has submitted the distribution agreement as a evidence for contract between PD and distribution partners. 	
Hence the CL is closed.	

CL ID	02	Section no.	D.7.4	Date: 29/09/2023
Description of CL				
<i>In the ER sheet:</i>				
<ol style="list-style-type: none"> 1. <i>PD is requested to submit the evidence for the average inhabitants considered in the project activity (SDG 7).</i> 2. <i>PD shall submit the survey record conducted for the SDG 1.</i> 				
PD response				Date: 04/12/2023
(1) The evidence for average inhabitants is the survey conducted by Namibian Statistics Agency and the evidence is submitted along with this response. Average inhabitants per household is 3.9.				
(2) <i>The evidence for the SDG survey is also submitted as evidence.</i>				
Documentation provided by PD				
(1) Namibia Inter-censal Demographic Survey				
(2) SDG1MonitoringSurvey_August2023				
VVB assessment				Date: 05/12/2023
<i>In the ER sheet:</i>				
1. PD has submitted the evidence for the average inhabitants survey conducted by the Nambian Statistics Agency and confirmed that the average inhabitants pe household is 3.9.				

2. PD has submitted the survey record conducted for the SDG 1 and the same is verified by the VVB. Hence the CL is closed.

CL ID	03	Section no.	D.2	Date:	29/09/2023	
Description of CL						
<i>In the section B.1 of the MR, PD to clarify how the distribution of 2024 is considered as the current monitoring period ends in 30/06/2023.</i>						
PD response					Date:	04/12/2023
The 3 rd year batch is defined as lights distributed between 27/05/2023 – 30/06/2024. A footnote has been added now in the MR which states the following “						
Since the current MP ends on 30/06/2023, so only lights distributed till 30/06/2023 is included in the database for ER calculations.						
Documentation provided by PD						
VVB assessment					Date:	05/12/2023
In the section B.1 of the MR, PD has included a footnote stating that since the current MP ends on 30/06/2023, the lights distributed till 30/06/2023 is considered for ER calculation and the same is confirmed from the database submitted by the PD. Hence the CL is closed.						

CL ID	04	Section no.	D.2	Date:	29/09/2023	
Description of CL						
<i>In the section F of the MR, PD to provide the relationship contract between Waste disposal company in Namibia.</i>						
PD response					Date:	04/12/2023
There is no contract signed with the E-waste disposal company. But evidence of e-waste disposal is submitted.						
Documentation provided by PD						
<i>NamiGreen-Certificate</i>						
VVB assessment					Date:	05/12/2023
PD has submitted a certificate of disposal dated on 20 July 2023 stating that the e-waste generated by NamiGreen is disposed as per the policies. Hence the CL is closed.						

CL ID	05	Section no.	D.7.3	Date:	29/09/2023	
Description of CL						
<i>In the ER sheet under the ER calculation tab, PD has considered the emission reduction for 2021, however as per the MR the monitoring period is from 01/01/2022 to 30/06/2023. PD to clarify.</i>						
PD response					Date:	04/12/2023
The lights sold in 2021 are also included in the database for the purpose of ER calculations. But the number of days considered for ER calculations is not more than 546 days i.e. the duration of the MP for any of the lights. E.g. please see cell P6 in the ER calculations tab.						
Documentation provided by PD						
VVB assessment					Date:	05/12/2023
In the ER sheet, the duration of the MP is 546 days and PD has considered the ER not more than 546 days and the same is verified from the ER sheet submitted by PD. Hence the CL is closed.						

CL ID	06	Section no.	D.5.3	Date:	29/09/2023	
Description of CL						
<i>During onsite visit it is observed to VVB that out of 14 samples selected for survey, the households Agripine Nelongo, Simon Nepolo, Halena Samuel and Martin kuti has been distributed with pico lights in which the serial number is not matching to the serial number mentioned in the ER sheet submitted by PD. PD to clarify.</i>						
PD response					Date:	04/12/2023
As per PD’s database, the client mentioned still carries the same serial number and hence as a conservative measure, no ERs are claimed for these clients. Please see screenshot below.						

3rd batch		27/05/23	30/06/23	19954	Number of clients		197487	samples	samples selected from data	of the samples were in m survey		
no.	SN	SN2	SN3	SN4	SN5	Total Lights	Region	Village	First Name	Last Name	Phone Numbr	Date of c
1	210530305332	210530305337				2	Oshikoto	Onanke	Kuti	Martin	264812298667	01/12/2023
2	210918300220					1	Oshana	Onawa	Agippine	Nelongo		01/12/2023
3	220309304170					1	Oshikoto	Omuthiya	Helena	Samuel	264813497281	01/12/2023
4	220817301861					1	Oshikoto	Onanghali	Simion	Nepolo	264817682999	01/12/2023
5	20201225302255					1	Khomas		Olivia	Theofelus	+264816470303	27/12/2023
6	20201225302041	20201225301917	20201225302228	20201225302257		4	Omusati	Okahao	Amin	Halpinge	+264811244811	27/12/2023
7	20201225300799					1	Oshikoto	Oshinitolipo	ElizabethNdapwa	Lidker	+264812175146	27/12/2023
8	20201225302227					1	Oshikoto	Omyaanya	Kristophina	Angula	+264812952986	28/12/2023
9	20201225302226					1	Khomas	Goreangab Dam	Efraim	Ashoongo	+264812227631	28/12/2023
10	20201225300943					1	Oshikoto	Olukonda	Shuuya	Mathews	+264812957579	31/12/2023
11	20201225300954	20201225300913				2	Changwena	Ongha	Laimi	Shikongo	+264812555911	01/12/2023
12	20201225300911					1	Khomas		Sakaria	Andapo	+264812016661	01/12/2023
13	20201225300942					1	Khomas		Saara	Haikelo	+264817676768	01/12/2023
14	20201225300847					1	Khomas		Lahija	Iiyambo	+264818931251	02/12/2023
15	20201225300798	20201225300915				2	Khomas		Wilbard iyambo	Kapululu	+264812468744	02/12/2023
16	20201225300910	20201225300851				2	Khomas		Emma	Omukwaya	+264816801963	02/12/2023
17	20201225300801	20201225300745				2	Kunene		Hilija	Haikela	+264813476658	02/12/2023
18	20201225300843					1	Khomas		Nekandjo	Peelenga	+264812899570	02/12/2023
19	20201225300670	20201225300931				2	Khomas		Sacky	Amenya	+264812985800	02/12/2023
20	20201225300800	20201225301920	20201225302225			3	Oshikoto		Ndaambelela	Haimbill	+264816839745	03/12/2023
21	20201225300790	20201225300671				2	Khomas	Okuryangava	Kristofina	Peelenga	+264812899570	03/12/2023
22	20201225300743	20201225300743	20201225302151	20201225300723		4	Khomas		Wilbard iyambo	Kamululu	+264812468744	03/12/2023

Documentation provided by PD

VVB assessment **Date: 05/12/2023**

PD has removed the claim of ER for the 4 households, as the serial number claimed prior was not in line to the onsite visit. PD also revised the ER value and submitted the revised ER sheet and MR. hence the CL is closed.

CL ID 07 **Section no.** D.7.4 **Date: 29/09/2023**

Description of CL

During onsite visit it is observed to the VVB that the date of purchase mentioned in the ER sheet is not inline to the monitoring survey submitted by PD. PD to clarify.

PD response **Date: 04/12/2023**

The date of purchase recorded in the ER sheet is via our database which was recorded via a bar code on the box of the lights at the point of sale and it is an automated entry and there is no scope of human error.

The date recorded in the SDG survey is a date recorded by the surveyor over a telephonic call and is based on an estimate provided by the user based on their memory on when they purchased a light. But the names of the users match with the database and shall be considered appropriate.

Documentation provided by PD

VVB assessment **Date: 11/12/2023**

The explanation provided by PD for the purchase date is acceptable. However, during the site visit it was observed that the 8 samples (mentioned below) out of 11 samples selected by VVB (with AQL / UQL as 0.5%, / 20%, producer and consumer risk as 10% / 10% and acceptance level as 0 as per the Sampling and surveys for CDM project activities and programme of activities, version 9.0.) were not available for an in-person interview.

1. Priskila Nghilongwa
2. Seblon Namupala
3. Simon Nangobe
4. Tiopolina Illonga
5. Festus Uunovene
6. Rosalia Shiimbashike
7. Frida Hamwelo
8. Tobias Natalia

With this regard PP shall clarify that: -

1. How the monitoring survey conducted by PP is deemed to be correct, appropriate and reasonable.
2. How double counting of GHG emission reduction is avoided such as unique identification of products and end users locations.
3. How does PP has maintained the overall data management system with respect to record keeping and QA/QC procedures.

Hence the CL is open.

PD response **Date: 22/12/2023**

(1) (a) All the users selected in the initial audit sample who were not available for a physical interview on the

dates of the site visit due to logistical limitations were available for a telephonic interview. As a result, 11 additional samples were randomly selected by the VVB (overall 14 people were visited by the VVB) which were practically feasible to physically visit within the site audit timeframe. Overall, more than 2000 kms of road travel was carried out over a period of 2 days.

(b) The approach opted by the VVB is in line with the CDM sampling standard since a randomly selected sample could be geographically located in any part of the country which is an issue “not under the control of the project participant” and therefore additional samples can be requested by the PD.

(c) The only purpose of the monitoring survey conducted by the PD was to record the current expenditure of the users on lighting (Project scenario expenditure for SDG1 calculation). The lighting expenditure reported in the monitoring survey was found to be in accordance with the expenditure reported by the users during the interviews recorded by the VVB.

In line with the above argument, the outcome of the monitoring survey shall be deemed to be correct, appropriate, and reasonable.

(2) How double counting of GHG emission reduction is avoided such as unique identification of products and end user’s locations –

Double counting of GHG emission reduction is avoided by marking the lights with a unique identification i.e. serial number to each light and assigned to an individual user in our project database. The project lights are also marked with the GS project ID, hence there is no risk of double counting from other carbon projects (in case there were other carbon projects of this type in Namibia). The end users’ locations are maintained by recording the GPS co-ordinates of end user’s location.

(3) The data management system implemented by the PD involves a multi-faced approach:

- Digital data entry and management. The date of purchase recorded in the ER sheet is obtained via our database which is recorded via a bar code on the box of the lights at the point of sale by the field agents and it is an automated entry and there is no scope of human error in recording the information in the database. The rest of the customer data is collected via a dedicated mobile app by the field agents, capturing the data digitally and with drop down menus to ensure data consistency and integrity.
- After sales team. The PD has an after sales team that in addition to providing customer service, they run random sample surveys to customers to confirm the data recorded in the database and to update the data in case of changes or repair or replace the lights, in case of malfunction.
- Data analysis. The PD has a dedicated data analysis team that runs automated weekly data integrity checks through scripts in our database, ensuring completeness and integrity of the data collected and reported. The testament to this statement is that the information reported in the database was found to be in line with the information recorded for the 14 samples during the on-site visit.

QA/QCs. The PD has a carbon management team conducting spot checks and internal audits to identify issues and promote a continuous improvement. The team also ensures that the data presented for the verification is conservatively and accurately reported.

Documentation provided by PD

VVB assessment	Date: 27/12/2023
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1. With reference to the paragraph 32 and 36 of the applied methodology AMS III-AR version 6, the percentage of project lamps that are operating and in service can be assumed to equal 100 per cent in year 1, 2, and 3, the result of ex post monitoring survey undertaken during the third year shall be used in years 4, 5, 6 and 7.

In line with this PD has conducted the monitoring survey to monitor only the current expenditure of the end users on lighting (project scenario expenditure for SDG 1 scenario).

VVB has selected 11 samples from the monitoring survey report with reference to the CDM sampling standard version 9.0 with AQL / UQL = 0.5% / 20%, producer & consumer risk 10% and acceptance rate = 0.

Out of 11 samples selected, 8 samples (mentioned above) were not available for in-person interview due to logistical limitations. Therefore, to establish the confidence on the monitoring survey conducted for SDG 1 parameter, VVB has randomly selected additional 11 samples. VVB has conducted the acceptance sampling on the total 14 samples (3 from initial MS + 11 additional samples) and compared the responses for current lighting expenditure with the claim made by the PD. It is found that the claim made by PD is inline with the OSV observations.

Hence, the monitoring survey conducted by PD is deemed correct, appropriate and reasonable in line with the current expenditure of the user on lighting and the claim of the PD is found appropriate and acceptable to VVB. Hence, this part of CL is closed.

2. As a part of the evidence gathering process during OSV, it was observed that the solar light distributed by the PD is uniquely demarcated with serial number and GS project id to avoid double counting. However, the monitoring survey report submitted by PD, does not contain any contact number and GPS locations of the users. VVB has also observed inconsistencies between the monitoring survey sheet and database provided by PD. Moreover, under sections D.2 and E.2. of the MR, PD has written that the monitoring survey was conducted in July – August 2023, however, during on-site audit, it was observed that one HH has denied on the monitoring survey. PD is requested to clarify the same. Hence this part of the CL is open.

3. PD is requested to provide appropriate evidence on the process of overall data management system with respect to record keeping and QA/QC procedure. This part of the CL is open.

PD response	Date: 04/04/2024
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(1) **Reasons for missing data/inconsistent data in the monitoring survey** - As explained above, the only purpose of carrying out the monitoring survey was to record the current expenditure of users (project scenario for SDG1 calculation) since as per the methodology “*the percentage of project lamps that are operating and in service can be assumed to equal 100 per cent in year 1, 2, and 3*”.

Hence for simplification, other details like phone numbers, GPS data were omitted from the monitoring survey file before submission to the VVB. These details have been added now and the revised monitoring survey file is submitted to the VVB.

The inconsistency regarding the distribution date of lights is already answered above and accepted. The inconsistency with respect to number of lights per user is primarily due to users reporting that they own more lights during the telephonic monitoring survey than they own (as per the database) which is also testament of our QA/QC procedure and conservative for the purpose of ER and other SDG calculations.

Finally, these inconsistencies between the lights database and the telephonic monitoring survey have no impact on the ER calculations since the implementation of the project was found to be in line with the ER database as reported by the 14 samples which were interviewed by the VVB.

(2) The response from the user which reported to not being called for the monitoring survey has been discounted for the purpose of SDG 1 calculations.

Documentation provided by PD

VVB assessment	Date: 09/04/2024
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1. Closed

2. PD has now included the phone number, GPS coordinates and other details in the revised monitoring survey sheet and the same has been verified by VVB in line with the database and found appropriate. PD has appropriately discounted the user who denied the monitoring survey for the purpose of SDG 1 calculation and the same has been verified by VVB. Hence this part of the CL is closed.

3. PD has provided appropriate evidence on the process of overall data management system with respect to record keeping and QA/QC procedure. Hence the CL is closed.

Table 4. Remaining FAR from validation and/ or previous verifications

FAR ID	01	Section no.	D.5.2	Date:	29/09/2023	
Description of FAR						
<i>The process for collecting and recycling/ safety disposing of spent batteries shall be further developed. This shall be evaluated at the time of first verification.</i>						
PD response					Date:	04/12/2023
The project developer has onboarded an authorized e-waste disposal company to dispose of the faulty lights in an environmentally safe manner. All the reported faulty lights that cannot be re-used are stored in our warehouse and then handed over to the authorized e-waste disposal company. The certificate received from the authorized e-waste disposal company is submitted as evidence.						
Documentation provided by project developer						

NamiGreen-Certificate E-waste management process	
VVB assessment	Date: 11/12/2023
PD has submitted the certificate of waste disposal and Water management procedure to the VVB which in detail explained the process of waste management and waste management structure. Hence the FAR is closed.	

FAR ID	02	Section no.		Date: 28/05/2024
Description of FAR				
As per the applied methodology 37(a), the size of the sample shall be no less than 100. This shall be evaluated at the time of first verification.				
PD response				Date: 28/05/2024
Only SDG 1 survey was applicable for the current MP and PD selected 141 samples for the SDG 1 survey hence meeting the methodology requirements.				
Documentation provided by project developer				
NA				
VVB assessment				Date: 29/05/2024
As per the applied methodology 37 (a) the size of the sample shall be no less than 100. PD has conducted monitoring survey for the SDG 1 considering total sample size of 141, which is inline as per the applied methodological requirement. Hence the FAR 02 is closed.				

Annex 1: Assessment of data and parameters fixed ex-ante at the time of validation

Relevant SDG Indicator	SDG 13
Parameter	Grid factor in year y, GF_y
Data unit	Fraction
Default values used	1.0
Purpose of data	Calculation of Baseline Emissions
Source of verification of the source	AMS-III.AR, version 6.0 The project Solar Light is charged by a renewable energy system included as part of the project lamp (i.e. a photovoltaic system) and as defined in AMS-III.AR V.6.0 under charging option 3a default value for GF_y is 1.0

Relevant SDG Indicator	SDG13
Parameter	Dynamic Baseline factor (change in baseline fuel, fuel use rate, and/ or utilization during crediting period in year y), DB_y
Data unit	Fraction
Default values used	1.0
Purpose of data	Calculation of Baseline Emissions
Source of verification of the source	AMS-III.AR, version 6.0 Option 1: default of 1.0 in the absence of relevant information

Relevant SDG Indicator	SDG13, Climate Action
Parameter	Lamp Emission factor, DV
Data unit	Tonnes CO _{2e} per year per project lamp
Default values used	0.092
Purpose of data	Calculation of Baseline Emissions
Source of verification of the source	Default value

Relevant SDG Indicator	SDG 1.1/1.2
Parameter	Annual expenditure on lighting per household in the baseline scenario, $EX_{h,b,\$}$
Data unit	Namibian Dollars
Default values used	2,429.36
Purpose of data	Supports calculation of financial savings per solar light due to avoided purchases of non-renewable energy sources for lighting.
Source of verification of the source	Based on answers from surveyed households and recorded in a survey form provided by NSLC. The value used is the average value for this parameter from all the surveyed households. The data captured included the average weekly expenditure in candles, kerosene and batteries for lighting per household in \$N and converted into an annual value (multiplied by 52 weeks per year). The Local Data Management Partner sent electronic copy of all surveys to the Project Developer for tabulation (manual input) in project baseline assessment spreadsheet. Project Developer's management conducted QA/QC procedures to ensure data completeness and exclude any incorrect data and outliers.

Annex 2: Assessment of data and parameters monitored

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 1.1 and SDG 13.2
Data / Parameter: (as in monitoring plan of PDD):	The percentage of project lamps distributed to end users that are operating and in service (OF _y)
Unit	Fraction
Measuring frequency/Time Interval:	Survey conducted during third year of the crediting period
Reported value	100%- Batch 1-3
Verified Source of Data	NA since all lights are within 3 years of usage
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reported data in MR has been compared with the methodology and ER sheet /02/
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 1.1
Data / Parameter: (as in monitoring plan of PDD):	Annual expenditure on lighting per household in the project scenario (Ex _{h,p} , \$)
Unit	Namibian Dollars (\$N)
Measuring frequency/Time Interval:	Once during the crediting period
Reported value	461.73
Verified Source of Data	Monitoring survey record /05/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reported data in MR has been compared with the monitoring survey records and ER sheet /02/
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB										
Relevant SDG Indicator	SDG 1.1./1.2.1/1.2.2, SDG 7.1.1/7.1.2/7.2.1 and SDG 13.2										
Data / Parameter: (as in monitoring plan of PDD):	Total number of projects solar lights distributed during the crediting period (N)										
Unit	Units										
Measuring frequency/Time Interval:	Quarterly and aggregated on a yearly basis										
Reported value	<table border="1"> <thead> <tr> <th>Year</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>1st 27/05/2021- 26/05/2022</td> <td>40,240</td> </tr> <tr> <td>2nd 27/05/2022- 26/05/2023</td> <td>178,765</td> </tr> <tr> <td>3rd 27/05/2023- 26/05/2024</td> <td>25,896</td> </tr> <tr> <td>Total</td> <td>244,901</td> </tr> </tbody> </table>	Year	Amount	1 st 27/05/2021- 26/05/2022	40,240	2 nd 27/05/2022- 26/05/2023	178,765	3 rd 27/05/2023- 26/05/2024	25,896	Total	244,901
Year	Amount										
1 st 27/05/2021- 26/05/2022	40,240										
2 nd 27/05/2022- 26/05/2023	178,765										
3 rd 27/05/2023- 26/05/2024	25,896										
Total	244,901										
Verified Source of Data	Project Database /02/										
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes										
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA										
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.										
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA										

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	Safeguarding Principle 3.3.1
Data / Parameter: (as in monitoring plan of PDD):	Health and safety training to staff and distribution agents (Community exposure of increased health risks)
Unit	Number of staff trained
Measuring frequency/Time Interval:	Annually
Reported value	0
Verified Source of Data	Project records on training given to staff and distribution agents. However, during the current monitoring period no COVID 19 related training is carried out.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity	NA

parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	Safeguarding Principles 9.4
Data / Parameter: (as in monitoring plan of PDD):	Total number of solar lights recycled or disposed of during the lifetime of the project (Hazardous and non- hazardous)
Unit	n _{rd}
Measuring frequency/Time Interval:	Annual
Reported value	1529
Verified Source of Data	Project database /02/ and records of waste handling and disposal/ recycling /06/
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Annex 3: Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Ex-ante estimated	Amount Achieved	Units/ Products	VVB Assessment
13 Climate Action (mandatory)	GHG emission reductions	44,854	11,664	tCO _{2e}	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.
7 Affordable and clean energy	Population accessing clean lights	950,937	768,994	No. of People	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.
1 No Poverty.	Savings in lighting expenditure	24,494,433	19,758,531	\$saved	VVB has reviewed the ER sheet /02/ monitoring survey /05/, database /03/ and SDG contribution calculation /13/. The same has been verified during on-site audit /12/ and found the value is appropriate.