



Renewable Solar Power Project by ReNew Solar Power Private Limited



Document Prepared by Earthood Services Private Limited

Project Title	Renewable Solar Power Project by ReNew Solar Power Private Limited
Version	02
Report ID	VCS.VER.23.28_MP7

Report Title	Renewable Solar Power Project by ReNew Solar Power Private Limited
Client	ReNew Solar Power Private Limited
Pages	68
Date of Issue	22/09/2023
Prepared By	Earthood Services Private Limited
Contact	1203-1205, 12th Floor, Tower B, Emaar Digital Greens, Sector - 61, Gurugram, Haryana, India – 122011

	Telephone: +91 124 4204599, +91 9871747771
	Website: www.earthood.in Email: info@earthood.in
Approved By	Dr. Kaviraj Singh – Managing Director
Work Carried Out By	Team Leader and Technical Expert (TA 1.2): Divij Varshney Verifier: Abhishek Koul Technical Reviewer and TA Expert to TR: Deepika Mahala

Summary:

Earthood Services Private Limited (hereafter referred to as Earthood) has been contracted by ReNew Solar Power Private Limited to conduct the verification of the project “Renewable Solar Power Project by Renew Solar Power Private Limited”, (VCS ID-1851) with regards to relevant requirements of VCS programme guidelines and standard (VCS standard version 4.5)/7/ & VCS program guide version 4.4/6/).

“Renewable Solar Power Project by ReNew Solar Power Private Limited” is a bundled project with a capacity of 927 MW installed in the Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Telangana states of India.

The project activity was commissioned in phase-wise manner and started operation from 13 February 2017 which is also the date of commissioning of one of the earliest SPV's (24 MW solar project by Renew Mega Solar Power Private Limited). The monitoring period for this verification is 01-January-2023 to 31-March-2023 (including both days) and the project activity achieved 489,201 tCO₂e emission reductions during this monitoring period thereon supplied 516,308.01 MWh amount of electricity from the generation-mix of power plants connected to the Indian grid, which are mainly dominated by carbon intensive fossil fuel-based power plant. During the current monitoring period, no major breakdown or shut down of the plant happened which could have had an impact on the emission reduction.

The project applies the approved large-scale CDM methodology ACM0002: “Grid-connected electricity generation from renewable sources”, Version 19.0/8/

The methodology also refers to the latest approved versions of the following tools:

- Tool to calculate the emission factor for an electricity system (Version 7.0.0)/10/
- Methodological tool on “Tool for the demonstration and assessment of additionality” (Version 7.0)/9/

Scope of verification

Earthood Services Private Limited (hereafter referred as Earthood) was contracted by ReNew Solar Power Private Limited to conduct the verification of the project activity “Renewable Solar Power Project by ReNew Solar Power Private Limited” for the monitoring period from 01-January-

2023 to 31-March-2023 according to the requirements of the Verified Carbon Standard Version 4.5/7/ The scope of the project is Sectoral Scope 1 – Energy Industries (renewable - / non-renewable sources) – ACM0002: Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources, Version 19.0/8/

The assessment team verified the project by conducting a document review and analysis of the VCS PD/1/, VCS MR/3/, ER Sheet/4/ and other related documents provided by the Project Participant to Earthood. Remote site visits and follow up interviews with project stakeholders was conducted after which resolution of outstanding issues was done leading to the issuance of the final report and opinion. A total of 03 CLs and 01 CARs have been raised during the verification process of the project activity and successfully closed.

Summary of the verification opinion

Earthood has performed the verification of the VCS project activity “Renewable Solar Power Project by ReNew Solar Power Private Limited”. The assessment team has confirmed that:

- The PA is in accordance with all relevant host country criteria (India) and VCS rules and requirements/6/.
- The PA is in accordance with all conditions of the latest version of applied methodology ACM0002, Version 19.0 “Grid-connected renewable electricity generation from renewable sources”/8/
- The monitoring plan is transparent and adequate.
- The installed equipment essential for measuring parameters required for calculating emission reductions are properly maintained.
- The monitoring system is in place and functional. The project has generated GHG emission reductions.
- All the information has been consistently applied in the VCS-PD/1/

CONTENTS

1	Introduction	6
1.1	Objective	6
1.2	Scope and Criteria	6
1.3	Level of Assurance.....	7
1.4	Summary Description of the Project	7
2	Verification Process	10
2.1	Method and Criteria.....	11
2.2	Document Review	11
2.3	Interviews	12
2.4	Site Visits	15
2.5	Resolution of Findings	19
2.5.1	Forward Action Requests	20
2.6	Eligibility for Validation Activities	20
3	Validation Findings	20
3.1	Participation under Other GHG Programs	20
3.2	Methodology Deviations.....	20
3.3	Project Description Deviations.....	20
3.4	Grouped Project	21
4	Verification Findings	21
4.1	Project Implementation Status	21
4.2	Safeguards	35
4.2.1	No Net Harm	35
4.2.2	Local Stakeholder Consultation	35
4.3	AFOLU-Specific Safeguards	36
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	36
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	37
4.6	Non-Permanence Risk Analysis.....	55
5	Verification OPINION	56
	APPENDIX I: DOCUMENTS REVIEWED	57

APPENDIX II: ABBREVIATIONS	57
APPENDIX III: FINDINGS OVERVIEW	52
APPENDIX IV: COMPENTECNY STATEMENTS	57

1 INTRODUCTION

1.1 Objective

ReNew Solar Power Private Limited has contracted Earthood to conduct the verification of the project activity titled “Renewable Solar Power Project by ReNew Solar Power Private Limited” with VCS ID 1851. The verifiers have reviewed the GHG data collected to date for the monitoring period from 01/01/2023 to 31/03/2023 covered in this verification.

The objective of this verification is a through and independent assessment of registered project activities against the applicable VCS requirements by the VVB. The verification process shall determine whether the proposed project activity complies with the requirement of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

1.2 Scope and Criteria

The scope of the verification is to establish/verify that:

- An independent and objective review of the Monitoring report (MR)/3/ prepared as per the registered VCS PD/1/ & MR/3/ and registered approved methodology ACM0002, version 19.0 /8/.
- The project activity is in accordance with all relevant host country criteria (India).
- The project activity is in accordance with all relevant VCS rules and requirements/6/.
- the project activity is in accordance with conditions of the version of applied methodology ACM0002: Grid-connected renewable electricity generation from renewable sources --- Version 19.0/8/

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. There are no material errors, overestimation of ER, omission or misstatement. Verification team conducted remote audit to verify metering/monitoring arrangement. The verification team has reviewed all the documents like commissioning certificates/14/, technical specification, Calibration certificates /15/, invoices/22/, grievance register/18/ etc.

1.3 Level of Assurance

☒ Reasonable Level of assurance

☐ Limited Level of assurance

Earthood's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence, conducting the remote site visit and other information and explanations that Earthood considers necessary to give reasonable assurance that reported estimated GHG emission reductions are fairly stated. During the current verification the VVB conducted the remote site visit for the project activity as discussed under section 2.2 of this report and no substantial changes were observed thereby meeting the reasonable level of assurance. In our opinion, the estimated GHG emissions reductions were calculated correctly based on the approved baseline and monitoring methodology ACM0002, Version 19.0/8/, and the VCS standard, Version 4.5/7/. The evidences used to achieve a reasonable level of assurance is specified in section 2.3 and 2.4 of this report.

1.4 Summary Description of the Project

The project activity "Renewable Solar Power Project by ReNew Solar Power Private Limited" involves the installation of 927 MW solar power project in Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Telangana states of India. The solar projects have been developed by 26 nos. SPVs of ReNew Solar Power Private Limited. The project harnesses the solar energy to generate and connected electricity to the Indian National grid, and therefore replacing the electricity that would have been generated through the carbon intensive fossil-fuel power plant or by addition of new units in the future. Hence, reducing the probable GHG emissions produced. The power generated through the project activity is then sold to the state discoms, 3rd party, NTPC Limited and SECI Limited, which has been verified through the invoices/22/ issued by the PP and the Power Purchase Agreement/16/, and same has been dictated in section 3.1 of MR. The implementation of the project has been verified through various photographs of the project site shared by the PP/19/.

The project was activity was commissioned on 13-February-2017, which is the commissioning date of 24 MW solar power plant by Renew Mega Solar Power Private Limited. The start date has been verified through the commissioning certificates/14/ of the solar power plants. The current monitoring period for this verification is from 01-January-2023 to 31-March-2023 (including both days) and the project activity has supplied 516,308.01 MWh of electricity, achieving actual GHG emission reductions as 489,201 tCO₂e (Round down value). For the current monitoring period, no major breakdown or shut down of the plant happened which could have an impact on the emission reduction, which has been verified through the breakdown sheet/23/.

Remote Site Visit (RSV) was conducted on 12/05/2023 and it was confirmed that the current monitoring period from 01/01/2023 to 31/03/2023 involves the generation and supply of 516,308.01 MWh electricity from all the 26 SPV's located in Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Telangana states of India.

The Commissioning Certificates/14/, Power Purchase Agreement/16/ and technical specifications/20/ of each Solar power plant have been verified by the verification team. The location of these plants has been confirmed from the maps/24/. The technical specifications provided for each of the SPVs have been checked from the commissioning certificates/14/. The capacities of each SPV along with the dates of commissioning of these are given below.

S.No.	Name of SPV	Capacity (MW)	Date of Commissioning	State
1.	Bhumi Prakash Private Limited	20	26/09/2017	Karnataka
2.	Renew Wind Energy (MP Four) Private Limited	20	28/04/2017	
3.	Renew Agni Power Private Limited	20	31/03/2017	
4.	Renew Wind Energy (Karnataka 3) Private Limited	20	27/03/2017	
5.	Tarun Kiran Bhoomi Private Limited	20	31/03/2017	
6.	Renew Wind Energy (Karnataka 4) Private Limited	20	31/03/2017	
7.	Renew Wind Energy (Budh 3) Private Limited	20	16/03/2018	
8.	Renew Wind Energy (Budh 3) Private Limited	20	09/03/2018	

9.	Renew Wind Energy (Budh 3) Private Limited	20	30/12/2017	
10.	Renew Wind Energy (Maharashtra) Private Limited	20	13/10/2017	
11.	Renew Wind Energy (Rajasthan Four) Private Limited	20	07/12/2017	
12.	Renew Wind Energy (MP Three) Private Limited	20	11/11/2017	
13.	Renew Saur Urja Private Limited	50	26/05/2017	
14.	Renew Wind Energy (TN2) Private Limited	50	14/12/2017	
15.	Renew Solar Energy (Karnataka Two) Private Limited	40	31/03/2017	Gujarat
16.	Renew Clean Energy Private Limited	51	01/10/2017	Madhya Pradesh
17.	Aalok Solarfarms Limited	10	06/11/2017	Rajasthan
18.	Abha Solarfarms Limited	10	17/10/2017	
19.	Heramba Renewbles Limited	20	17/10/2017 28/10/2017	
20.	Shreyas Solarfarms Limited	20	17/11/2017	
21.	ReNew Solar Energy (Telangana) Private Limited	143	28/04/2017 16/05/2017 22/06/2017 03/07/2017 12/07/2017	Telangana
22.	Renew Mega Solar Power Private Limited	48	13/02/2017 21/02/2017	
23.	Renew Saur Shakti Private Limited	30	14/02/2017 04/03/2017	

			30/03/2017 30/05/2017 11/06/2017	
24.	Renew Saur Shakti Private Limited	65	29/05/2017 07/07/2017	
25.	Renew Wind Energy (TN2) Private Limited	100	01/11/2017	
26.	Prathamesh Solarfarms Limited	50	20/09/2017	

2 VERIFICATION PROCESS

The verification team has performed the seventh verification of the project activity, No validation activities have been performed during this verification.

2.1 Method and Criteria

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Earthood's internal procedures. The Project was verified against the latest requirements (Version 4.4) /6/ and guidance set out in VCS Standards as applicable.

The validation/verification process consists of the following three phases:

- A desk review of the VCS PD/1/, VCS MR/2/ and ER Sheet/4/ (described in section 2.2)
- Telephonic call and follow up interviews with PP and Client (described in section 2.3)
- The resolution of outstanding issues and issuance of final report and opinion.

A competent assessment team is selected prior to the start of the verification. The team is selected to cover the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the VCS project activity. Additionally, a competent technical reviewer or technical reviewer team is appointed to conduct checks on quality and completeness.

The verification team performs first a desk review, followed by remote site visit, which results in the formation of a draft report and a list of findings. The next step involves the evaluation of the findings through direct communication with the PP's and then finally the preparation of the verification report.

VVB's Sampling Approach:

No sampling approach was required for undertaking the current verification since all monitored data was verified by the assessment team.

2.2 Document Review

The verification is performed primarily as a document review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols. The assessment team cross checks the information provided in the documents (Project Description & Monitoring Report/1/2/) and information from sources other than those used, if available, and also conducts independent background investigations. Earthood conducted a desk review as under;

- a) A review of the data and information presented to verify their completeness;
- b) A review of the monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;

- c) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

2.3 Interviews

A remote audit was conducted for the project activity on 12/05/2023. As per para 4.1.9 of the VCS Standard, v4.5 “A site visit that includes a visit to facilities and/or project areas shall be conducted at validation. Such a site visit shall be conducted at verification under the following circumstances: 1. The first verification of the project after validation; 2. Verification of project baseline reassessments; and 3. Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.” The scope of the assessment is the 7th verification of the project activity. Hence, this is not the validation, first verification of the project activity and verification of the baseline reassessments. Also, the project activity doesn't have any project description deviation.

The VVB has taken alternative measures to reach reasonable level of assurance and conducted remote audit through video conferencing with site personal and consultant (refer the table below) with the PP representative.

The technical details and metering/20/ monitoring arrangement verified through onsite photographs/19/ name plates and calibration certificates shared by the PP. All the documents were cross-checked to ensure conservative estimation of emission reduction.

During the remote audit, all the PP representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning certificates of all the SPV's /14/, commissioning date of equipment's, generation records, monitoring practices, maintenance of the facility, data collection, grievance mechanism, major shutdown in plants during the current monitoring period were discussed. To verify the information provided by the PP, various documents like commissioning certificates/14/, technical specifications/20/, Power Purchase Agreement/16/, Plant records, Energy Generation Record sheets, invoice/22/, calibration certificates/15/, etc. were also assessed. The names of the people interviewed during the remote audit/11/ through video conferencing are mentioned below;

No.	Interviewee			Date	Topics Covered	Team member
	Last name	First Name	Affiliation			
1.	Bhaduri	Manali	ReNew Solar Power Private Limited	12/05/2023	Operation and Maintenance of Facility, Monitoring Practices, Data collection, Logbooks, QA/QC procedures, calibration procedures and details, Grievance Mechanism, major shutdown in plants, data recording and management, training imparted	Divij Varshney and Abhishek Koul
2.	Gond	Aditya	ReNew Solar Power Private Limited	12/05/2023		
3.	Prasad	Durga	ReNew Solar Power Private Limited	12/05/2023		
4.	Singh	Gaurav	ReNew Solar Power Private Limited	12/05/2023		
5.	C.	Karthick	ReNew Solar Power Private Limited	12/05/2023		
6.	Kumar	Korada Ramesh	ReNew Solar Power Private Limited	12/05/2023		
7.	-	Arun	ReNew Solar Power Private Limited	12/05/2023		
8.	U	Manjunatha	ReNew Solar Power Private Limited	12/05/2023		

9.	Kumar	Manoj	ReNew Solar Power Private Limited	12/05/2023		
10.	Loni	Mohammed	ReNew Solar Power Private Limited	12/05/2023		
11.	N.	Nagesh	ReNew Solar Power Private Limited	12/05/2023		
12.	Maheshwari	Nitesh	ReNew Solar Power Private Limited	12/05/2023		
13.	Reddy	Pradeep	ReNew Solar Power Private Limited	12/05/2023		
14.	-	Sitaramaiah	ReNew Solar Power Private Limited	12/05/2023		
15.	Murugan	Vel	ReNew Solar Power Private Limited	12/05/2023		
16.	Naidu	Venkata	ReNew Solar Power Private Limited	12/05/2023		
17.	J.	Vinayaka	ReNew Solar Power Private Limited	12/05/2023		

18.	Singh	Mahaveer	ReNew Solar Power Private Limited	12/05/2023		
-----	-------	----------	--	------------	--	--

2.4 Site Visits

During the current verification a remote site visit was conducted on 12/05/2023. This was deemed sufficient to confirm the plants operations and other aspects of the project operations. The approach was in accordance with para 4.1.2 of the VCS standard V4.5/7/ “The validation/verification body shall gather evidence to validate a project to determine conformance with the VCS Program rules and evaluate the reasonableness of assumptions, limitations, and methods that support a statement about the outcome of future activities.” The representatives of the PA were interviewed through video call (via Zoom Call), details of which is included in section 2.3 of this report.

To achieve a reasonable level of assurance, the assessment team has followed the alternative means to substantiate the verification criteria as discussed in the table below:

Requirements	Means of verification/ source documents	Assessment opinion
Project implementation and operation	The project consists of capacity of 927 MW installed in the Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Telangana states of India to capture the solar power generated and converting into electricity, which is supplied to the Indian grid. Supporting documents: 1. Commissioning certificate /14/ 2. VCS Registered PD/1/ 3. Technical specification /20/ 4. Joint meter reading/12/	The start date of the project activity has been verified through the commissioning certificate/14/ provided by the PP. This is also found to be in compliance with the registered PD/1/. The implementation of the project activity has been verified through Commissioning certificates/14/, calibration certificates of all meters/15/ and photographs and video of the project site/19/. PP were also interviewed during remote site visit and the project sites were visited remotely/11/. The continuous operation of the project activity has been verified

	5. Energy invoices/22/ 6. Calibration certificates/15/ 7. Power Purchase Agreement/16/ 8. Photographs of project site/19/ 9. Remote Site Visit/11/	through the JMRs/12/ issued by the state utilities and Energy invoices/22/ issued by the PP. The electricity generated are being sold to state discoms, 3rd party, NTPC Limited and SECI Limited, which has been verified through the invoices/22/ issued by the PP and same has been dictated in section 3.1 of MR. The source was found to be reliable and authentic. The verification team can confirm that the project activity is not registered under any other GHG and non-GHG program. This has been confirmed through declaration provided by Project proponent and verified through independent research in relevant publicly available data for other registries like CDM, GCC, Gold Standard, Chinese ETS, i-REC^{61/} and other international and domestic renewable energy schemes to achieve a higher level of assurance about the implementation of project activity. Through all the information provided and based on the remote site visit/11/ conducted it is evident that the project is implemented and is in operation as per registered PD/1/.
Monitoring systems and procedures	The approved reports from the validation and the project description could be one of the pieces of evidence for the compliance of the monitoring system. The JMRs/12/ and energy sales invoices/22/ can also act as supportive documents. The technical specification of the meter installed can be verified from the technical	The frequency of monitoring of parameters listed under approved monitoring plan is verified through JMRs/12/ and the invoices/22/. The photographs of the monitoring equipment/19/ taken during the remote site visit and later shared by the PP has been verified and found to be appropriate. The PP were interviewed about the monitoring system and procedures during the RSV/11/.

	description/20/ and the calibration certificates/15/.	The documents were cross-checked by the VVB and the implementation of the monitoring system and procedure has been verified.
Calibration frequency	Calibration certificates of each energy meter/15/ VCS registered PD/1/	Calibration frequency and energy meter specifications has been verified through calibration certificates/15/ and VCS PD/1/ and was found consistent. There was no delay found in the calibration frequency. The serial number of the energy meters has also been verified from the photographs of the energy meters/19/, calibration certificates/15/ and through remote site visit/11/ and found to be in line with the VCS MR/3/. Responsibility of calibration and maintenance of the energy meters is done by the respective state bodies of the SPV's.
Data and calculations	Monthly JMRs issued by the state utility/12/ Energy sales invoices issued by the PP/22/ ER sheet/4/ VCS Registered PD/1/	Monthly values of the monitoring parameters used in the ER calculation are verified through Monthly JMRs/12/ and sales invoices/22/ and are found appropriate. The PP has taken the values reported in the JMR for the calculation of emission reductions, since JMRs is an official governmental document used to document the amount of electricity transferred to the grid, the approach has been assessed and found to be appropriate. Methods, formulae and emission factor for calculating baseline emissions have been followed in

		accordance with the VCS PD/1/ and applied methodology/8/.
--	--	---

Based on the above assessment it can be concluded that the assessment team has verified sufficient data, to reduce audit risk to an acceptably low level as a requisite to achieve reasonable level of assurance for the current monitoring period.

2.5 Resolution of Findings

CAR (Corrective Action Request) is raised if one of the following occurs:

- a) Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient.
- b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants
- c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions
- d) Change to the key sustainable development indicators.
- e) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable requirements have been met. All CARs and CLs raised by the Earthood during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

The Objective of this verification phase was to resolve the requests for corrective actions, clarification and any other outstanding issues from verification which need to be assessed for Earthood's positive conclusion on the Monitoring report. The corrective action requests and clarification requests raised by the VVB (Earthood) were successfully resolved by the PP (Renew Solar Power Private Limited) to complete the verification process.

A total of 03 CLs and 01 CARs were raised in the current verification. No FAR was raised. All the findings that are raised and communicated to project participant during the verification are included under Appendix III. The section also includes the response, if provided, by the project participants and an assessment by the verification team if it was closed out or otherwise.

2.5.1 Forward Action Requests

This is the seventh verification of the Project Activity and no FAR was raised from validation/5/ or previous verification (6th)/17/.

2.6 Eligibility for Validation Activities

Not applicable since there was no such undertaking for the given project.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Project is registered under VCS only (VCS ID-1851)/1/. It is confirmed from the declaration/21/ provided by the project proponent “Renewable Solar Power Project by ReNew Solar Power Private Limited” that the net GHG emission reductions generated by the project activity will not be used for compliance with any other emissions trading program or to meet binding limits on GHG emissions for the same monitoring period.

The project activity is not a part of any other GHG Program.

3.2 Methodology Deviations

No methodology deviations were found for this monitoring period.

3.3 Project Description Deviations

No Project deviation has been sought during the current monitoring period i.e. 01/01/2023 to 31/03/2023. However, PP has taken a project description deviation in the previous monitoring period. “PP seeks deviation from the “Source of data” under monitoring parameters for one of the SPVs Renew Wind Energy (TN2) Private Limited, 50 MW plant at Pavgada. The source of data for the generation was Form-B and the same has been considered as the source of generation data till Jan-2020 as per the monitoring plan. However, from Jan-2020 onwards, REA statements are being issued. Hence, the generation data from Jan-2020 onwards has been taken from the REA statements. The change in source of data for the generation is as per the requirement of State electricity authority and PP has no control over the same. The verification team has checked both the sources of data before and after the deviation and confirms the deviation with respect to this plant. It is to be noted that, due to this deviation, there is no impact on the applicability of the methodology, additionality, or the appropriateness of the baseline scenario of the project activity.”

3.4 Grouped Project

This is not a grouped project. Thus, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is the implementation of solar power plants with a total capacity of 927 MW across Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Telangana states of India. The purpose of this project activity is to generate electricity through renewable energy sources and then this generated electricity is exported to the Indian electricity grid. Since, this is the seventh verification of the current crediting period, the commissioning, capacity, project implementation, grid connectivity, and technical specifications have been checked during the previous monitoring period and at validation.

The start date of the project activity is 13/02/2017, which is also the date of commissioning of 24 MW solar project activity by Renew Mega Solar Private Limited, which has been verified through the commissioning certificates/14/ of the same. The first crediting period of the project activity is 13/02/2017 to 12/02/2027, with 10 years period and can be renewed twice. The current monitoring period is the seventh verification of the first crediting period starting from 01/01/2023 to 31/03/2023 (including both days).

The details of the locations of all the SPV's installed under the project activity are mentioned in the table below:

Name of SPV'S	Capacity (MW)	Village, Tehsil, District	State	Date of Commissioning
Bhumi Prakash Private Limited	20 MW	Hirebudur, Deodurga, Raichur	Karnataka	26-09-2017
Renew Wind Energy (MP Four) Private Limited	20 MW	Chincholi, Chincholi, Ballari		28-04-2017
Renew Agni Power Private Limited	20 MW	Upparhosahalli, Siruguppa, Ballari		31/03/2017
Renew Wind Energy (Karnataka 3) Private Limited	20 MW	Ladha, Bhalki, Bidar		27-03-2017
Tarun Kiran Bhoomi Private Limited	20 MW	Gola (B), Aland, Kalaburagi		31-03-2017
Renew Wind Energy (Karnataka 4) Private Limited	20 MW	Nirna. Humnabad, Bidar		31-03-2017
Renew Wind Energy (Budh 3) Private Limited	20 MW	Sanehpur near Eklara, Aurad, Bidar		16-03-2018

Renew Wind Energy (Budh 3) Private Limited	20 MW	Nirna, Humnabad, Bidar		09-03-2018
Renew Wind Energy (Budh 3) Private Limited	20 MW	Wadagere & Aikur, Shahapur, Yadagir		30-12-2017
Renew Wind Energy (Maharashtra) Private Limited	20 MW	Saidapur & Malhar, Yadagir, Yadagir		13-10-2017
Renew Wind Energy (Rajasthan Four) Private Limited	20 MW	Gundikaval, Turuvekere, Tumkur		07-12-2017
Renew Wind Energy (MP Three) Private Limited	20 MW	Kattige, Honnali, Davangere		11-11-2017
Renew Saur Urja Private Limited	50 MW	Thalekhan, Lingasugur		26-05-2017

Renew Wind Energy (TN2) Private Limited	50 MW	Thirumani, Rayacherlu, Vallur, Balasamudra, Kyataganacherlu Nagalamadike Hobli, Pavagada Tumkur		14-12-2017
Renew Solar Energy (Karnataka Two) Private Limited	40 MW	Charanka, Sanralpur, Patan	Gujarat	01-10-2017
Renew Clean Energy Private Limited	51 MW	Bhensarwas, Shadora, Ashok Nagar	Madhya Pradesh	01-10-2017
Aalok Solarfarms Limited	10 MW	Badsid, Bap, Jodhpur	Rajasthan	06-11-2017
Abha Solarfamrs Limited	10 MW	Badsid, Bap, Jodhpur		17-10-2017
Heramba Renewbles Limited	20 MW	Hanawat Nagar, Bap, Jodhpur		10 MW on 17/10/2017
				10MW on 28/10/2017
Shreyas Solarfamrs Limited	20 MW	Khetusar Nagar, Bap, Jodhpur		17-11-2017

Renew Solar Energy (Telangana) Private Limited	143 MW	Dharamaraopet & Kankal, Sadasivanagar Nizamabad	Telangana	44 MW on 28/04/2017
				17.6 MW on 16/05/2017
				44 MW on 22/06/2017
				15.4 MW on 03/07/2017
				22 MW on 12/07/2017
Renew Mega Solar Power Private Limited	48 MW	Andugulapet Mandamarri, Adilabad		24 MW on 13/02/2017
				24 MW on 21/02/2017
Renew Saur Shakti Private Limited	30 MW	Vangara, Bheemdevarapal ly, Karimnagar		8 MW on 14/02/2017
				10 MW on 04/03/2017
				6 MW on 30/03/2017
			4.5 MW on 30/05/2017	
			1.5 MW on 11/06/2017	

Renew Saur Shakti Private Limited	65 MW	Minpur, Medak		58 MW on 29/05/2017
				7 MW on 07/06/2017
Renew Wind Energy (TN2) Private Limited	100 MW	Gudibanda Addakal Mahabubnagar		01-11-2017
Prathamesh Solarfarms Limited	50 MW	Dodaguntapally Peddamandadi Mahabubnagar	Telangana	20-09-2017

The geo-coordinates of location for the project activity are as follows:

Name of SPV's	Capacity (MW)	Latitude	Longitude
Bhumi Prakash Private Limited	20 MW	16.3° N	76.8° E
Renew Wind Energy (MP Four) Private Limited	20 MW	17.4° N	77.4° E
Renew Agni Power Private Limited	20 MW	15.5° N	76.9° E
Renew Wind Energy (Karnataka 3) Private Limited	20 MW	18° 0'5.81"N	77°18'32.57"E
Tarun Kiran Bhoomi Private Limited	20 MW	17.4° N	76.7° E
Renew Wind Energy (Karnataka 4) Private Limited	20 MW	17.7° N	77.3° E
Renew Wind Energy (Budh 3) Private Limited	20 MW	18°11'47.91"N	77°26'46.34"E
Renew Wind Energy (Budh 3) Private Limited	20 MW	17.75° N	77.35° E
Renew Wind Energy (Budh 3) Private Limited	20 MW	16.6° N	77.0°E
Renew Wind Energy (Maharashtra) Private Limited	20 MW	16.6° N	77.3°E
Renew Wind Energy (Rajasthan Four) Private Limited	20 MW	13.2°N	76.8°E
Renew Wind Energy (MP Three) Private Limited	20 MW	14.3° N	75.6° E

Renew Saur Urja Private Limited	50 MW	15°53'53" N	76°33'26" E
Renew Wind Energy (TN2) Private Limited	50 MW	14.237 N	77.486 E
Renew Solar Energy (Karnataka Two) Private Limited	40 MW	23°54'56.45" N	71°12'4.79" E
Renew Clean Energy Private Limited	51 MW	24.03117°N	76.667943°E
Aalok Solarfarms Limited	10 MW	27.4° N	72.4° E
Abha Solarfarms Limited	10 MW	27.4° N	72.4° E
Heramaba Renewbles Limited	20 MW	27.4° N	72.1° E
Shreyas Solarfarms Limited	20 MW	27.3° N	71.9° E
ReNew Solar Energy (Telangana) Private Limited	143 MW	18.6° N	78.3° E
Renew Mega Solar Power Private Limited	48 MW	18.985290° N	79.446397° E
Renew Saur Shakti Private Limited	30 MW	18.1° N	79.4° E
Renew Saur Shakti Private Limited	65 MW	17° 57.951' N	78° 03.968' E
Renew Wind Energy (TN2) Private Limited	100 MW	16.6°N	77.9°E
Prathmesh Solarfarms Limited	50 MW	16°25'12" N	78°4'40.80" E

Calibration of meters:

The energy meters installed at the sub-station are of accuracy class 0.2s as verified through the calibration certificates/15/. The installation of meters was checked through the calibration certificates/14/ and during the remote site visit conducted on 12/05/2023/11/. Details of the energy meters installed at all the SPV's is provided in the below table:

Name of SPV's	Capacity in MW	Meter Serial No.	Accuracy Class	Make	Date of Calibration	Due date of Calibration
Tarun Kiran Bhoomi Private Limited	20 MW	Main meter - 16193095	0.2 s	L & T	04-September-2019, 19-June-2020	03-September-2024, 18-June-2025
		Main meter - 21004943			05-April-2022	04-April-2027
		Check meter - 13192165			04-Septemeber-2019, 19-June-2020	03-September-2024, 18-June-2025

		Check meter - 21005013			05-April- 2022	04-April- 2027
Renew Clean Energy Private Limited	51 MW	Main meter – XE518730	0.2 s	Secure	10-August- 2020	09-August- 2025
		Check meter – XE518731				
		Main meter – Q0715876			01-March- 2023	29-February- 2028
		Check meter – Q0715877				
Renew Wind Energy (TN2) Private Limited	50 MW	Main meter – 16195517	0.2 s	L & T	08- Decemeber- 2017	07- December- 2022
		Check meter - 16195508			08- December- 2017	07- December- 2022
		Main meter - 16195519			08- December- 2017	07- December- 2022
		Check meter - 16195523			08- December- 2017	07- December- 2022
		Main meter LT-0834- A			10-January- 2022	09-January- 2027
		Check meter LT- 0795-A			10-January- 2022	09-January- 2027
		Main meter – LT- 0921-A			10-January- 2022	09-January- 2027
		Check meter – LT- 0922-A			10-January- 2022	09-January- 2027

Renew Wind Energy (Karnataka 3)	20 MW	Main meter – 16113413	0.2 s	L & T	28-January- 2021	27-January-2026
---------------------------------------	-------	--------------------------	-------	-------	---------------------	-----------------

Private Limited		Check meter - 16113221			28-January-2021	27-January-2026
		Main meter – 21005034			15-March-2023	14-March-2028
		Check meter - 21005051			15-March-2023	14-March-2028
Renew Wind Energy (MP Four) Private Limited	20 MW	Main meter - 16083161	0.2 s	L & T	25-January-2023	24-January-2028
		Check meter - 16083118			25-January-2023	24-January-2026
Bhumi Prakash Private Limited	20 MW	Main meter - 15197833	0.2 s	L & T	25-December-2019	24-December-2024
		Check meter - 15197834			25-December-2019	24-December-2024
		Main meter - 21005057			24-February-2023	23-February-2028
		Check meter - 21005109			24-February-2023	23-February-2028
Renew Solar Energy (Telangana) Private Limited	143 MW	Main meter – APX01166	0.2 s	Secure	27-July-2021	26-July-2026
		Check meter – APX01167			27-July-2021	26-July-2026
		Stand by meter – APX01168			27-July-2021	26-July-2026
Renew Wind Energy (MP Three)	20 MW	Main meter - 16112933	0.2 s	L & T	27-September-2017	26-September-2022

Private Limited		Check meter - 16112921			27-September-2017	20-January-2028
		Main meter - 21005015			21-January-2023	
		Check meter - 21005085			21-January-2023	
Renew Wind Energy (Karnataka 4) Private Limited	20 MW	Main meter - 16083139	0.2s	L & T	11-February-2021	10-February-2026
		Check meter - 16083133			11-February-2021	10-February-2026
Renew Mega Solar Power Pvt. Limited	48 MW	Main meter – APX01147	0.2 s	Secure	10-July-2020	09-July-2025
		Check meter – APX01148			10-July-2020	09-July-2025
		Stand by meter - APX01149			10-July-2020	09-July-2025
Renew Wind Energy (TN2) Private Limited	100 MW	Main meter – APZ00378	0.2 s	Apex 150	15-June-2022	14-June-2023
		Check meter – APZ00379			15-June-2022	14-June-2023
		Stand by meter – APZ00380			15-June-2022	14-June-2023
Renew Saur Shakti Private Limited	65 MW	Main meter - 16196322	0.2 s	L & T	18-February-2020	17-February-2025
		Check meter - 16196377			18-February-2020	17-February-2025
		Stand by meter - 16196411			18-February-2020	17-February-2025

Renew Saur Shakti Private Limited	30 MW	Main meter - 16196362	0.2 s	L & T	09-February-2021	08-February-2026
		Check meter - 16196398			09-February-2021	08-February-2026
		Stand by meter - 16196385			09-February-2021	08-February-2026
Abha Solarfarms Limited	10 MW	Main meter - 17075486	0.2 s	L & T	03-April-2021	02-April-2026
		Check Meter - 17075488			03-April-2021	02-April-2026
Aalok Solarfarms Limited	10 MW	Main meter - 17075514	0.2 s	L & T	03-April-2021	02-April-2026
		Check meter - 17075515			03-April-2021	02-April-2026
Heramba Renewables Limited	20 MW	Main meter (Project – I) - 17075537	0.2 s	L & T	05-April-2021	04-April-2026
		Check meter (Project – I) - 17075539			05-April-2021	04-April-2026
		Main meter (Project – II) - 17075547			05-April-2021	04-April-2026
		Check meter (Project – II) - 17075548			05-April-2021	04-April-2026
Shreyas Solarfarms Limited	20 MW	Main meter (Project – I) - 17075525	0.2 s	Secure	04-April-2021	03-April-2026
		Check Meter (Project -I) - 17075526			04-April-2021	03-April-2026
		Main meter (Project -II) - 17075530			04-April-2021	03-April-2026

		Check meter (Project- II) - 17075531			04-April- 2021	03-April-2026
Prathmesh Solarfarms Limited	50 MW	Main meter – XD551233	0.2 s	Secure	25-March- 2021	24-March-2026
		Check meter – XD551234			25-March- 2021	24-March-2026
		Stand by meter – XD551235			25-March- 2021	24-March-2026
Renew Solar Energy (Karnataka Two) Private Limited	40 MW	Main meter - GJ3713A	0.2 s	Secure	19-March- 2020	18-March-2025
		Check meter - GJ3714A			19-March- 2020	18-March-2025
		Stand by meter - GJ3880A			19-March- 2020	18-March-2025
Renew Wind Energy (Rajasthan Four) Private Limited	20 MW	Main meter - 16112918	0.2 s	L & T	26-February- 2021	25-February- 2026
		Check meter - 16112913			26-February- 2021	25-February- 2026
		Main meter - 20009661			31-January- 2023	30-January-2028
		Check meter - 20009673			31-January- 2023	30-January-2028
Renew Wind Energy (Maharashtra) Private Limited	20 MW	Main meter - 16113430	0.2 s	L & T	01-April- 2021	31-March-2026
		Check meter - 16113436			01-April- 2021	31-March-2026
		Main meter - 21004929			01-March- 2023	29-February- 2028

		Check meter - 21004938			01-March- 2023	29-February- 2028
Renew Agni Power Private Limited	20 MW	Main meter - 16113386	0.2 s	L & T	13-January- 2021	12-January-2026
		Check meter - 16113401			13-January- 2021	12-January-2026
		Main meter - 20003005			16-March- 2023	15-March-2028
		Check meter - 20003005			16-March- 2023	15-March-2028
Renew Wind Energy (Budh 3) Private Limited	20 MW	Main meter - 17069178	0.2 s	L & T	26- November- 2020	25-November- 2025
		Check meter - 17069183			26- November- 2020	25-November- 2025
		Main meter – 21004949			14-March- 2023	13-March-2028
		Check meter - 21004979			14-March- 2023	13-March-2028
Renew Saur Urja Private Limited	50 MW	Main meter - 17117926	0.2 s	L & T	25-February- 2021	24-February- 2026
		Check meter - 17117928			25-February- 2021	24-February- 2026
Renew Wind Energy (Budh 3) Private Limited	20 MW	Main meter - 17166928	0.2 s	L & T	12-June- 2020	11-June-2025
		Check meter - 17166940			12-June- 2020	11-June-2025
		Main meter - 21005004			13-March- 2023	12-March-2028
		Check meter - 21005028			13-March- 2023	12-March-2028
Renew Wind Energy (Budh	20 MW	Main meter - 17125589	0.2 s	L & T	01-April- 2021	31-March-2026

3) Private Limited					16-February-2023	15-February-2028
		Check meter - 17125590			01-April-2021	31-March-2026
					16-February-2023	15-February-2028

The project activity will reduce the GHG emissions generated by the current generation energy mix in Indian power grid, which is dominated by carbon intensive fossil fuel-based grid connected power plants. The power generated through the project activity is then sold to the state discoms, 3rd party, NTPC Limited and SECI Limited, which has been verified through the invoices/22/ issued by the PP and same has been dictated in section 3.1 of MR.

Based on the above auditing measures it was concluded by the verification team that there was no material discrepancies between the actual monitoring system, and the monitoring plan set out in the joint VCS PD & MR/1/ and the applied methodology/08/, This has been verified from the review of information available in MR/3/ and cross-checked against joint VCS PD & MR/1/ and the applied methodology “ACM0002”/08/.

The technical specifications of the project activity equipment's was verified during the remote-site audit as manufacturer technical specifications document provided by PP and all the equipment's installed on site were found to be consistent with the details mentioned under monitoring report/3/.

The verification team conducted interviews with the plant representatives to confirm that the generation data of the inverters is accurately reported by cross checking the data from the SCADA monitoring system and can therefore confirm that the project is fully functional.

A declaration certificate/21/ shared by the PP, has clearly stated that the project activity has not received or sought any other form of environmental credit or is doing so during current verification. A declaration certificate/21/ shared by the PP, has clearly stated that the GHG emissions reduction or removals generated by the project are not the part of emission trading program or any other mechanism that includes GHG allowance trading. The project activity is a grid-connected solar power plant which is contributing to SD by reducing the GHG emission, that would have been emitted from the project baseline.

Based on the above, it can be concluded that the project has been implemented as described in registered PD/1/ and no discrepancies has been found in this regard.

4.2 Safeguards

4.2.1 No Net Harm

Since the project is a grid connected renewable energy power plant which involves generation of electricity through solar power, it does not have any negative environmental and social impacts as was checked during the review of the PD/1/ and the grievance register/18/, etc.

4.2.2 Local Stakeholder Consultation

The Local stakeholder consultation has been conducted at the time of project registration. Same was confirmed by the PP during the interviews /11/, for on-going stakeholder communication. PP has maintained a feedback/18/ complaint register at the site of the SPV. Local stakeholders can lodge their grievances anytime in the register over the operational lifetime of the project activity.

During the current monitoring period, no grievances were received. Thus, the verification team is of the opinion that the ongoing stakeholder's mechanism is adequate and appropriate.

4.3 AFOLU-Specific Safeguard

This section is not applicable as this project activity is a non-AFLU project activity.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried out in accordance with the registered VCS PD/1/ and the monitoring report /2/. The monitoring plan laid on the registered VCS PD/1/ was being followed at the site. The verification team has assessed the information flow (from data generation, aggregation, to recording, calculation and reporting for these including the values) in the MR/3/ as per VCS standard/7/. The joint meter reading is taken by the representative of the DISCOM in the presence of the PP in the form of JMR's/12/ issued by the respective state utilities of all the SPV's and the monthly invoices/22/ are being issued by the PP provides the value of parameters that is used directly for the emission reduction calculations. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.

The calculation of the emission reduction is found to be correct. The details of the reported and the verified values for all the parameters are mentioned in section 4.5 of this report. The formulae and method used to calculate the baseline emissions, project emissions and leakage emissions are appropriate and in line with the approved methodology ACM0002/8/.

The parameters are directly sourced from monthly JMR's/12/ issued by the DISCOM and the electricity invoices/22/ issued by the PP. The PP has provided complete set of data for all the monitored parameters in the ER Sheet/4/. This data has been verified as described in section 4.5 of this report. The formulae and method used to calculate the baseline emissions, project emissions and leakage emissions are appropriate and in line with the approved methodology ACM0002/8/.

The ex-ante parameters have been calculated at validation stage and remains fixed throughout the crediting period, in accordance with the tool to calculate emission factor for an electricity system/10/ and are in-line with reported value in registered VCS PD/1/.

As per ER sheet/4/ submitted by the PP, the net GHG emission reductions achieved during the current verification period which is also the seventh verification of the project activity i.e. 01-January-2023 to 31-March-2023, which were verified to be as 489,201 tCO₂e.

The calculation method and formulae used for calculating the baseline emission, project emission and leakage emission are found to be in compliance with the applied methodology ACM0002 v19/8/. The findings raised during the verification process were satisfactorily resolved, the details of which can be found in appendix III.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The ER's generated for the project activity is based on the electricity generation from the solar power plants. The PP has shared all the relevant evidence to substantiate the data related to the monitored parameter. The list of all the documents that were reviewed for the current verification has been listed down in appendix I of this report. The values of the parameter, electricity imported and exported has been listed down in the appendix I of this report. The values of the parameter, electricity imported and exported has been checked by the verification team through the monthly JMR's/12/ and electricity invoices/22/ to verify the values reported in the ER Sheet/4/ and were found to be appropriate. Since the monthly JMR's are prepared and issued by the DISCOM, they are found to be an authentic and reliable source and the monthly invoices/22/ are being issued by the PP to state discoms, 3rd party, NTPC Limited and SECI Limited. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach is conservative after assessment and was found to be appropriate.

The monitoring of the project activity is found to be in accordance with the monitoring plan set out in the VCS PD/1/ and the approved methodology ACM00002/8/. The verification of ex-ante and monitored parameter has been discussed below:

1. Assessment of Data and Parameter

The assessment of ex-ante parameter has been carried out as per the method described in the table below.

Ex-ante parameter	Assessment
EF_{grid,OM,y} , Operating Margin CO ₂ emission factor in year y (tCO ₂ /MWh)	PP has applied the value of 0.9726 tCO ₂ /MWh, which is in line with the calculation method used in "Tool to calculate emission factor for an electricity system"/10/. It's an ex-ante value fixed at the time of validation. The value mentioned in the MR/3/ is found to be consistent with the VCS PD/1/.
EF_{grid,BM,y} , Build Margin CO ₂ emission factor in year y (tCO ₂ /MWh)	PP has applied the value of 0.8723 tCO ₂ /MWh, which is line with the calculation

	method used in “Tool to calculate emission factor for an electricity system”/10/. It’s an ex-ante value fixed at the time of validation. The value mentioned in the MR/3/ is found to be consistent with the VCS PD/1/.
EF_{grid,CM,y} , Combined Margin CO ₂ emission factor in year y (tCO ₂ /MWh)	PP has applied the value of 0.9475 tCO ₂ /MWh, which is line with the calculation method used in “Tool to calculate emission factor for an electricity system”/10/. It’s an ex-ante value fixed at the time of validation. The value mentioned in the MR/3/ is found to be consistent with the VCS PD/1/.

The ex-ante parameters monitored in the MR are cross-checked with the registered VCS PD/1/ and are found to be consistent.

The assessment of monitored parameter has been carried out as per the method described in below table:

Parameter	EG _{PJ, y, KA} , Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh								
Means of verification	Criteria/Requirements	Assessment/Observation							
	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording							
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in line with the monitoring plan as set out in VCS PD/1/ and monitoring methodology/8/.							
	Monitoring equipment	The energy meters are of accuracy class 0.2s/15/ and make L & T. The serial Nos. of the energy meters for Karnataka site:							
		<table><tr><th>Location</th><th>Meter Serial No.</th></tr><tr><td>Devadurga</td><td>15197833, 15197834, 21005057 and 21005109</td></tr><tr><td>Chincholi</td><td>16083161 and 16083118</td></tr><tr><td>Siriguppa</td><td>16113386 and 16113401</td></tr></table>	Location	Meter Serial No.	Devadurga	15197833, 15197834, 21005057 and 21005109	Chincholi	16083161 and 16083118	Siriguppa
Location	Meter Serial No.								
Devadurga	15197833, 15197834, 21005057 and 21005109								
Chincholi	16083161 and 16083118								
Siriguppa	16113386 and 16113401								

		Bhalki	21005034 and 21005051
		Alland	16193095, 21004943, 13192165 and 21005013
		Humnabad	16083139 and 16083133
		Eklara	21004949 and 21004979
		Nirna	21005004 and 21005028
		Wadagere	17125589 and 17125590
		Turuvekere	20009661 and 20009673
		Yadgir	16113430, 21004929, 21004938 and 16113436
		Honnali	16112933, 16112921, 21005015 and 21005085
		Raichur	17117926 and 17117928
		Pavagada	16195517, 16195508, 16195519 and 16195523
		All the energy meter used are of same accuracy level and same make. The meters for the SPV namely Bhumi Prakash Private Limited located in Devadurga was changed and same has been reported in the MR/3/. The same has been verified from the meter replacement report/25/, photographs of energy meter/11/ and the calibration certificates/15/ shared by the PP. For the SPV namely Renew Wind Energy (MP Three Private Limited) located in Honnali, there was a delay of one month in calibration between the old meters and the installation of new meters. However, PP has justified the delay in calibration by accounting the error factor as a	

		conservative approach. The error factor applied in the ER sheet has been reviewed and is found to be properly applied. Hence, it is found to be appropriate.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/1/. This has been verified from the calibration certificates/15/ provided by the PP.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the accuracy level is valid for entire monitoring period/15/.
	Calibration frequency /interval:	As per the VCS PD/1/, the calibration frequency is once in five years which is in line with the details provided in the MR/3/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/1/. During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/15/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national	The calibration interval of all the SPV's are found to be in line with the frequency set out by the PP in the monitoring plan/1/. Except, for the SPV namely Renew Wind Energy (MP

	standards, or as per the manufacturer's specifications?	Three Private Limited) located in Honnali, there was a delay of one month in calibration between the old meters and the installation of new meters. However, PP has justified the delay in calibration by accounting the error factor as a conservative approach. The error factor applied in the ER sheet has been reviewed and is found to be properly applied. Hence, it is found to be appropriate.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/16/ and calibration certificates/15/ shared by the PP.
	How were the values in the monitoring report verified?	The cumulative values of <i>the parameter for</i> the entire monitoring period is reported in the MR/3/ as 192,765.61 MWh. and the monthly values are reported in the ER calculation sheet/4/. This value is checked from the monthly JMR's/12/ and energy invoices/22/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.

Findings	CL #01 and CL #02 were raised and successfully resolved.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/8/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.

Parameter	EGPJ, y,GJ,, Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in line with the monitoring plan as set out in VCS PD/1/ and monitoring methodology/8/.
	Monitoring equipment	For Gujarat site: At Charanka, the energy meter is of accuracy class 0.2s and make Secure, the serial no. of the energy meters are GJ3713A, GJ3714A and GJ3880A. All the energy meter used are of same accuracy level and same make. The same has been verified from the photographs of energy meter/19/ and calibration certificates/15/ shared by the PP.
	Is accuracy of the monitoring equipment as stated in the monitoring plan?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/1/. This has been

	If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	verified from the calibration certificates/15/ provided by the PP.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the accuracy level is valid for entire monitoring period/15/.
	Calibration frequency /interval:	As per the VCS PD/1/, the calibration frequency is once in five years which is in line with the details provided in the MR/3/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/1/. During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/15/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, the calibration interval is found in line with the frequency set out by the PP in the monitoring plan/1/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/16/ and calibration certificates/15/ shared by the PP.

	How were the values in the monitoring report verified?	The cumulative values of the <i>parameter</i> for the entire monitoring period is reported in the MR/3/, and the monthly values are reported in the ER calculation sheet/4/ is 22,392.62 MWh. This value is checked from the monthly JMR's/12/ and energy invoices/22/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. Hence, the approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.
Findings	CL #01 and CL #02 were raised and successfully resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/8/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter	EGPJ, y,MP,, Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	
Means of verification	Criteria/Requirements	Assessment/Observation

	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in line with the monitoring plan as set out in VCS PD/1/ and monitoring methodology/8/.
	Monitoring equipment	For Madhya Pradesh site: At Ashok Nagar, the energy meter is of 0.2s accuracy class and make Secure, the serial no. of the energy meters is XE518730, XE518731, Q0715876 and Q0715877. All the energy meter used are of same accuracy level and same make. The meters for the SPV namely Renew Clean Energy Private Limited located in Ashokenagar was replaced and same has been reported in the MR/3/. It was verified by the assessment team from the meter replacement report/25/, photographs of energy meter/19/ and calibration certificates/15/ shared by the PP.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/1/. This has been verified from the calibration certificates/15/ provided by the PP.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the accuracy level is valid for entire monitoring period/15/.
	Calibration frequency /interval:	As per the VCS PD/1/, the calibration frequency is once in five years which is

		in line with the details provided in the MR/3/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/1/. During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/15/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, the calibration interval is found in line with the frequency set out by the PP in the monitoring plan/1/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/16/ and calibration certificates/15/ shared by the PP.
	How were the values in the monitoring report verified?	The cumulative values of <i>parameter</i> for the entire monitoring period is reported in the MR/3/, and the monthly values are reported in the ER calculation sheet/4/ is 28,402.80 MWh. This value is checked from the monthly JMR's/12/ and energy invoices/22/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official

		governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/AC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.
Findings	No finding was raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/8/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter	EGPJ, y,RJ,, Quantity of net electricity generation supplied by the project/CS Version 4.2 plant/unit to the grid in year y in MWh											
Means of verification	Criteria/Requirements	Assessment/Observation										
	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording										
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in line with the monitoring plan as set out in VCS PD/1/ and monitoring methodology/8/.										
	Monitoring equipment	For Rajasthan site: <table><tr><th>Location</th><th>Meter Serial No.</th></tr><tr><td>Aalok</td><td>17075514 and 17075515</td></tr><tr><td>Abha</td><td>17075486 and 17075488</td></tr><tr><td>Heramba</td><td>17075537, 17075539, 17075547 and 17075548</td></tr><tr><td>Shreyas</td><td>17075525, 17075526, 17075530 and 17075531</td></tr></table> All the energy meter used are of same accuracy level and same make. The same has been verified from the photographs of energy meter/19/ and calibration certificates shared by the PP.	Location	Meter Serial No.	Aalok	17075514 and 17075515	Abha	17075486 and 17075488	Heramba	17075537, 17075539, 17075547 and 17075548	Shreyas	17075525, 17075526, 17075530 and 17075531
	Location	Meter Serial No.										
	Aalok	17075514 and 17075515										
Abha	17075486 and 17075488											
Heramba	17075537, 17075539, 17075547 and 17075548											
Shreyas	17075525, 17075526, 17075530 and 17075531											
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/1/. This has been verified from the calibration certificates/15/ provided by the PP.											
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the											

		accuracy level is valid for entire monitoring period/15/.
	Calibration frequency /interval:	As per the VCS PD/1/, the calibration frequency is once in five years which is in line with the details provided in the MR/3/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/1/. During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/15/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, the calibration interval is found in line with the frequency set out by the PP in the monitoring plan/1/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/16/ and calibration certificates/15/ shared by the PP.
	How were the values in the monitoring report verified?	The cumulative values of the <i>parameter</i> for the entire monitoring period is reported in the MR/3/, and the monthly values are reported in the ER calculation sheet/4/ is 33,297.47 MWh. This value is checked from the

		monthly JMR's/12/ and energy invoices/22/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. ,The approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.
Findings	CL #02 and CAR #01 were raised and successfully resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/8/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter	EGPJ, y,TL,, Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous measuring, monthly recording
	Is Measuring and reporting frequency in accordance with the	Yes, the measuring and reporting frequency is in line with the monitoring

	monitoring plan and monitoring methodology? (Yes / No)	plan as set out in VCS PD/1/ and monitoring methodology/8/.														
	Monitoring equipment	For Telangana site: <table><tr><th>Location</th><th>Meter Serial No.</th></tr><tr><td>Dichipally</td><td>APX01166, APX01167 and APX01168</td></tr><tr><td>Mandamarri</td><td>APX01147, APX01148 and APX01149</td></tr><tr><td>Mulkanoor</td><td>16196362, 16196398 and 16196385</td></tr><tr><td>Minpur</td><td>16196322, 16196377 and 16196411</td></tr><tr><td>Mahbubnagar</td><td>APZ00378, APZ00379 and APZ00380</td></tr><tr><td>Wanaparthi</td><td>XD551233, XD551234 and XD551235</td></tr></table> All the energy meter used are of same accuracy level and same make. The same has been verified from the photographs of energy meter/19/ and calibration certificates/15/ shared by the PP.	Location	Meter Serial No.	Dichipally	APX01166, APX01167 and APX01168	Mandamarri	APX01147, APX01148 and APX01149	Mulkanoor	16196362, 16196398 and 16196385	Minpur	16196322, 16196377 and 16196411	Mahbubnagar	APZ00378, APZ00379 and APZ00380	Wanaparthi	XD551233, XD551234 and XD551235
	Location	Meter Serial No.														
	Dichipally	APX01166, APX01167 and APX01168														
	Mandamarri	APX01147, APX01148 and APX01149														
Mulkanoor	16196362, 16196398 and 16196385															
Minpur	16196322, 16196377 and 16196411															
Mahbubnagar	APZ00378, APZ00379 and APZ00380															
Wanaparthi	XD551233, XD551234 and XD551235															
Is accuracy of the monitoring equipment as stated in the monitoring plan?	Yes, the accuracy of the monitoring equipment is 0.2s, which is in accordance with the monitoring plan/1/. This has been verified from the calibration certificates/15/ provided by the PP.															
If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?																
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for entire measuring range. The calibration certificates clearly shows that the															

		accuracy level is valid for entire monitoring period/15/.
	Calibration frequency /interval:	As per the VCS PD/1/, the calibration frequency is once in five years which is in line with the details provided in the MR/3/. The calibration frequency was found to be in line with the conditions set out in the VCS PD/1/. During the current monitoring period, calibration was performed as per the details provided in PD as checked with the calibration certificates. The calibration certificate/15/ of each of the calibration dates has been checked and the meter is found to be within the stated error range. The calibration details of the energy meters have been stated in section 4.1 of this report.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, the calibration interval is found in line with the frequency set out by the PP in the monitoring plan/1/. Except for Mahbubnagar SPV, where meters: APZ00378, APZ00379 and APZ00380 are calibrated every year by the PP, which is found to be more conservative than the calibration frequency stated in the registered PD and hence, found to be acceptable.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The calibration is carried out by the respective state utilities. This has been verified from the PPA/16/ and calibration certificates/15/ shared by the PP.
	How were the values in the monitoring report verified?	The cumulative values of <i>parameter</i> for the entire monitoring period is

		reported in the MR/3/, and the monthly values are reported in the ER calculation sheet/4/ is 239,359.52 MWh. This value is checked from the monthly JMR's/12/ and energy invoices/22/ shared by the PP. The PP has taken the values reported in the JMR for the calculation of emission reductions since JMRs is an official governmental document used to document the amount of electricity transferred to the grid. The approach has been assessed and found to be appropriate.
	If applicable, has the reported data been cross-checked with over available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP. The joint meter reading is taken by the state utility in the presence of the PP in the form of JMR's. Monthly JMR's issued by state utility provide the value of parameter that is directly used for emission reduction calculations.
Findings	CL #02, CL #03 and CAR #01 were raised and successfully resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/8/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

2. Assessment of Data and calculation of GHG emissions or net removal

a) Calculation of Baseline Emissions

In accordance with the applied methodology ACM0002 v19.0/8/, the baseline emissions are CO₂ emissions from the electricity generation from the fossil fuel fired power plant that are displaced due to the project activity.

The baseline emissions are calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

Where,

BE_y = Baseline emissions in year y (tCO_{2e})

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”/10/ (tCO₂/MWh)

As per the paragraph 45, the calculation of $EG_{PJ,y}$ is different for Greenfield plants, capacity additions, retrofits, rehabilitations, and replacements. Since the proposed project activity is Greenfield plant, hence as per the paragraph 46 of ACM0002, Version 19.0/8/.

$$EG_{PJ,y} = EG_{facility,y}$$

Where,

$EG_{PJ,y}$ = Quantity of net electricity generated that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EG_{facility,y}$ = Quantity of net electricity generated that is supplied by the project plant/unit to the grid in year y (MWh/yr)

b) Calculation of Project emissions

As per the paragraph 36 of the applied methodology, for most renewable power generation project activities, $PE_y = 0$. Since the project activity is a solar energy-based power generation, the project emissions are not applicable to the project activity.

Hence, $PE_y = 0$

c) Calculation of Leakage emissions

As per the section 5.6 of the applied methodology/8/, no leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of projects in power sector are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g., extraction, processing, and transport). These emissions sources are neglected.

Therefore, $LE_y = 0$.

d) Calculation of net emissions reduction or removal

The emission reduction as per the applied methodology/8/ equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

$$BE_y = 516,308.014 \times 0.9475$$

$$BE_y = 489,201 \text{ tCO}_2\text{e (Rounded down value)}$$

As per the applied methodology/8/, emission reduction are calculated as:

$$ER_y = BE_y - PE_y$$

$$ER_y = 489,201 - 0$$

$$ER_y = 489,201 \text{ tCO}_2\text{e}$$

The total emission reduction during the current monitoring period – 01/01/2023 to 31/03/2023 is 489,201 tCO₂e.

The assessment team confirms that the appropriate methods and formulae for calculating GHG emission have been followed. The assumptions, emission factor and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period is lesser than the estimated emission reduction as described in the registered VCS PD /1/.

All the data were made available and have been monitored as per the required monitoring frequency/1/.

No sampling has been done by the VVB as 100% of the data were verified for current monitoring period.

4.6 Non-Permanence Risk Analysis

Not applicable.

5 VERIFICATION OPINION

Earthood Services Private Limited (Earthood) was contracted by Renew Solar Power Private Limited to perform the independent verification of the emission reductions for the VCS project activity (VCS ID – 1851) “Renewable Solar Power Project by ReNew Solar Project Private Limited” for the monitoring period 01/01/-2023 to 31/03/2023 as reported in the Monitoring report version 2.0, dated: 20/09/2023/3/.

Earthood commenced the verification based on the baseline and approved methodology ACM0002: “Grid-connected electricity generation from renewable sources”, version 19.0/8/, the monitoring plan contained in the VCS PD/1/, VCS guidelines/6/, Monitoring Report/3/ as per the process described under section 2 of this report.

Earthood verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanation that Earthood considered necessary to give reasonable assurance that the reported GHG emission reductions are fairly stated.

In our opinion, the GHG emission reductions for the project activity for the monitoring period 01/01/2023 to 31/03/2023 (both days included) are fairly stated in the monitoring report/3/. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002/8/ and the VCS standard/7/.

Verification period: From 01/01/2023 to 31/03/2023 (both days included)

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2023 (01-January-2023 - 31-March-2023)	489,201	0	0	489,201
Total	489,201	-	-	489,201

The difference between the Ex-ante emission reductions/removals and the achieved emission reductions has been calculated in the ER calculation sheet/4/ as 12.26%. The justification for the increase in achieved emission reductions has been mentioned in the table below:

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
2023 (01-January-2023 - 31-March-2023)	435,768	489,201	12.26 %	The generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant. The higher generation during the current verification period is due to certain natural conditions and it doesn't breach the additionality of the project. Hence, it is acceptable.
Total	435,768	489,201	12.26 %	-

Approved By:



Kaviraj Singh

Managing Director

Earthood Services Private Limited

Date: 22/09/2023

Place: Gurgaon, Haryana

APPENDIX I: DOCUMENTS REVIEWED

	Author	Title	Reference to documents	Provider
1.	ReNew Solar Power Private Limited	Joint Project Description and Monitoring Report	Version 02, dated 02/02/2019	PP
2.	ReNew Solar Power Private Limited	Monitoring Report	Version 1, dated 24/04/2023	PP
3.	ReNew Solar Power Private Limited	Final Monitoring Report	Version 2.0, dated 20/09/2023	PP
4.	ReNew Solar Power Private Limited	ER Spreadsheet	Version 2.0	PP
5.	Bureau Veritas Certification	Validation Report	Version 1.0, dated 20/04/2017	Others
6.	VCS	VCS Program Guide	Version 4.4, dated 29/08/2023	Others
7.	VCS	VCS Standard	Version 4.5, dated 29/08/2023	Others
8.	CDM	ACM0002 “Grid-connected electricity generation from renewable sources”	Version 19.0	Others
9.	CDM	Tool for the demonstration and assessment of additionality	Version 07.0	Others
10.	CDM	Tool to calculate the emission factor for an electricity system	Version 07.0	Others
11.	-	Remote audit and interviews conducted for the project monitoring period	Date: 12/05/2023	Others
12.	ReNew Solar Power Private Limited	Monthly JMR's	For the current monitoring period:	PP

			01/01/2023-31/03/2023	
13.	CEA	CO2 baseline database for Indian power sector by CEA	Version 13	Others
14.	-	Commissioning certificates for all the SPV's	For the current monitoring period	PP
15.	-	Calibration certificates for all the meters	-	PP
16.	-	Power Purchase Agreement	-	PP
17.	-	Previous Verification reports	-	Others
18.	ReNew Solar Power Private Limited	Grievance register	-	PP
19.	-	Photographs of the project site and energy meters	-	PP
20.	-	Technical specifications of the SPV	-	PP
21.	ReNew Solar Power Private Limited	Declaration for no participation under any other programs other than VCS	-	PP
22.	-	Energy Invoices	01/01/2023-31/03/2023	PP
23.	ReNew Solar Power Private Limited	Breakdown details	For the current monitoring period: 01/01/2023-31/03/2023	PP
24.	-	Maps of the Location	-	PP
25.	-	Meter replacement reports	For the current monitoring period: 01/01/2023-31/03/2023	PP

APPENDIX II: ABBREVIATIONS

Abbreviations	Full texts
ABT	Availability Based Tariff
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMS	Central Monitoring System
CMP	Conference of Parties Serving as Meeting of Parties
CO2	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
EPC	Engineering, Procurement and Construction
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MFR	Multi-Function Relay
MR	Monitoring Report

MW	Megawatt
MWh	Megawatt-hour
O&M	Operation and Maintenance
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
PPA	Power Purchase Agreement
QA/QC	Quality Assurance and Quality Control
TOD	Time of the Day
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Converter
SPV	Solar Photo Voltaic
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX III: FINDINGS OVERVIEW

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	00	Section no.	-	Date : DD/MM/YYYY
Description of FAR				
NA				
Project proponent response				Date : DD/MM/YYYY
-				
Documentation provided by project proponent				
-				

VVB assessment	Date: DD/MM/YYYY
-	

Table 2. CL from this verification

CL ID	01	Section no.	ER Calculation Sheet	Date : 01/06/2023
Description of CL				
In the ER Calculation Sheet, 1. It has been observed that the value of electricity generation is different in JMRs and invoices for these respective SPVs (referred by their worksheet name): “Eklara_20 MW”, “Nirna_20 MW”, “Wadegera_20 MW”, “Raichur_50 MW”. However, the value of electricity generated from the JMR has been considered for the calculation of emission reduction. PP is requested to clarify the conservativeness of the approach taken for ER calculation and make in the ER sheet accordingly, if necessary. 2. In the worksheet “Charanka_40 MW”, PP is requested to clarify the outlier as the value of Import and export for the month of March is found very less.				
Project proponent response				Date : 23/08/2022
1. For the “Eklara_20 MW”, “Nirna_20 MW”, “Wadegera_20 MW”, “Raichur_50 MW projects billing being done on the basis of OM copy issued by DISCOM (Open access) and on the basis of allocation statement submitted by Renew. The generation value given in JMR will not match with billing units as the allocation statement (Form-C) submitted to host DISCOM on the basis of forecasted generation and consumption number. So, for the exact monthly generation data JMR is considered for the calculation of emission reduction. The same approach was followed in all previous verification. 2. In the worksheet “Charanka_40 MW” the value of Import and export for the month of March have been corrected. The revised invoiced has also been shared.				
Documentation provided by project proponent				
1. <i>Revised ER sheet</i> 2. <i>Revised MR</i> 3. <i>Invoice Charanka_March 23</i>				
VVB assessment				Date: 04/09/2023
1. The explanation provided by the PP is found to be appropriate. However, PP is requested to clarify how the approach is considered to be conservative. Since, the value of electricity generation in the Invoices are found to be less than the value mentioned in the JMR. 2. The updated Invoices shared by the PP for the SPV Charanka_40 MW for the month of March were found to be appropriate. However, the sum of the values of Net electricity generation from both Invoices and JMR is still found to be inconsistent with the value mentioned in cell F5 and E5 of the worksheet tab “Charanka_40MW” of the ER Sheet respectively. PP is requested to kindly review and revise the values.				
Project proponent response				Date : 06/09/2023

1. For the “Eklara_20 MW”, “Nirna_20 MW”, “Wadegera_20 MW”, “Raichur_50 MW projects billing is being done on forecasting and are under open access. The generation value given in JMR is actual and there will be difference in billing (Invoice) units as the allocation statement (Form-C) submitted to host DISCOM on the basis of forecasted generation and consumption number. In open access the JMR is considered as conservative and the invoice value is forecasted. The value of the net electricity generation is found less in invoice for two months and in March month the value of the net electricity generation is too high in the invoice, so overall for the monitoring period the value of the total net generation of the JMR are found less than Invoice. 2. The net electricity generation values are now corrected and updated in the revised ER.	
Documentation provided by project proponent	
Revised ER	
Revised MR	
VVB assessment	Date: 10/05/2023
1. The justification given by the PP has been reviewed and is found to be appropriate. SPVs “Eklara_20 MW”, “Nirna_20 MW”, “Wadegera_20 MW”, “Raichur_50 MW are the open access plants as verified by the PPA and invoices are indeed generated on the forecasted values, hence, the JMR is the actual electricity generation by the SPVs and hence, is considered for ER calculation. CLOSED 2. The net electricity generation values have been revised in the ER sheet provided by the PP for the SPV ‘Charanka_40 MW’ for the month of March. The assessment team can confirm that the updated values are appropriate and complete. CLOSED CL#01 is closed.	

CL ID	02	Section no.	Appendix I: Meter Calibration Details	Date : 01/06/2023
Description of CL				
In the MR version 01, It has been observed through the respective JMRs that old meters has been replaced with the new ones for the following SPVs: - Renew Wind Energy (Budh 3) Private Limited (20 MW) located in Eklara (for the month of march) - Renew Wind Energy (Karnataka 3) Private Limited located in Bhalki (for the month of march) - Renew Wind Energy (Maharashtra) Private Limited located in Yadgir (for the month of march) - Renew Wind Energy (Rajasthan Four) Private Limited located in Turuvekere (for the month of Jan) - Renew Wind Energy (MP Three) Private Limited located in Honnali (for the month of Jan) - Bhumi Prakash Private Limited located in Devadurga (for the month of Feb) - Prathamesh Solarfarms Limited located in Wanaparthy (for the month of March) - Renew Agni Power Private Limited located in Siriguppa (for the month of March) - Renew Wind Energy (Budh 3) Private Limited located in Nirna (for the month of March) PP is requested to clarify the reason for the change of meters and submit the meter change report for the same. Also, PP is requested to submit the calibration certificates of the same.				
Project proponent response				Date : 23/08/2023

The above mentioned SPVs meters have been replaced with new compatible meters for SCADA integration. The new meters details have been incorporated in the APPENDIX I of the submitted MR.

For Prathamesh Solarfarms Limited located in Wanaparthi (for the month of March) no meters were replaced.

Documentation provided by project proponent

The meter change report and calibration certificate have been provided.

VVB assessment	Date: 04/09/2023
-----------------------	-------------------------

The assessment team checked the calibration certificates for the new meters and found that the date of calibration mentioned in the revised Monitoring report for the meters located in SPV's namely Bhalki, Devadurga, Honnali, Eklara and Nirna are found to be inconsistent with their respective calibration certificates. PP is requested to review and revise.

Project proponent response	Date : 06/09/2023
-----------------------------------	--------------------------

The calibration dates are revised as per the calibration certificate date.

Documentation provided by project proponent

Revised MR

VVB assessment	Date: 10/09/2023
-----------------------	-------------------------

The assessment team checked the revised monitoring report shared by the PP and found that the date of calibration for the meters located in SPV's namely 'Bhalki, Devadurga, Honnali, Eklara and Nirna' has been revised as per the latest calibration certificates respectively. Hence, the finding is closed.

CL# 02 is closed.

CL ID	03	Section no.	ER sheet	Date : 01/06/2023
Description of CL				
In the ER calculation sheet, for the following SPVs (referred by their worksheet name): "Dichipalli_143 MW", "Mandamarri_48 MW", "Mulkanoor_30 MW", "Minpur_65 MW" and "Prathamesh". It has been observed that the Import (KWh) has been taken from the Actual aux (KWh) and the Eligible Import is the difference between the Actual aux and the balanced. PP is requested to clarify the significance of Actual aux and balanced, and also clarify why the Eligible Import has been taken into consideration for the ER Calculation.				
Project proponent response				Date : 23/08/2023
As per the PPA 0.1% of the capacity is for Eligible Aux. Balanced Aux is the difference of Actual Aux and Eligible Aux. There are applicable charges as explained in annexure I of the provided invoices for the units (Balanced Aux) above eligible aux.				
The ER has been revised and now actual aux has been taken into calculation of the ER as a conservative approach.				
Documentation provided by project proponent				

Revised ER	
PPA	
Invoices	
VVB assessment	Date: 04/09/2023
The revised ER sheet has been reviewed. PP has now taken actual aux to calculate the emission reduction for the following plants: "Dichipalli_143 MW", "Mandamarri_48 MW", "Mulkanoor_30 MW", "Minpur_65 MW" and "Prathamesh", which is found to be conservative and hence, appropriate. The explanation provided by the PP is found to be appropriate as per the PPA. Thus, CL#03 is CLOSED	

Table 3. CAR from this verification

CAR ID	01	Section no.	ER sheet	Date : 01/06/2023
Description of CAR				
Following observations has been made in the ER calculation sheet: 1. In the Worksheet "Bhalki_20 MW", Cell H6 & I6, the value of Net electricity generation is found inconsistent with the invoices and JMR shared for the month of march. 2. In the worksheet "Turuvekere_20 MW", The values of Export, Import, Net electricity generated are found inconsistent with the respective JMR and Invoices for the month of march. 3. In the worksheet "Pavagada_50 MW", The unit of electricity generation is not found appropriate. 4. In the worksheet "Ashok Nagar-MP", the JMR and Invoice for the month of March is found missing from the PP is requested to share the same.				
Project proponent response				Date : 23/08/2023
1. In the Worksheet "Bhalki_20 MW", Cell H6 & I6, the value of Net electricity generation is now corrected. The net generation is difference of Export and 115% of import, the net amount is billed in the invoice. 2. In the worksheet "Turuvekere_20 MW", The values of Export, Import, Net electricity generated are now corrected. The net generation is difference of Export and 115% of import, the net amount is billed in the invoice. 3. In the worksheet "Pavagada_50 MW", The unit of electricity generation is corrected 4. In the worksheet "Ashok Nagar-MP", the JMR and Invoice data for the month of March 23 have been provided and the JMR and Invoices shared.				
Documentation provided by project proponent				
Revised ER				
JMR and Invoices				
VVB assessment				Date: 05/09/2023

1. The revised ER sheet has been reviewed. The value of Net electricity generation for Bhalki_20 MW for the month of March is now found to be consistent with the JMR and invoices. CLOSED
2. The revised ER sheet has been reviewed. The value of Export, Import, Net electricity generated for Turuvekere_20 MW for the month of March is now found to be consistent with the JMR and invoices. CLOSED
3. The revised ER sheet has been reviewed. The unit is now found to be appropriate. CLOSED
4. The revised ER sheet has been reviewed. The JMRs and invoices of Ashok Nagar-MP for the month of March has been shared and the values are found to be correct. CLOSED

Thus, CAR#01 is CLOSED.

Table 4. FAR from this verification

FAR ID	01	Section No.		Date : DD/MM/YYYY
Description of FAR				
NA				
Project proponent response				Date : DD/MM/YYYY
NA				
Documentation provided by project proponent				
NA				
VVB assessment				Date: DD/MM/YYYY
NA				

APPENDIX IV: COMPETENCY STATEMENTS

Competence Statement	
Name	Divij Varshney
Education	M.Tech. Renewable energy systems B.Tech. Electrical Engineering
Experience	1.5 years
Field	Climate Change & Environment / Industry
Approved Roles	

Team Leader	Yes (VM)		
Validator	Yes (VM)		
Verifier	Yes (VM)		
Local expert	Yes (India)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	Yes (VM TA 1.2, 3.1)		
Reviewed by	Shifali Guleria, Quality Manager	Date	16/04/2023
Approved by	Deepika Mahala, Technical Manager	Date	16/04/2023

Competence Statement			
Name	Abhishek Koul		
Education	Bachelor of Technology in Mechanical Engineering		
Experience	1 year		
Field	Climate Change		
Approved Roles			
Team Leader	Yes (VM only)		
Validator	Yes (VM only)		
Verifier	Yes (VM only)		
Methodology Expert	NO		
Local expert	Yes (India)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	TA 1.2		
Reviewed by	Shifali Guleria (Quality Manager)	Date	08/08/2023
Approved by	Deepika Mahala (Technical Manager)	Date	08/08/2023

Competence Statement			
Name	Deepika Mahala		
Country	India		
Education	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G, AMS-II.C		
Local expert	YES (India, Bangladesh)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2 & TA 3.1)		
Reviewed by	Shifali Guleria (QM)	Date	28/04/2022
Approved by	Kaviraj Singh (MD)	Date	28/04/2022